NORTH CAROLINA
BASIC CHILD PASSENGER SAFETY
TRAINING PROGRAM

INSTRUCTOR MANUAL

September 2005

NORTH CAROLINA DEPARTMENT OF INSURANCE
OSFM
OFFICE OF STATE FIRE MARSHAL

NORTH CAROLINA
GOVERNOR'S HIGHWAY SAFETY PROGRAM

THE UNIVERSITY OF NORTH CAROLINA
HIGHWAY SAFETY RESEARCH CENTER
SAFETY • MOBILITY • INFORMATION

This training curriculum was developed by the North Carolina Child Passenger Safety Training Committee with funding from the North Carolina Governor's Highway Safety Program.

The information contained within this manual was current at the time of printing. However, child passenger safety is a dynamic and ever changing field. Persons using this manual must stay abreast of changes to this information in order to provide accurate information to parents and other caregivers.

NC CHILD PASSENGER SAFETY TRAINING AND CURRICULUM COMMITTEE

Mr. Tony Asión
Public Safety Director
El Pueblo, Inc.
Raleigh, NC

Sgt. Billy Brown
Traffic Safety Information Officer
NC State Highway Patrol
Troop A Headquarters
Greenville, NC

Ms. Paula Bryson
Coordinator
WNC Safe Kids
Mission St. Josephs Hospital
Asheville, NC

Ms. Gayle Buchler
Highway Safety Specialist
NC Governor's Highway Safety Program
Raleigh, NC

Mr. Bill Hall
Manager
NC CPS Resource Center
UNC Highway Safety Research Center
Chapel Hill, NC

Ms. Betty Johnsey
Injury Prevention Educator
Lenoir County SAFE KIDS /
Safe Communities
Lenoir Memorial Hospital
Kinston, NC

Ms. Connie Lawson
Health Educator
Guilford County Health Department
High Point, NC

Mr. Larry McMahon
VA State Police (Retired)
Southport, NC

Mr. Eric Morrison
Community Relations Coordinator
Mecklenburg EMS Agency
Charlotte, NC

Ms. Jan Parker
Fire and Life Safety Educator
Raleigh Fire Department
Raleigh, NC

Mr. Jody Piatt
Durham Police Department (Retired)
Bahama, NC

Ms. Kelly Ransdell
Deputy Director
Office of the State Fire Marshal
NC Department of Insurance
Raleigh, NC

Mr. Mike Whitehurst
Coordinator
EMS Education Department
Albemarle Hospital
Elizabeth City, NC

Ms. Kim Wittig
Fire and Life Safety Educator
Rocky Mount Fire Department
Rocky Mount, NC

NC Child Passenger Safety Training Committee Support

Ms. Allison Cummings
Injury Prevention Coordinator
Office of State Fire Marshal
NC Department of Insurance
Raleigh, NC

Mr. Allan Buchanan
Injury Prevention Specialist, Central Region
Office of State Fire Marshal
NC Department of Insurance
Raleigh, NC

Ms. Angie Gregg
Injury Prevention Specialist, West Region
Office of State Fire Marshal
NC Department of Insurance
Raleigh, NC

Mr. Stuart Jones
Injury Prevention Specialist, Eastern Region
Office of State Fire Marshal
NC Department of Insurance
Raleigh, NC

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PLANNING AND LOGISTICS

CLASS GOALS AND OBJECTIVES

Instructors for the North Carolina Child Passenger Safety Basic Training classes must keep in mind that the goal of this class is to create an awareness of the importance of child restraints and safety belts in preventing deaths and injuries to children in crashes and to provide basic knowledge and hands-on practice in the installation and use of child restraints. The student who successfully completes this course will have developed basic child passenger safety technical skills and have a minimum standard of knowledge. After completing this class, the students should be able to:

- Understand and explain state law vs. best practice
- Detect child passenger safety and seat belt law violations
- Identify resources
- Be able to say, "I don't know" when necessary
- Provide basic instruction to parents on correct child restraint use
- Assist at a child passenger safety checkup clinic

The NC CPS Training Committee has worked hard to update and re-write the Basic Awareness curriculum to meet these goals. It is important that Instructors for this course remember the intent of the Basic Awareness class and resist the urge to add more details and content to the material that is provided to the participants. The suggested agenda is structured to give sufficient time to deliver the content of the course while leaving as much time as possible for hands-on practice.

Note also that the Instructor Manual is formatted with thumbnails of the PowerPoint presentation slides imbedded at the appropriate locations in the text. These thumbnails should be used to help keep the lectures on track. Instructors are reminded, however, to not teach from the slides but to use them as a guide to being sure that material that is included in the lesson plan is covered while resisting the urge to add more material to the lesson.

KEY CONCEPTS, POLICIES AND PROCEDURES

Key concepts, policies and procedures to note and follow include:

- This is an awareness course that carries no type of certification.
- Students who complete the class will receive a letter acknowledging their completion of the class after the Lead Instructor or Class Administrator returns completed Class Roster and Class Report forms to the NC CPS Resource Center.
- There is no written test for this class.

- Students are given a chance to learn how well they understand the basic concepts with a “Knowledge Assessment.”
- The knowledge assessment is an ungraded written quiz. There is no passing grade for the quiz.
- The knowledge assessment is meant to be used as a learning tool. Instructors are encouraged to take the time to go through The knowledge assessment with the students so they can better understand the reasons behind the answers.

- There is no installation skills evaluation.
  - Students are given a chance practice their installation skills to learn how well they can install child restrains in different vehicles.
  - The sole reason for checking-off any installations by Instructors is to allow the students to keep track of what they have and have not completed.
  - As with the knowledge assessment, there is no pass/fail grades given for the exercises.
- There is no required end-of-class clinic.
  - The recommended end-of-class exercise is a “Misuse Identification Skills Assessment.”
    - This skills assessment mimics the misuse scenarios included as a part of the Certification class skills assessment.
    - It consists of multiple scenarios set up by Instructors in different vehicles. The students then try to diagnose any misuse that they observe.
  - Individual Instructors or local organizations can choose to set up a class clinic for the students to participate in as long as:
    - The clinic is set up as a standard clinic with enough experienced Certified Technicians to adequately cover expected traffic for the clinic, and
    - The class participants work in the clinic in the roles they are being trained for, that is, to assist and learn from the experienced Technicians.

CLASS MATERIALS

Participant manuals and originals of class materials will be supplied to Basic Awareness classes registered through the NC CPS Resource Center. The CPS Resource Center is administered through the UNC Highway Safety Research Center. These materials are made available through funding by the NC Governor’s Highway Safety Program and have been developed by the NC CPS Training Committee.

Materials furnished for the NC CPS Basic Awareness Class include the following:

- Instructor Packet
  - Instructor Manual - One (1) copy of the Instructor Manual will be furnished upon request to Certified CPS Technician Instructors in North Carolina as well as Approved Mentored Technicians, and Mentored Technician Candidates. In addition to lesson plans, the Instructor Manual includes:
    - Copies of all Participant hand outs

- Guide to conducting Hands-on Exercises
- End-of-class knowledge assessment and answer key
- Guide to setting up and conducting the end-of-class misuse identification scenarios exercise.
- Class roster and reporting forms

- Instructor CD - One (1) copy of the Instructor CD will be furnished along with each Instructor Manual. The CD supplied to Instructors should contain all materials needed to conduct the class including:
  - PowerPoint slide presentation
  - pdf formatted documents that can be used to print "emergency" copies of
    - Participant manual
    - Student handouts
    - Hands-on exercises
    - Knowledge and skills assessments

- Participant Packet - Participant materials will be sent to Instructors teaching basic Awayness Classes about on week prior to the class. Participant materials that will be supplied for classes include:
  - Participant Manual - 1 copy per student.
  - Participant Forms packet - 1 packet per class: This packet contains originals of forms need by students during the class. The host agency or individual Instructors will be responsible for providing enough copies of the following forms for students in the class:
    - Participant vehicle ID form
    - Student class evaluation
    - Instructions and forms for the students to use to complete their hands-on exercises.

- Materials that will NOT be furnished for each class include:
  - Participant "handout" materials that are provided in the participant manuals:
  - Recall list. The host agency or individual Instructors will be responsible for providing copies of an updated recall list for each class.

INSTRUCTIONS FOR TRAINING EXERCISES AND ASSESSMENTS

Instructors Guide for Training Exercise 1: Selecting the Appropriate Child Restraint and Harnessing the Child in the CR

In this exercise, all participants will be given a "child" along with a description of the child's age, weight, and any significant physical tolerance issues. Each student must identify the most appropriate child restraint system for his or her "child" based on the information provided and elaborate on the reasons for their choice of child restraint.

Materials Needed:

Index cards; Dolls or stuffed animals (optional props); Infant only CRSs; Car beds; Convertible CRSs; Forward facing CRSs; Booster seats; Various adaptive restraint systems for children with special medical or behavioral transportation needs.

Instructions:

- Write descriptions of a child's age, weight, and any significant physical tolerance issues on index cards. Sample descriptions are provided below. The cards may then be attached to a doll or stuffed animal (if available).

- Pass a "child" with the index card (or the index card alone) out to each member of the class or to each team. Each student/team must then:
  - Select the appropriate child restraint system based on the age, weight, and any noted physical tolerances of the child and elaborate on the reasons for their choice of child restraint.
  - Assess the chosen child restraint for safety based on recall status, age of the CRD, and other aspects of physical condition as noted below.
  - Adjust the CRD (recline mechanism, harness slots, etc.) as needed for the manner in which it will be installed, and
  - Harness the child correctly in the chosen restraint (to the degree possible with available dolls).

- Have the students or team use their forms to guide their selection and assessment. Space is provided on the student form for 2 "children". The students are asked to determine and/or assess the following:
  - Determine CRD model information
    - Restraint used: Manufacturer, Model Name, Model #, Manufacture Date,
    - Restraint Type: Rear-facing only, Convertible, Front-facing only with harness/shield, Harness/Vest, Shield booster, Belt positioning booster, or other
    - Weight Range Rear-facing and/or front-facing positions
  - Conduct a general safety assessment of the CRD:
    - Is the CR on recall?
    - Is the CR older than 10 years old?
    - Are full instructions & labels with/affixed to CR?

    - Are all parts present & in good condition?
    - Is the type of restraint best for age/size of child?
    - Is the type of harness/shield best for the age/size of the child?
- Adjust the restraint correctly
    - Adjust recline mechanism correctly for the age/weight of your child
    - Route the harness straps through the appropriate slots
- Fasten and adjust the harness correctly
    - Adjust the harness and/or shield for a snug fit on the child
    - Position the harness retainer clip at armpit level
    - Make sure the harness adjustment mechanism is locked

Sample Descriptions of Children:

NOTE: A template for printing out the following descriptions on postcards (formatted for Avery 3263 White Postcard sheets) is included on the Instructor CD.

Child #1 6 Months 18 Pounds	Child #2 7 Months 17 Pounds	Child #3 5 Months 14 Pounds	Child #4 1 Month 11 Pounds	Child #5 8 Months 22 Pounds
Child #6 9 Months 22 Pounds	Child #7 10 Months 25 Pounds	Child #8 10 Months 17 Pounds	Child #9 5 Days 4 ½ Pounds	Child #10 8 Months 26 Pounds
Child #11 11 Months 28 Pounds	Child #12 10 Months 20 Pounds	Child #13 12 Months 22 Pounds	Child #14 1 ½ Year 22 Pounds	Child #15 1 Year 10 Months 30 Pounds
Child #16 2 Years 25 Pounds	Child #17 2 ½ Years 40 Pounds	Child #18 2 Years 2 Months 28 Pounds	Child #19 2 ½ Years 36 Pounds	Child #20 1 ½ Years 18 Pounds
Child #21 1 Year 17 Pounds	Child #22 1 Year 1 Month 21 Pounds	Child #23 5 Months 12 Pounds	Child #24 3 Years 30 Pounds	Child #25 2 Years 30 Pounds
Child #26 3 Years 8 Months 38 Pounds	Child #27 3 Years 7 Months 35 Pounds	Child #28 3 Years 9 Months 39 Pounds	Child #29 1 Year 7 Months 23 Pounds	Child #30 2 Years 2 Months 20 Pounds
Child #31 3 Years 38 Pounds	Child #32 2 Years 3 Months 32 Pounds	Child #33 4 Years 48 Pounds	Child #34 4 Years 8 Months 48 Pounds	Child #35 4 Years 2 Months 40 Pounds
Child #36 4 Years 4 Months 39 Pounds	Child #37 5 Years 52 Pounds	Child #38 4 Yrs 10 Months 48 Pounds	Child #39 5 Years 2 Months 54 Pounds	Child #40 5 Years 6 Months 58 Pounds

Instructors Guide for Training Exercise 2: Vehicle Occupant Protection Systems Identification

In this exercise, students are asked to identify various components of vehicle occupant protection systems. Participants should work in pairs or individually during this exercise.

Direct participants to identify occupant restraint systems in at least four vehicles. Instructors should specify the particular vehicles (student, instructor, or demonstration vehicles) that are to be evaluated in order to assure that an appropriate variety of restraint systems are assessed.

Using the "Training Exercise 2: Vehicle Occupant Protection Systems Identification" form, students are asked to inspect all of the designated seating positions in each of the vehicles identified as being a part of this exercise. Look for occupant restraint, comfort, and convenience features built into the vehicle for the right front passenger position, the center rear position, and either the left or right rear outboard position. Students are asked to look for and note:

- Does the restraint system consist of a lap belt only or is it a lap and shoulder belt combination?
- Is there a front and/or side air bag present at that position? Are there any air bag labels present?
- What type of latchplate does the safety belt at that position have?
- What type of retractor does the safety belt at that position have?
- Is the seating position equipped with LATCH anchors?
- Is the seating position equipped with a tether anchor?
- Are there any other features at each position that may have an effect on the fit of the safety belt on an occupant or the comfort of a passenger. Look for features such as:
  - Deep bucket seats or large humps
  - Depth of seat cushion from seat back to front edge of bottom cushion
  - Adjustable upper anchors for shoulder belts
  - Adjustable head restraints
  - Built in or fold down arm rests or consoles
  - Safety belts anchored behind the seat cushion or forward of the seat back

Instructors should review all systems with the class after everyone has completed their individual/team exercise forms.

Instructors Guide for Training Exercise 3: Installation Skills

In this exercise, participants are asked to practice installing a variety of types and models of child restraints in a variety of vehicles and with different belt systems. Participants are instructed to complete the installations and tasks in any of the available vehicles unless directed otherwise by the Instructors and that tasks and installations may be done in any order.

In order to fully benefit from this experience, students must use a variety of vehicles and belt systems and complete all installations and tasks. To keep track of installations they have completed, students are asked to have an Instructor check their work and initial in the space provided that they have completed the following installations and tasks:

- Install rear-facing only restraints
  - With a base - With seat belt
  - With or without base - With LATCH
  - Without a base - With seat belt
- Install convertible restraints
  - Rear-facing - With seat belt
  - Rear-facing - With LATCH
  - Front-facing - No tether - Seat Belt
  - Front-facing - With tether - Seat Belt
  - Front-facing - Full LATCH
- Install combination restraints
  - With harness
  - As belt positioning booster
- Install boosters
  - Backless BPB
  - High-back BPB
  - Booster with a shield
- Install restraint with a locking clip
  - Install an infant or convertible child restraint using a regular clip
- ID Air Bags
  - Find 3 ways to identify the presence of a driver or passenger airbag
  - Identify the presence of side air bag
- ID Tethers
  - Identify tether location on child restraint
  - Identify tether anchor point in vehicle and how to install anchor
  - Identify tether anchor in vehicle
- ID LATCH Anchors
  - Identify lower anchor attachments on child restraint
  - Identify lower anchors in vehicle

Note that there is no installation skills evaluation. Students are given a chance to practice their installation skills to learn how well they can install child restrains in different vehicles. The sole reason for checking-off any installations by Instructors is to allow the students to keep track of what they have and have not completed. As with the knowledge assessment, there is no pass/fail grades given for the exercises.

UNIT 1: INTRODUCTION AND COURSE OBJECTIVES

Lesson Objectives
During this lesson, the Instructor(s) should:

- Cover necessary administrative details
- Introduce students to the goals and objectives of this course
- Clarify what successful completion of this course will and will not enable them to do
- Provide a concise overview of the content of the course

Equipment Needed
- Instructor CD, laptop computer, and projector or overhead transparencies and overhead projector
- Tags or envelopes for identifying sets of keys for participant and instructor vehicles

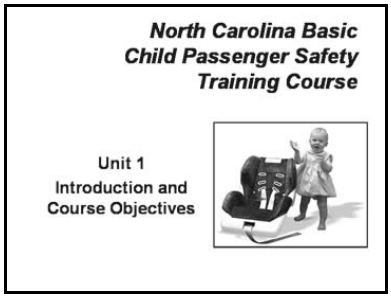
Handouts Needed
- Class agenda
- Participant Vehicle ID Form
- Class roster forms
- Course and Instructor Evaluation forms

Refer to following materials found in the "Student Manual" Appendix:
- Child Occupant Protection Glossary
- English to Spanish Glossary
- Spanish to English Glossary

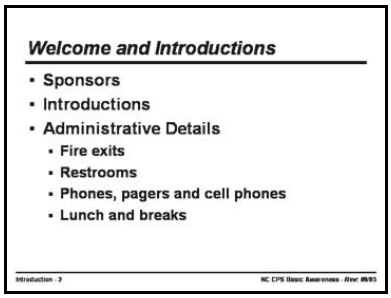
Exercises
None

Time Allotted on Recommended Agenda
30 minutes

A. Welcome and Introductions



1. Welcome to the NC CPS Basic Training Program



2. Acknowledge sponsors

A) GHSP

B) OSFM

C) HSRC

D) Local participants/sponsors

3. Introductions

A) Instructors

B) Administrators

C) Guests

D) Students

4. Administrative details

A) Fire exits

B) Restrooms

C) Phones

D) Lunch and breaks

E) Pagers and cell phones off

5. Review agenda, manual, and handouts

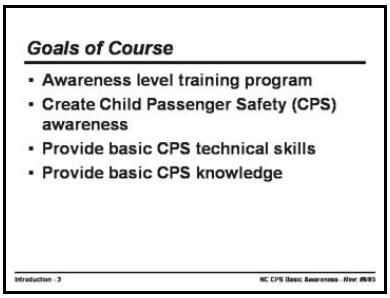
A) Review agenda with note that it may change as the class progresses

B) Review Participant Manual noting appendix materials

C) Hand out/refer to participant vehicle ID form, explain the need to use different vehicles, and schedule when completed forms will be collected

D) Hand out/refer to class roster forms, explain the need for accurate information, and schedule when completed forms will be collected

E) Hand out/refer to Class evaluation form and request thoughtful evaluations of course and instructors at end of class.



B. Goals of Course

1. Awareness level training program

A) Participants will receive a Letter of Completion

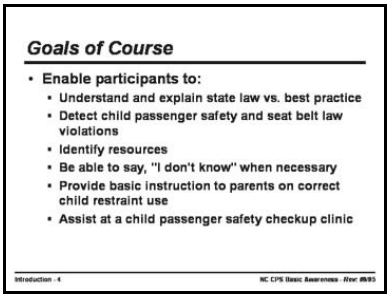
B) Will not result in a formal certification.

2. EMPHASIZE: Goals

A) Create CPS awareness

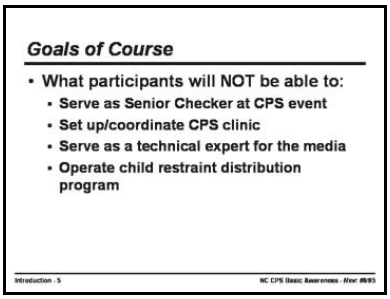
B) Provide basic CPS technical skills

C) Provide basic CPS knowledge



D) Enable participants to:

1) Understand and explain state law vs. best practice
2) Detect child passenger safety and seat belt law violations
3) Identify resources
4) Be able to say, "I don't know" when necessary
5) Provide basic instruction to parents on correct child restraint use
6) Assist at a child passenger safety checkup clinic



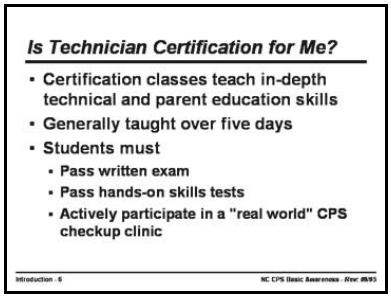
3. EMPHASIZE: What participants will NOT be able to:

A) Serve as a Senior Checker at a Child Passenger Safety event

B) Set up and coordinate a child passenger safety clinic without guidance of a Certified Technician

C) Serve as a technical expert for the media

D) Operate child restraint distribution programOctober 14, 2005

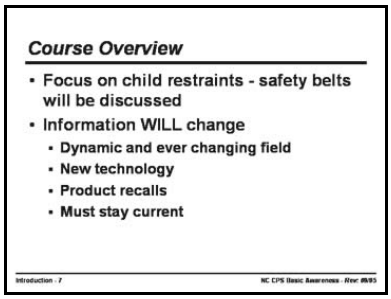


4. Promote Technician Certification training

A) Those who want to provide community services in “NOT be able to” list above encouraged to pursue CPS Technician certification.

B) Designed to teach needed technical and instructional skills

C. Course Overview



1. Focus on child restraints but safety belt use for children and adults will be discussed

A) Children will at some point transition to belt

B) Injury prevention is a family issue.

2. Information was current at the time of printing but WILL change.

A) Dynamic and ever changing field.

B) New technology

C) Product recalls

D) Must stay current.

Refer students to CPS and English/Spanish Glossaries in the Appendix if needed

3. Basic technical awareness included

4. Participants will not know everything about CPS

5. Will know enough to

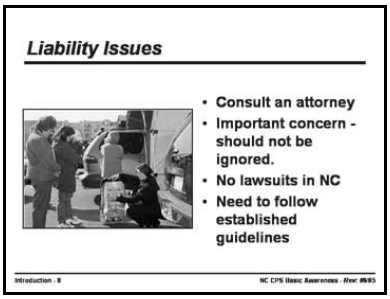
A) Help convince people to correctly use child restraints and safety belts for their children

B) Recognize the limits of your knowledge, and

C) Know when to say, "I don't know, but I'll find out."

D) Will learn where to find the information you need

E) Will discover that many issues may not have clear concrete solutions.



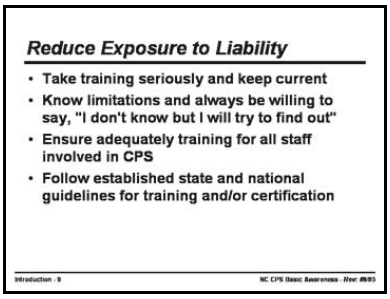
D. Liability Issues

1. General overview, consult with an attorney for specific liability issues

2. Important concern and should not be ignored.

3. No lawsuits filed in North Carolina against any CPS education or distribution programs or CPS clinics.

4. Need to follow established guidelines



5. Practices to follow to reduce your exposure to liability include:

A) Take training seriously

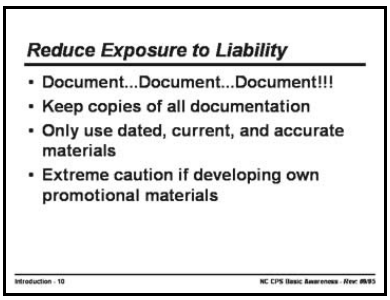
B) Keep current

C) Know your limitations

D) Always be willing to say, "I don't know but I will try to find out"

E) Ensure adequately training for all staff involved in CPS

F) Follow established state and national guidelines for training and/or certification



G) Document

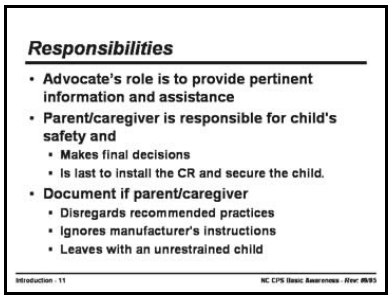
   1) Training activity
   2) Program content
   3) Inspection procedures
   4) Materials distributed

H) Keep copies of all documentation.

I) Distribute ONLY dated, current and accurate materials

J) Caution with own promotional materials

   1) Must meet guidelines for CPS materials
   2) Must be reviewed by specialists in the CPS field.



6. Responsibilities

A) Advocate

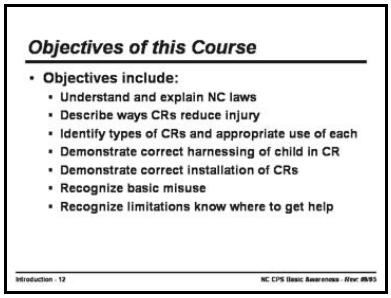
1) Advocate provides pertinent information

B) Parents/caregivers

1) Parents/caregivers responsible for their child's safety.
2) Parent/caregiver has the final decision and final responsibility.
3) Parent/caregiver is last to install the CR and secure the child.

C) Document if parent/caregiver

1) Disregards recommended practices
2) Ignores manufacturer's instructions
3) Leaves with an unrestrained child



E. Objectives of this Course

1. Objectives have been established

A) Refer participants to the main objectives listed in their Participant Manual. Do not cover in detail

B) Detailed objectives to be used by Instructors are as listed below.

Upon completion of this course, the participant will be able to:

1. Discuss relevance of correct use of restraints in reducing injuries and deaths to children due to motor vehicle crashes.

2. Understand and explain North Carolina's occupant protection laws.
   2.1 Seat Belt Law 20-135.2A
   2.2 Child Passenger safety Law 20-137.1
   2.3 Transporting Children in Open Bed or Cargo Area 20-135.2B

3. Describe five ways child restraint devices reduce injury to children.

4. Name eight types of child restraint devices, describing weight and height limits and appropriate use of each.

5. Demonstrate competency in correctly securing child in appropriate child restraint.
   - 5.1 Rear-facing only
   - 5.2 Convertible: rear-facing
   - 5.3 Convertible: forward-facing
   - 5.4 Belt positioning booster

6. Demonstrate competency in properly installing child restraints in vehicles.
   - 6.1 Rear-facing only without detachable base
   - 6.2 Rear-facing with detachable base
   - 6.3 Convertible: rear-facing
   - 6.4 Convertible: forward-facing
   - 6.5 Belt positioning booster
   - 6.6 Child restraint device using a locking clip
   - 6.7 Child restraint device using LATCH

7. Recognize basic misuse of child restraints.
   - 7.1 Restraint selection errors
   - 7.2 Harnessing errors
   - 7.3 Installation errors

8. Recognize limitations and identify other CPS resources and programs.

UNIT 2: THE NEED FOR CHILD RESTRAINTS AND NORTH CAROLINA'S OCCUPANT RESTRAINT LAWS

Lesson Objectives
After this lesson, the students should be able to:

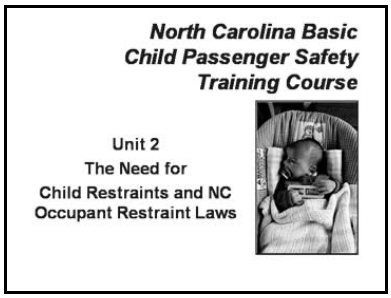
- Understand that motor vehicle crashes are a leading cause of death and injury to children.
- Understand and explain North Carolina's occupant protection laws.
- Child Passenger Safety Law
- Seat Belt Law
- Transporting Children in Open Bed or Cargo Area

Equipment Needed
Instructor CD, laptop computer, and projector or overhead transparencies and overhead projector

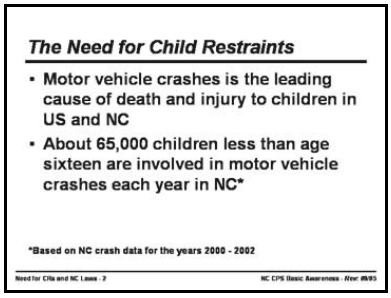
Handouts Needed
- Refer to following materials found in the “Student Manual” Appendix:
- Summary of North Carolina Occupant Restraint Laws
- Text of North Carolina Occupant Restraint Laws
- North Carolina Child Passenger Safety Law: Questions Commonly Asked
- North Carolina Seat Belt Law: Questions Commonly Asked
- Requirements of the North Carolina Children in Back of a Pickup Truck Law
- Growing Up Buckled Up in North Carolina: Basics of NC Laws and Best Practice Recommendations

Exercises
None

Time Allotted on Recommended Agenda
30 minutes



A. The Need for Child Restraints



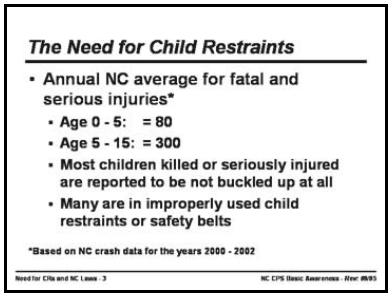
B. Leading Cause of Death and Injury to Children

1. MV crashes continue to be a leading cause of death and injury to children in NC

2. Annual NC average: about 65,000 children less than age sixteen are involved in motor vehicle crashes

A) Based on NC DMV police reported crash data for the years 2000 - 2002

B) Included all involved including those not injured



3. Annual NC average for fatal and serious injuries (2000 - 2002)

A) Age 0 - 5: = 80

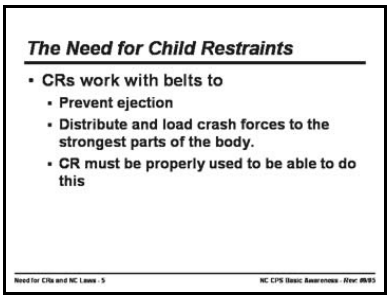
B) Age 5 - 15: = 300

C) Most are reported to be not buckled up at all or are in improperly used child restraints or safety belts.

4. Children are not miniature adults

A) Need special restraints because of their development characteristics.

1) Infant's head is larger and heavier
2) legs are shorter
3) Newborn's shoulders are narrow and flexible
4) Child's pelvis is small, rounded and not fully developed until puberty.

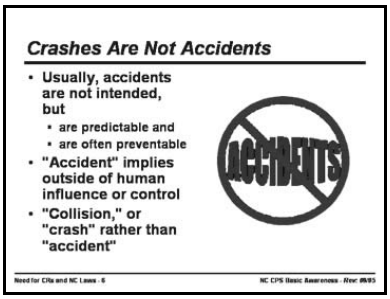


5. CRs work with belts to

A) Prevent ejection

B) Distribute and load crash forces to the strongest parts of the body.

C) CR must be properly used to be able to do this



C. Crashes Are Not Accidents

1. Most injuries not the result of "accidents"

2. Usually are not intended, but

A) are predictable and

B) are often preventable

3. "Accident" implies outside of human influence or control

4. Injury professionals prefer to talk about "collision," or "crash" rather than "accident"

D. NC Occupant Restraint Laws

1. NC has 3 occupant restraint laws

A) CPS law

1) Original version effective 1982

2) Amended and strengthened in 1985, 1995, 1998, and 2000

B) Seat belt law

1) Original version effective in 1985

2) Minor changes since

C) Children in back of pickup trucks

1) Original version effective in 1995

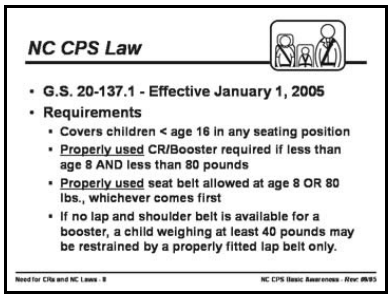
2) No changes since

D) Together they

1) Cover majority of children and adults riding in passenger motor vehicles and

Refer students to NC Law Handouts in Appendix

2) Have helped to reduce motor vehicle crash related deaths and serious injuries in North Carolina

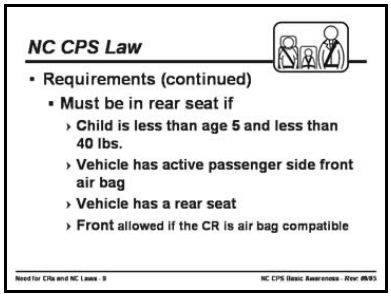


2. NC CPS Law: G.S. 20-137.1

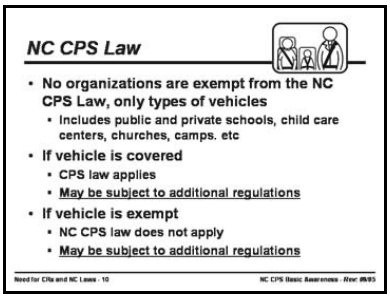
A) Current version effective as of January 1, 2005

B) Requirements

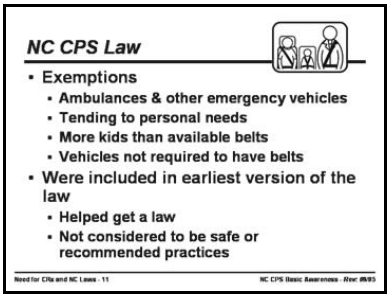
1) Covers children < age 16 in any seating position
2) Properly used CR required if less than 8 years old AND less than 80 pounds
3) Properly used belt allowed at age 8 OR 80 lbs., whichever comes first
   (a) Improperly worn belt, e.g., behind back or under the arm, is illegal
   (b) Driver subject to CR violation
   (c) Belt positioning booster needed to make belt fit
4) Lap-belt-only provision
   (a) If there is no lap and shoulder belt equipped seating position available for using a belt-positioning booster
   (b) Child less than 8 years of age and between 40 and 80 pounds may be restrained by a properly fitted lap belt only.
   (c) WARNING: Belt-positioning booster seats can only be used with lap and shoulder combination safety belts. Belt-positioning booster seats must NEVER be used with just a lap belt.



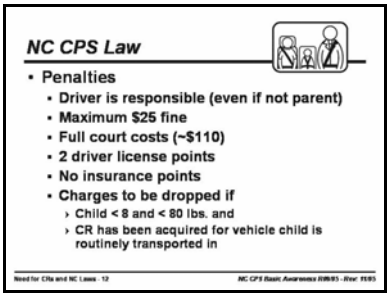
5) CR must be installed in rear seat if
   (a) Is for a child less than age 5 and less than 40 pounds
   (b) In vehicle equipped with an active passenger side front air bag
   (c) If the vehicle has a rear seat
   (d) Front allowed if the CR is designed for use with air bags
   (e) Air bag on-off switch turned off is not active and thus allowed
6) Child passenger restraint system means infant only, convertible, forward facing only, booster, harness, vest, or integrated restraint that meets FMVSS 213 in effect when made
7) Proper use means according to CR and vehicle manufacturers' instructions



8) No type of organization is exempt, only types of vehicles
   (a) Organizations e.g. child care centers and churches using vans or other passenger vehicles are covered
   (b) Organizations are not covered if using large buses
   (c) Refer to "Transportation of Children by Schools, Child Care Centers and other Organizations in NC and Homes" in the Appendix



C) Exemptions
   1) Ambulances or other emergency vehicles
   2) If the child's personal needs are being tended to
   3) If all seating positions equipped with child restraints or safety belts are occupied
   4) Vehicles that are not required by federal law or regulation to be equipped with safety belts



D) Penalties
   1) Maximum $25 fine
   2) Court costs ($110)
   3) 2 driver license points
   4) No insurance points
   5) Charges to be dropped if
      (a) Child < 5 and < 40 lbs. and
      (b) Person charged produces proof that
         (1) A CR has been acquired or
         (2) Was in a vehicle not normally used for transporting the child

NOTE: Do not raise the issue, but be prepared to answer questions about school buses and why they do not have safety belts.

NOTE: Be prepared to answer the question “Is it ‘8 OR 80' or ‘8 AND 80'???”

In part the answer lies in which question is being asked:

Q: "Which children are required to be in a booster seat or other child restraint?"

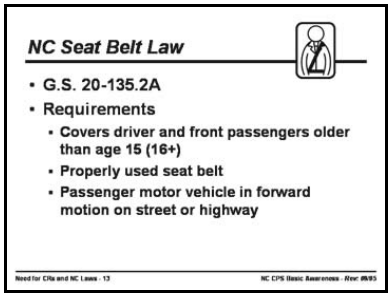
A: Children who are both less than age 5 AND less than 80 pounds are required to be in some type of child restraint. Note that "some type of child restraint" includes booster seats.

Q: "When can children be switched to seat belts alone?"

A: Children may be restrained by properly fitted seat belts when they reach age 8 (regardless of weight) OR reach 80 pounds (regardless of age).

Note however, that a child who has reached 40 pounds, regardless of age, may be restrained by just a properly fitted lap belt if there is not a lap and shoulder belt equipped seating position available for using a belt-positioning booster seat.

STRESS: There are no booster seats currently being made that can be used with just a lap belt. Belt-positioning booster seats may only be used with lap and shoulder combination belts and must NEVER be used with just a lap belt.

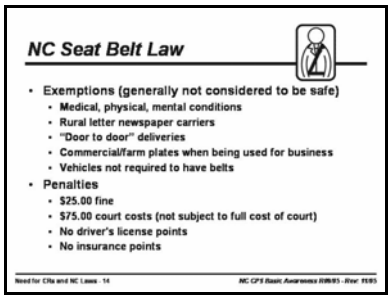


3. NC Seat Belt Law: G.S. 20-135.2A

A) Current version effective as of October 1, 2002

B) Requirements

1) Driver and front passengers age 16+
2) Properly used safety belt
3) Applies to passenger motor vehicle



C) Exemptions

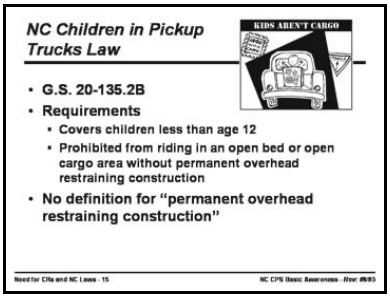
1) Medical, physical condition or certified mental phobia
2) Rural letter carrier or newspaper delivery person on route
3) Frequently stopping/leaving the vehicle if < 20 mph
4) Commercial or farm plates while conducting business
5) Vehicle not required to be equipped with belts

D) Penalties

1) $25.00 fine
2) $75.00 court costs
3) No driver's license points assessed
4) No insurance points assessed

(NOTE: The NC Legislature included court cost of $50 for a safety belt violation as a part of the budget bill passed by the 2002 session and went into effect October 1, 2002. Court cost

for a Seat Belt law violation was increased to $75 as a part of the budget bill passed by the 2005 session. This change came too late for inclusion in the R09/05 Participant Manual. Updated NC Law handouts can be downloaded from the buckleupnc.org downloads page or printed from the R09/05 Instructor CD.)

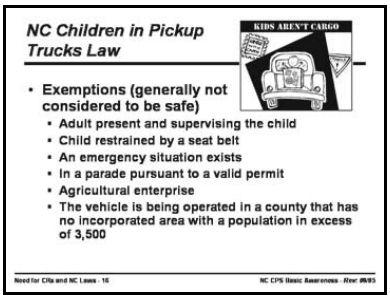


NC Children in Pickup Trucks Law: G.S. 20-135.2B

E) Current version effective as of October 1, 1999

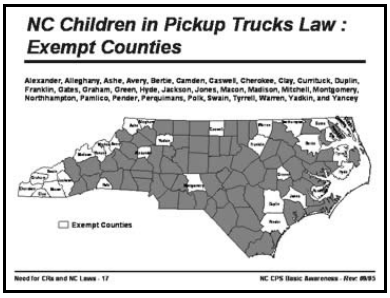
F) Requirements

1) Children < age 12 prohibited from riding in an open bed or open cargo area without permanent overhead restraining construction
2) permanent overhead restraining construction not specified by the legislature and has not been defined by courts



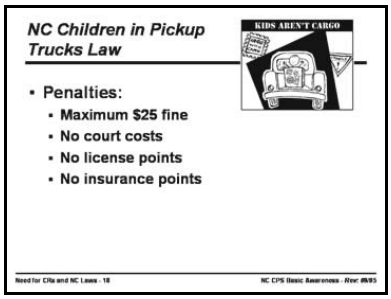
G) Exemptions

1) An adult is present in the bed or cargo area of the vehicle and is supervising the child
2) The child is secured or restrained by a safety belt manufactured in compliance with FMVSS 208, installed to support a load strength of not less than 5,000 pounds for each belt, and of a type approved by the Commissioner
3) An emergency situation exists
4) The vehicle is being operated in a parade pursuant to a valid permit
5) The vehicle is being operated in an agricultural enterprise
6) The vehicle is being operated in a county that has no incorporated area with a population in excess of 3,500



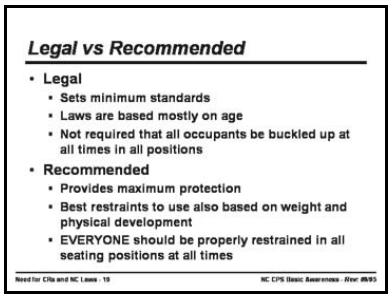
NOTE: Counties with <3,500 population: Alexander, Alleghany, Ashe, Avery, Bertie, Camden, Caswell, Cherokee, Clay, Currituck, Duplin, Franklin, Gates, Graham, Green, Hyde, Jackson, Jones, Macon, Madison, Mitchell, Montgomery, Northhampton, Pamlico, Pender, Perquimans, Polk, Swain, Tyrrell, Warren, Yadkin, and Yancey.

NOTE: Exempt counties are listed in Participant Manual



H) Penalties:

1) Maximum $25 fine
2) No court costs
3) No license points
4) No insurance points



E. Legal vs Best Practice

1. Legal

A) Minimum standards needed to comply

B) Laws are based mostly on age - but recommendations for the best restraints to use are based on weight and physical development as well as age.

C) No requirements for all occupants be buckled up - recommendations are that EVERYONE should be properly restrained in all seating positions at all times

Refer students to "Growing Up Buckled Up in NC" handout as a summary of NC law and basic recommendations

UNIT 3: HOW RESTRAINTS PROTECT OCCUPANTS IN CRASHES

Lesson Objectives
After this lesson, the students should be able to:

- Discuss four types of crashes.
- Describe five ways child restraint devices reduce injury to children.
- Describe two types of occupant protection systems and give examples.

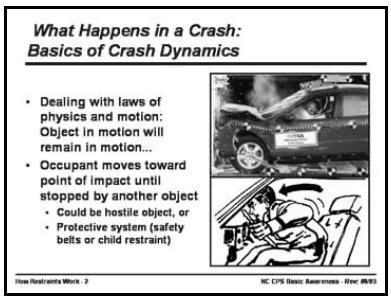
Equipment Needed
Instructor CD, laptop computer, and projector or overhead transparencies and overhead projector

Handouts Needed
None

Exercises
None

Time Allotted on Recommended Agenda
30 minutes

A. How Restraints Protect Occupants in Crashes



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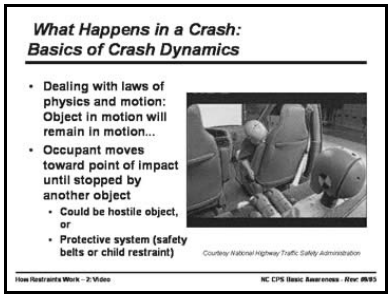

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B. What Happens in a Crash (Basics of Crash Dynamics)

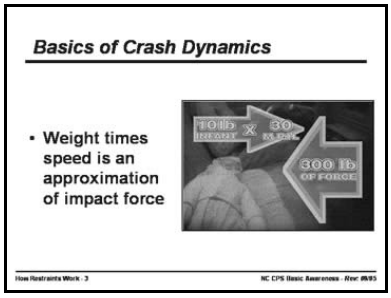
1. Must understand basics of crash dynamics and crash forces to understand how restraints work

2. Laws of physics and motion

A) Object in motion will remain in motion until acted on by an outside force.

B) Any person inside a moving vehicle will continue moving with the speed of the vehicle toward the point of impact, until stopped by another object.

C) The outside force could be the steering wheel, dashboard, etc. or something designed to protect you such as vehicle safety belts or a child restraint system,

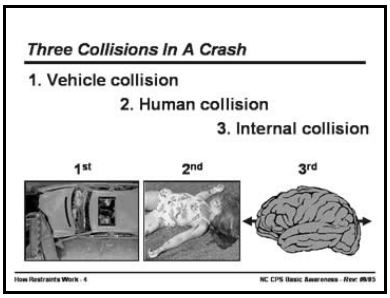


D) Crash forces

1) Weight times speed is an approximation of impact force

2) Example: 20lb. Baby X 40 mph = 800 lbs. of force

E) Want to extend stopping time and distance - become a part of the vehicle to do so



3. Three collisions in a crash

A) **Vehicle** collision - Vehicle strikes tree, bridge, another vehicle, etc.

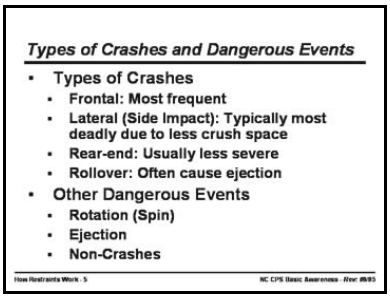
B) **Human** collision - Occupant strikes something in vehicle - safety belt, dashboard or steering wheel. Other objects in vehicle strike vehicle's interior or other occupants. Body moves toward point of impact.

C) **Internal** collision - Organs and tissues in the body strike bone or other structures. Organs can be bruised or torn in this collision.

NOTE: 1. The car has come to a complete stop within one tenth of a second. That is the vehicle collision.

2. However, the unbelted occupant is still moving along inside the car at the original traveling speed. At 30 mph, it will take the driver about one-fiftieth of a second more to hit the vehicle interior. That's the human collision.

3. The brain and other internal organs continue to move in the direction of travel - or towards impact - tearing connective tissues or being lacerated or bruised by the collision with the skull or other part of the skeleton.



4. There are four main types of crashes

A) Frontal

1) Most frequent type, but
2) Not necessarily most severe

B) Lateral (Side Impact)

1) Typically most deadly due to less crush space

C) Rear-end

1) Usually less severe
2) Use and adjust head restraint if possible

D) Rollover

1) Sideways and/or end-over-end (vault)
2) Severity of injury depends upon number of rotations etc.
3) Often cause ejection
4) Ejected occupants are 4 times more likely to be killed

5. Other Dangerous Crash Events

A) Can occur in almost any crash or chain of crash events.

B) Rotation or spin

1) Unrestrained likely to repeatedly impact vehicle's interior

2) Unrestrained more likely to be ejected

(a) Four times more likely to be killed

(b) 14 times as likely to receive cervical spine injuries

(c) Landing gently is highly unlikely

(d) Vehicle itself may follow the same path as ejected person

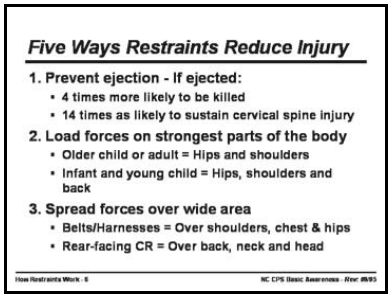
6. Occupants in Non-collisions

A) Swerves, skids, sudden stops

B) Unrestrained drivers are more likely to lose control

C) Unrestrained passengers can strike one another or vehicle interior

D) Unlatched door can come open letting occupant fall out (especially around corners)



C. There are 5 ways restraints reduce injury

1. Prevent ejection - If ejected:

A) Four times more likely to be killed

B) 14 times as likely to sustain cervical spine injury

2. Load forces on strongest parts of the body

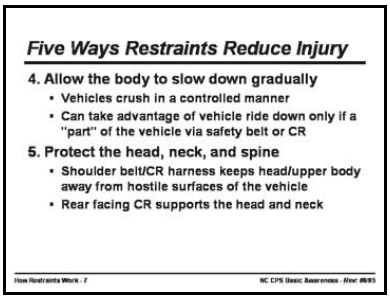
A) Older child or adult = Hips and shoulders

B) Infant and young child = Hips, shoulders and back

3. Spread forces over wide area

A) Lap and shoulder belts and CR harnesses cover shoulders, chest and hips

B) Rear-facing CR distributes forces over entire back, neck and head



4. Allow the body to slow down gradually

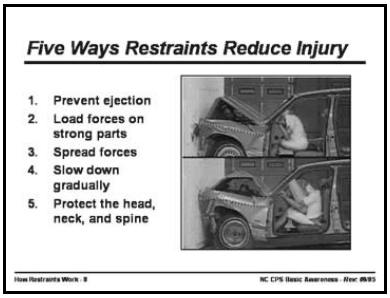
A) Vehicles crush in a controlled manner

B) Can take advantage of vehicle ride down only if a "part" of the vehicle via safety belt or CR

5. Protect the head, neck, and spine

A) Shoulder belt/CR harness keeps head/upper body away from the hard interior surfaces of the vehicle

B) A rear facing CR supports the head and neck



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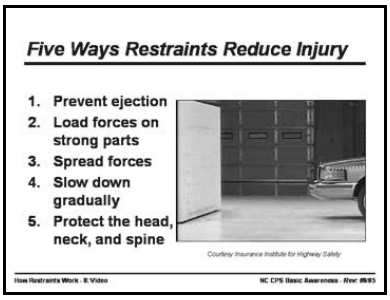

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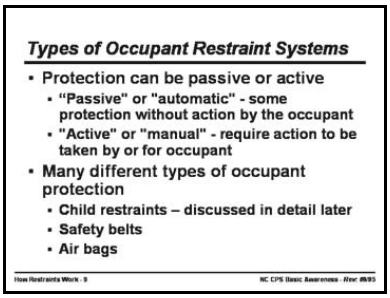
Review 5 ways restraints reduce injury



D. Types of Occupant Restraint Systems

1. There is a wide range of equipment and systems that are designed to protect motor vehicle occupants in crashes.

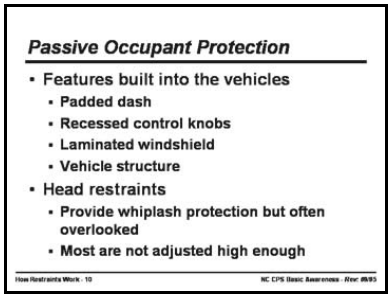
A) Occupant protection can be passive or active

1) Some are "passive" or "automatic" and provide some protection to occupants without any action having to be taken by the occupant.

2) Others, sometimes called "active" or "manual" require some action to be taken by the occupant in order to be protected

B) Types of restraint systems

1) Child restraints - manual restraint system to be discussed in great detail later
2) Safety belts
3) Air bags



E. Passive Occupant Protection Systems

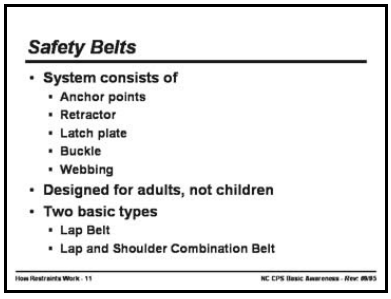
A) A number of passive occupant protection features are built into the vehicles

B) Not true "restraint" systems, but provide some protection, e.g.,

1) Padded dash
2) Recessed control knobs
3) Laminated windshield
4) Vehicle structure
   (a) Roof structure
   (b) Front and rear-end crumple zones
   (c) Side-impact beams.

C) Head restraints

1) Often overlooked
2) Provides whiplash protection
3) Some are built into the vehicle, others are adjustable
   (a) Most are not adjusted high enough
   (b) Should be at middle of head or higher



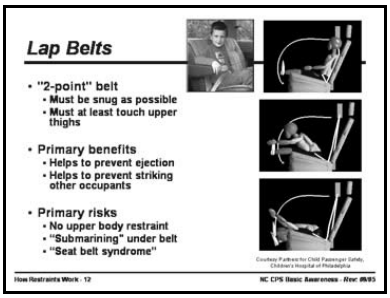
2. Safety Belt Systems

A) Belt system consists of anchor points, a retractor, a latch plate and webbing material

B) Designed for adults, not children

C) Two basic types

1) Lap belt
2) Lap and shoulder combination belt



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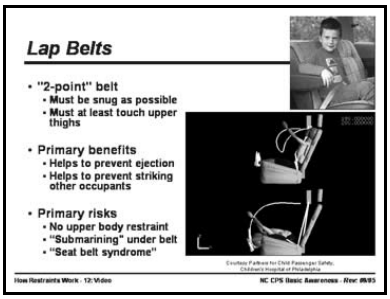

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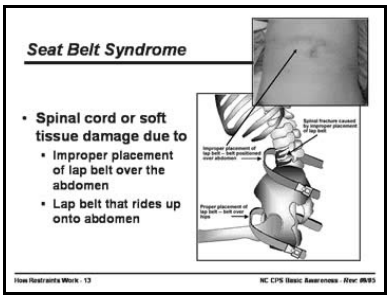
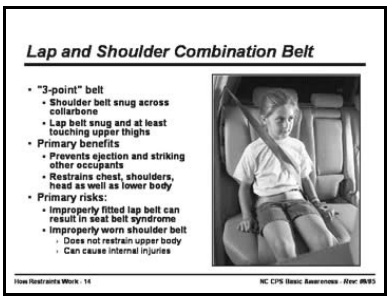
D) Lap Belt -

1) "2-point" belt with two anchor points and fits over the lap (upper thighs/hips).
2) Primary benefits: prevent ejection; prevent striking other occupants
3) Does not restrain the upper body
4) Must be snug as possible and at least touching the upper thighs.
5) If too loose, can "submarine" under the lap belt.

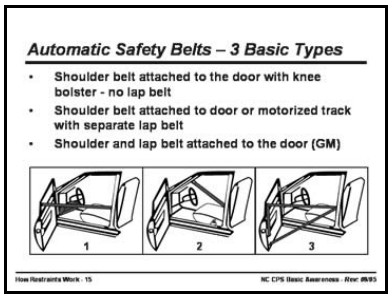


6) If too high or rides up can result in seat belt syndrome - injuries to the lower spine and organs such as spleen, liver and intestines



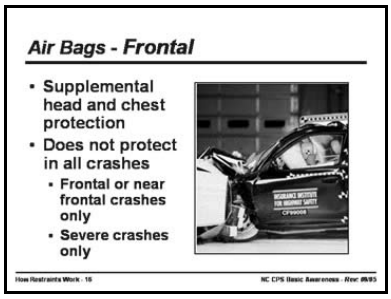
E) Lap and Shoulder Combination Belt

1) "3-point" belt with three anchorage points.
2) Shoulder belt restrains chest, shoulders, head
3) Shoulder belt should lie across the collarbone as close to the neck as possible without being uncomfortable.
4) Lap portion positioned as above
5) The importance of a snugly and correctly fitted lap belt should not be neglected.



F) Automatic Safety Belts

1) Automatically fit over the driver and right front passengers
2) Not allowed since mid 90's
3) Three basic types
   (a) Shoulder belt attached to the door with knee bolster - no separate lap belt
   (b) Shoulder belt attached to door/track with separate lap belt
      (1) Wear the lap belt for protection and
      (2) To be legal in NC
   (c) Shoulder and lap belt attached to the door (GM)



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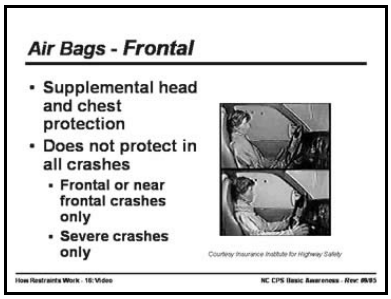
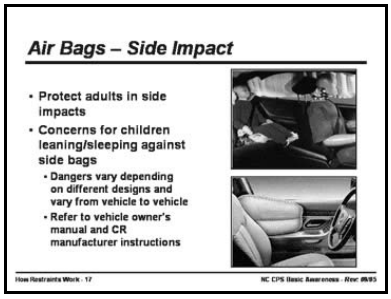


With video clip

3. Air Bags

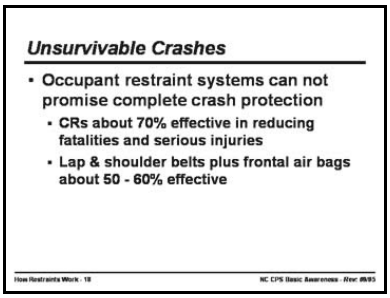
A) Frontal

1) Supplemental head and chest protection
2) Do not take the place of safety belts
3) Do not protect in all crashes
   (a) Frontal crashes only
   (b) Severe crashes only



B) Side Air Bags

1) Improve protection of adults in side impact crashes
2) Are concerns that children who are leaning against a side bag at the time of deployment can be seriously injured
   (a) Dangers to children vary depending on design of the specific air bag
   (b) Vary greatly from vehicle to vehicle.
   (c) Refer to vehicle owner's manual for recommendations that apply to specific vehicle
   (d) Refer to CR manufacturer instructions for recommendations that apply to specific CR

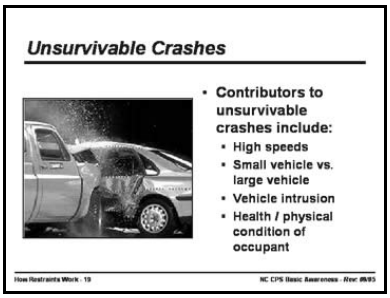


F. Unsurvivable Crashes

1. Do not to promise complete crash protection

A) CRs about 70% effective in reducing fatalities and serious injuries

B) Lap and shoulder belts plus frontal air bags about 50 - 60% effective



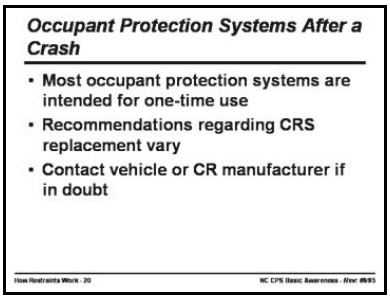
2. Contributors to unsurvivable crashes include:

A) High speeds

B) Small vehicle vs. large vehicle

C) Vehicle intrusion

D) Health / physical condition of occupant

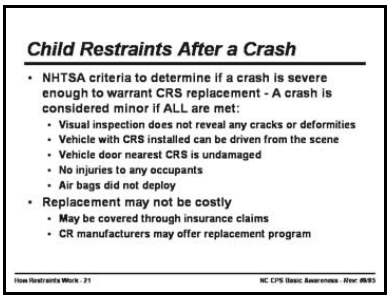


G. Occupant Protection Systems After a Crash

1. Most occupant protection systems are generally one-time use

A) Recommendations regarding CRS replacement vary

B) Contact vehicle or CR manufacturer if in doubt



2. Child Restraints After a Crash

A) NHTSA criteria to determine if a crash is severe enough to warrant CRS replacement

B) A crash is considered minor - minor enough where the CR should not need replacing - if ALL are met:

1) Visual inspection does not reveal any cracks or deformities
2) Vehicle with CRS installed can be driven from the scene
3) Vehicle door nearest CRS is undamaged
4) No injuries to any occupants
5) Air bags did not deploy

C) Replacement may not be costly

1) May be covered through insurance claims
2) CR manufacturers may offer replacement program

Refer students to "Recommendations for Replacement of Crash-Involved Safety Belts & Child Restraints" in the Appendix

UNIT 4: CHOOSING THE "BEST" CHILD RESTRAINT

Lesson Objectives
After this lesson, the students should be able to:

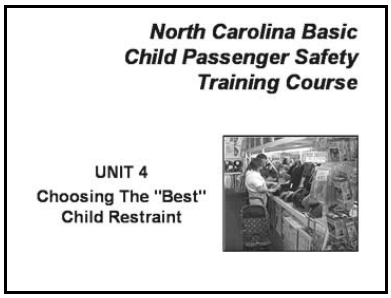
- Name eight types of child restraint devices, describing weight and height limits and appropriate use of each.

Equipment Needed
- Instructor CD, laptop computer, and projector or overhead transparencies and overhead projector
- At least one example of each main type of child restraint with a variety of features (harness types, harness adjustments, retainer clips, etc.) among the different models

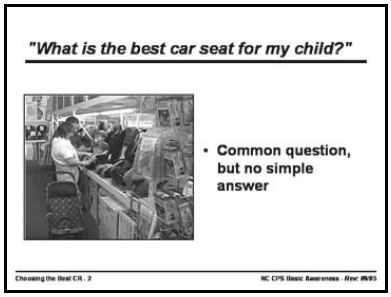
Handouts Needed
- Up-to-date recall list (UNC HSRC recommended. Download/print through: http://www.buckleupnc.org/using_recalls.cfm
- Refer to following materials found in the “Student Manual” Appendix:
- Buyer's Guide to Used Child Restraints

Exercises
None

Time Allotted on Recommended Agenda
45 minutes

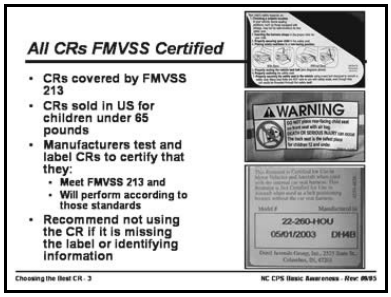


Choosing the "Best" Child Restraint



A. "What is the best car seat for my child?"

1. Common question, no simple answer

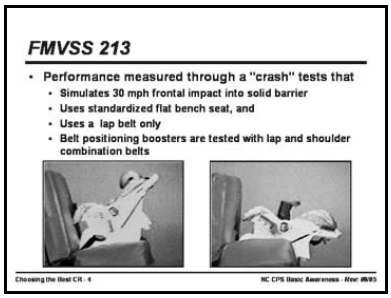


2. FMVSS 213

A) Covers child restraints sold in US for children up to 65 pounds

B) CR manufacturer required to test the CR to 213 requirements and place a label on the restraint with the model number and date of manufacture.

C) Recommend not using the CR if it is missing the label or identifying information



D) Performance measured through a "crash" tests that

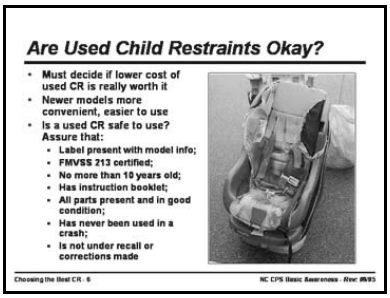
1) Simulates 30 mph frontal impact into solid barrier
2) Uses standardized flat bench seat, and
3) Uses a lap belt only
4) Note that BPBs tested with lap and shoulder combination belts

B. There is no "best" car seat for a child

A) Best or safest restraint is

1) Fits the child
2) Fits the vehicle(s)
3) Will be used correctly every ride

B) Least expensive as good as most expensive



Refer to "Used CR" handout in the Appendix

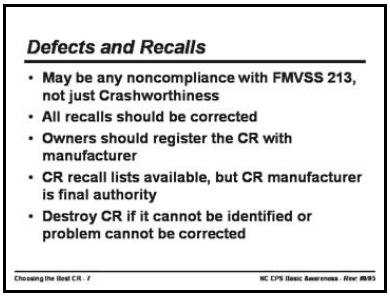
C. Are used child restraints okay?

1. Must decide if lower cost of used CR is worth it

A) Newer models more convenient and easier to use

B) To tell if used CR is safe to use, assure that:

1) Label present with model info;
2) Met 213 at the time of manufacture;
3) No more than 10 years old at the oldest;
4) Has instruction booklet;
5) All parts present and in good condition;
6) Has never been used in a crash;
7) Is not under recall or corrections made



D. Defects and Recalls

A) Important to pay attention to recall notices

B) Important to note not all recalls effect the crashworthiness of the CR

C) Recalls can be issued for any noncompliance with FMVSS) 213

D) Can be issued for reasons related to

1) Labels
2) Flammability
3) Choking hazards

E) Problems may be discovered through:

1) NHTSA compliance tests
2) Manufacturer testing
3) Complaints of users

F) All recalls must be corrected to ensure safety

G) In most cases, it is considered to be better to use a recalled restraint than to not use one at all

H) Owners should register the CR with registration card

1) Comes with all new CRs
2) Can be obtained from the CR manufacturer
3) Can be obtained from NHTSA

I) Users are urged to report problems and/or concerns

J) CR recall lists and information

1) Always call the CR manufacturer to be sure
2) UNC Highway Safety Research Center (can sign up for automatic email notification of updates to the HSRC recall list)

K) Destroy CR if model cannot be ID'd or problem cannot be corrected

1) Do not throw in the trash
2) Destroy by stripping and crushing

INSTRUCTOR NOTE:

Take a few minutes to go over the recall list to be used in class and give students a chance to try to find recalls on sample CR's.

INSTRUCTOR NOTE:

- Take a few minutes to go over the recall list to be used in class and give students a chance to try to find recalls on sample CR's. When using the HSRC list, instruct students to:
- Be sure to use printed pdf format of the list since it is more compact and indexed for quick reference.
- Note that he list is divided into "newer" and "older" model sections. This should help to reduce number of copies needing to be made when a recall is added.
- Find the manufacturer, model name, model number, and date of manufacture on the child restraint.
- Using this information:
  - Look to see if the manufacturer and model name and/or model number are listed in the index
  - If listed, note the "List #(number)" and use the List # to locate the recall information for that model. Once located, check to see if the date range for the recall includes the date of manufacture listed on the restraint.
  - If the restraint is included in the recall, inform the parent of this and refer them to the manufacturer for verification and correction or instruct them on the appropriate action of the manufacturer has gone out of business or discontinued their repair or replacement program.
- If the restraint is not included in the recall, still refer the parent to the manufacturer for verification and registration

E. After Market Products and Safety Standards

A) Non-regulated products sold for use by children in vehicles

1) Shoulder belt positioning devices
2) Infant head-positioning pads and head rests
3) Seat saver rubber and plastic mats
4) Safety belt buckle covers
5) Toys that attach to CRs

B) Many claim that they meet federal safety standards

C) Most of the belt positioning devices are marketed for children who weigh over 50 pounds and, therefore, are not covered by FMVSS 213

D) Because there are no crash test standards

1) The wording on the packaging is misleading
2) In general, CPS advocates cannot recommend their use unless allowed by vehicle or child restraint manufacturer

NOTE: Some CPS advocates have dismissed many products on the grounds that they are unregulated, or "after market" products. If advocates dismiss products for that reason, alone, they must also dismiss locking clips, belt shortening clips, certain vests and Y-harnesses, child restraints (including boosters) rated over 50 pounds, etc.

Professionally speaking, we cannot say that aftermarket devices per se are good or bad. We can only discuss what we do know: that there are no Federal regulations, requirements, or recommended testing procedures for such many of these products.

F. Types of Child Restraints for Children

A) There are many different models to choose from -

B) No wonder parents are confused

C) Five Basic Types of Child Restraints for Children

1) Rear-facing only restraints
2) Convertible restraints
3) Forward-Facing only restraints
4) Vehicle safety belts
5) Specials needs restraints

2. Rear-Facing Only (Birth- up to 17-22 lbs.)

A) Only facing the rear

B) Generally best fit for small infants

C) Supports entire head, neck and back

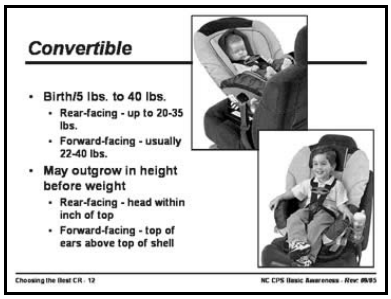
D) Can have either a 3-point or a 5-point harness

E) Newer models have detachable bases

F) May outgrow in length - head within an inch of the top - before weight limit reached

G) Most to 20 pounds, at least one to 35

H) Refer to the manufacturer's instructions

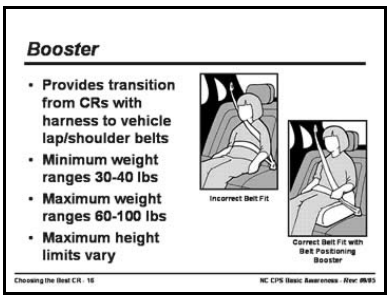


3. Convertible (Birth - up to 40 lbs.)

A) Either rear facing or forward facing with weight and height limits for each position

1) Rear-facing
   (a) Limits from 20 - 35 pounds
   (b) Most new models up to at least 30 pounds
   (c) Allows rear-facing up to at least one year old
2) Forward-facing
   (a) Range for most models is 22-40 pounds
   (b) Not recommended to turn forward-facing until at least one year old
3) Will outgrow forward-facing when
   (a) Exceed weight limit or
   (b) Top of ears reach top of shell

4) Will have one of three types of harnesses
   (a) Five-point harness
   (b) T-shield, or
   (c) Tray shield
   (d) T-shields and tray-shields are not recommended for small infants



4. Forward-Facing Only (20-22 pounds up to 40+ lbs.)

A) Can only be used facing to the front

B) Recommended only for children at least a year in age AND over 20 pounds in weight

C) May not be as comfortable as FF convertible for the young child

D) Many different types of forward facing only restraints:

E) Forward-Facing With Harness

1) Most to 40 pounds
2) May go as high as 80

F) Booster

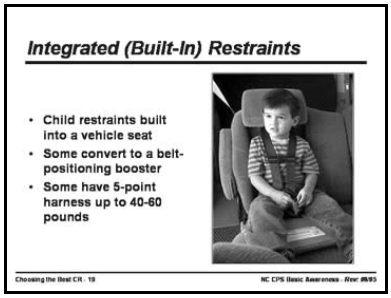
1) 40 lbs.- up to 60 - 100 lbs
2) When outgrow harness but do not fit safety belt
   (1) Two types of booster seats:

(b) Shield Booster:
   (1) Designed to use when only lap belts were available in the rear seats of most vehicles.
   (2) Newer shield only models allow shield 30-40 pounds belt positioning booster > 40 lbs
   (3) Few circumstances where a shield booster should be considered in a vehicle with an available lap and shoulder belt

(c) Belt-Positioning Booster (BPB)
   (1) ONLY with a lap and shoulder belt
   (2) Designed to make safety belt fit
   (3) Most have some type of shoulder belt adjustment
   (4) Some models have a high back; others are a base with no back. High back boosters provide additional head restraint for low back vehicle seats.

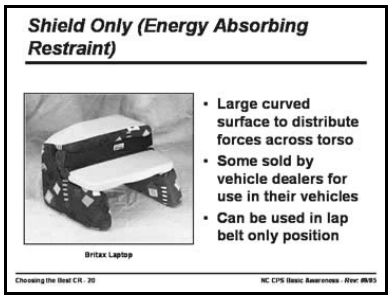
G) Combination Child Restraint/Booster

1) Internal harness 20 to 40 pounds
2) Modified for use as a BPB > 40 lbs
3) May not be as suitable as convertible for smaller children - more upright and lower in vehicle



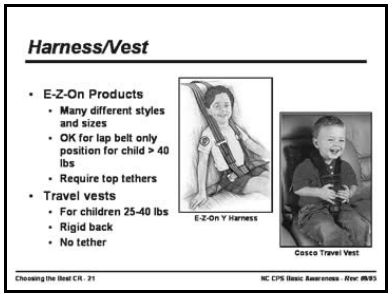
H) Integrated (Built-In) Restraints

1) Child restraints built into a vehicle seat
2) Some convert to a belt-positioning booster
3) Some have 5-point harness up to 40-60 pounds



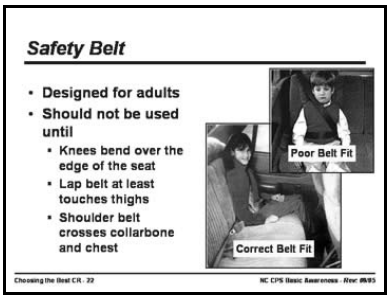
I) Shield Only (Energy Absorbing Restraint)

1) Large curved surface to distribute forces across torso
2) Some sold by vehicle dealers for use in their vehicles



J) Harness/Vest

1) Travel vests
   (a) Fit children 25-40 lbs
   (b) Rigid back for installation
   (c) 5-point harness to distribute forces
   (d) No tether
2) E-Z-On Products
   (a) Many different styles and sizes of harnesses
   (b) Alternative for lap belt only position for child > 40 lbs
   (c) Require top tether



5. Safety Belt

A) Designed for adults

B) Should not be used until

1) Child can sit comfortably without slouching and knees bend over the edge of the seat
2) The lap belt fits low, at least touching the hips
3) The shoulder belt fits across the collarbone and chest

C) Shoulder belt never placed behind the child's back or under the arm

D) "Sitting height" and vehicle characteristics determine how the belt fits the child

E) Lap belt only used as a last resort

F) SafetyBeltSafe U.S.A. "5-Step Test" - must answer yes to all questions for child to be ready for L&S belt:

1) Does the child sit all the way back against the auto seat?
2) Do the child's knees bend comfortably at the edge of the auto seat?
3) Does the belt cross the shoulder between the neck and arm?
4) Is the lap belt as low as possible, touching the thighs?
5) Can the child stay seated like this for the whole trip?

G) As a general rule, L&S belts do not fit children well until they are over about 4' 9" tall. For most children, this will not be until they are about 8 years old and about 80 pounds.

6. Special Needs Restraints

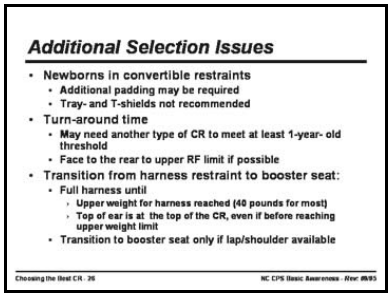
A) First choice to use conventional restraints

B) Behavioral, medical or positioning needs may make specialized restraints necessary

C) Additional solutions include:

1) Car bed - Premature or low birth-weight babies may have breathing problems that require them to lie flat.

2) Spelcast - A hip spica cast spreads the legs out at a wide angle, making it difficult for children to fit into most child restraints.
3) Modified vest - Allows children in full body cast to lie flat.
4) Positioning/postural restraints - These restraints are used for children with poor head or trunk control and require special positioning. There are models that have been designed and tested for crash worthiness up to 100 pounds.

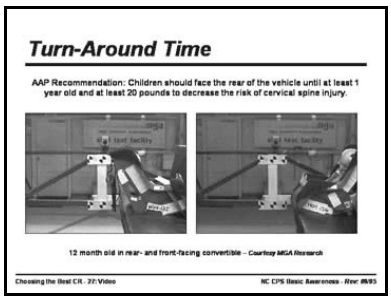


G. Additional Issues to Consider When Selecting an Appropriate Restraint

1. Newborns in convertible restraints:

A) Small infants and T- or tray shield
B) Shield is too close to head for optimum fit
C) Shield holds the shoulder straps too loose

Without video clip



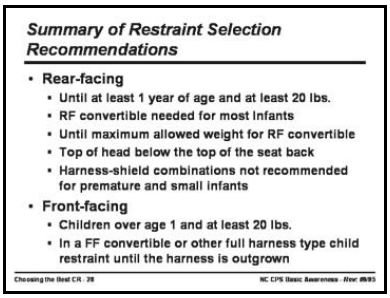
With video clip

2. Turn-around time:

A) Ligaments and bones in neck
B) Forward-facing too soon increases the risk of serious neck injury
C) Rear facing until
D) At least 20 pounds and one year
   1) The longer the better
   2) To higher upper limit best - as long as head does not come within 1" of top

3. Transition from convertible/forward-facing restraint to booster seat:

A) Full harness until
   1) 40 pounds (more if allowed) or
   2) Top of ear is at the top of the CR
B) Transition to booster seat if lap/shoulder available



H. Summarize Recommendations for Selecting an Appropriate Restraint

1. Rear-facing: Children should face the rear of the vehicle

A) until they are at least 1 year of age and weigh at least 20 pounds

B) Infants who weigh 20 lb before 1 year of age should ride rear facing in a convertible seat or infant seat approved for higher weights until at least 1 year of age

C) If a car safety seat accommodates children rear facing to higher weights, for optimal protection, the child should remain rear facing until reaching the maximum weight for the car safety seat, as long as the top of the head is below the top of the seat back

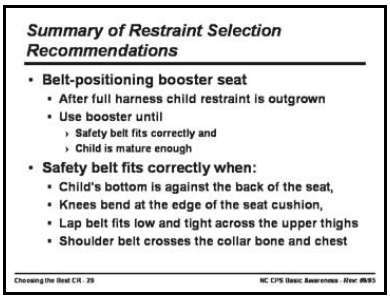
D) Premature and small infants should not be placed in car safety seats with shields, abdominal pads, or arm rests that could directly contact an infant's face or neck during an impact and injure the child.

2. Front-facing: Children over age 1 and who weigh at least 20 pounds

A) Can be turned around to face the front of the vehicle

B) Should ride in a properly installed front-facing convertible or other full harness type child restraint until the harness is outgrown

C) Harness is outgrown usually at about 40 pounds.



3. Switch to a belt-positioning booster seat

A) When the full harness child restraint is outgrown, usually about 40 pounds

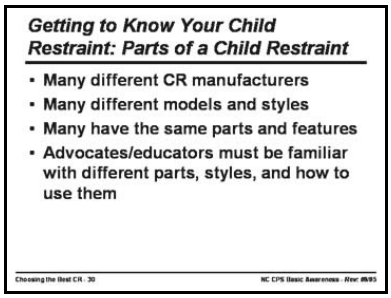
B) Continue to ride in the booster seat until

1) Safety belt fits correctly

2) Child is behaviorally mature enough

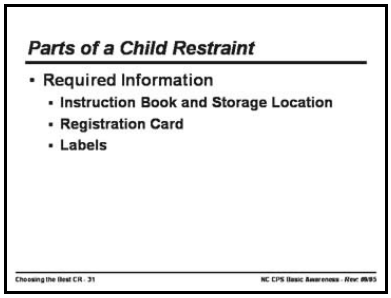
4. Correct safety belt fit is achieved when

A) Child's bottom is against the back of the seat,
B) Knees bend at the edge of the seat cushion,
C) Lap belt fits low and tight across the upper thighs
D) Shoulder belt crosses the collar bone and center of the chest



I. Getting to Know Your Child Restraint: Parts of a Child Restraint

NOTE: Although child restraints are made by many different manufacturers and come in a variety of styles, many have the same parts and features. It is important that CPS advocates and educators become familiar with all of the parts, different styles of the parts, and how they are used correctly.



1. Required Information

A) Instruction Book and Storage Location

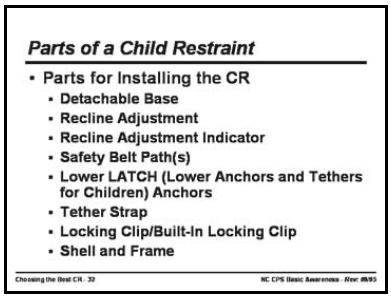
1) Most complete information about the restraint
2) Most located underneath or on the back of the restraint in the storage pocket
3) Also check child restraint section of vehicle's owner's manual

B) Registration Card

1) Comes with every new child restraint
2) Should be returned for notification of recalls

C) Labels required to be on child restraints

1) FMVSS 213 certification and optional FAA certification
2) Name of manufacturer, model number, and date of manufacture
3) Air bag warnings
4) Weight and size guidelines
5) Basic installation and harnessing



2. Parts for Installing the CR

A) Detachable Base

1) Mostly on rear-facing only restraints
2) Convenience feature
3) Not on all models

B) Recline Adjustment

1) On all convertible models
2) On some rear-facing restraints

C) Recline Adjustment Indicator

1) On some convertible and rear-facing only CRs
2) Indicates if CR installed within correct recline angle range
3) May be line on a label or level indicator fixed to side of CR

D) Safety belt Path(s)

1) Manufacturer specified route through or around the frame and/or shell of the CR for the vehicle's safety belt
2) Convertible models have at least two
3) Rear-facing with detachable bases have different belt paths for base vs no base
4) Paths are labeled on the child restraint

E) Lower LATCH (Lower Anchors and Tethers for Children) Anchors

1) For installation in LATCH equipped vehicles.
2) On all CRs after September 1, 2002 (except BPBs)

F) Tether Strap

1) Helps reduce the forward motion of the restraint
2) On newer forward facing child restraints
3) Required element of the LATCH system for forward facing restraints

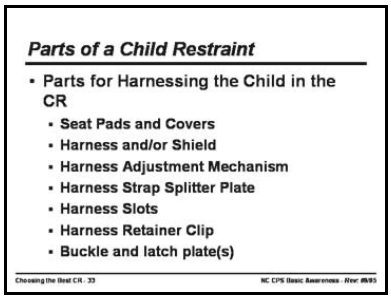
G) Locking Clip/Built-In Locking Clip

1) Required for a tight installation on some safety belt systems
2) The little metal thingy that parents don’t know what it is but try to fix all sorts of problems with it
3) Some CRs have built-in or lock-offs

H) Shell and Frame

1) Shell is usually made of plastic.
2) May or may not be an internal or external metal frame

3) Provide structural integrity to CR
4) Work with the harness, shield, or lap and shoulder belt to secure and protect the child within the restraint.



3. Parts for Harnessing the Child in the CR

A) Seat Pads and Covers
   1) Must be flame retardant
   2) Should not be replaced with any other material.

B) Harness and/or Shield
   1) Secures child within the restraint
   2) In a rear facing CR is a positioning device
   3) In a forward-facing seat distributes and absorbs crash forces
   4) Straps must be at least 11/2 inches wide
   5) May be 3-point, 5-point, T-shield or tray-shield.

C) Harness Adjustment Mechanism
   1) All harnesses adjust in length and snugness
   2) Newer CRs easier to adjust than older models

D) Harness Strap Splitter Plate
   1) A metal plate on the back of some CRs
   2) Attaches shoulder straps to harness adjustment strap/mechanism

E) Harness Slots
   1) To position the point at which the harness comes through the CR shell relative to the child's shoulders
   2) Can be one to four sets of slots
   3) CR manufacturer's instructions must be referred for correct slots

F) Harness Retainer Clip
   1) Helps keep the harness in the proper position on the child shoulders
   2) Not needed on all CRs

G) Buckle and latch plate(s)
   1) Locks the harness system together
   2) Buckles required
      (a) To have push-button release
      (b) To be stiff enough the child can't unbuckle them, but not too stiff for adults

UNIT 5: HARNESSING CHILDREN CORRECTLY IN CHILD RESTRAINTS

Lesson Objectives
After this lesson, the students should be able to:

- Demonstrate competency in correctly securing a child in the following child restraints:
  - Rear-facing only
  - Convertible: rear-facing
  - Convertible: forward-facing
  - Belt positioning booster

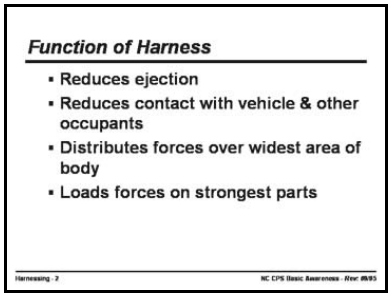
Equipment Needed
- Instructor CD, laptop computer, and projector or overhead transparencies and overhead projector
- At least one example of each main type of CRD with at least one example of 5-point harness, Tray-shield, and T-shield (if available)
- Variety of dolls of dolls representing different sizes of children

Handouts Needed
Up-to-date set of Child Restraint Manufacturers' Instructions should be made available for use by students during this and subsequent lessons.

Exercises
Training Exercise 1: Selecting the Appropriate Child Restraint and Harnessing the Child in the CR

Time Allotted on Recommended Agenda
45 minutes

A. Harnessing Children Correctly in Child Restraints



B. Harness is very important. Functions are:

A) Keeps child inside vehicle

B) Reduces contact with vehicle interior and other occupants

C) Distributes forces over widest area of body

D) Loads forces on strongest parts

EMPHASIZE: Harnesses can vary from manufacturer to manufacturer, model to model, and even between different dates of manufacturer. Harnesses can have different weight limits and requirements for routing through the CR and/or child. General guidelines will be discussed. Always check manufacturer's instructions.

C. Types of Harnesses

1. Three-point Harness

A) Two shoulder straps - meet and buckle in V shape over child

B) Holds child in position for protection by shell

C) Can only be used in rear-facing only restraint

2. Five-point harness

A) Two shoulder, two hip, and one crotch strap

B) Preferred system

1) More readily adjusted to fit a variety of children
2) Maximum load distribution

C) Disadvantage: Many tend to get twisted (“rope”) over time.

3. T-shield

A) One type of harness-shield combination

B) Shoulder straps attached to a flat padded T-shaped shield

C) Bottom of "T" buckles to base of CR

D) Disadvantage: Not recommended for very small infants.

4. Tray-shield

A) Most common type of harness-shield combination

B) Shoulder straps attached to wide, padded shield

C) Shield connected to shell of the restraint

D) Swings up and down over the child

E) Looks safer to some, but no safer than five-point or The-shield

F) Disadvantage:

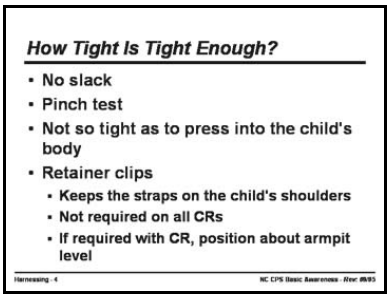
1) More difficult to adjust
2) More difficult to use in small vehicles - shield may not swing all the way up
3) Not recommended for very small infants.

5. Shield Only

A) Broad and curved surface to

1) Hold child in CR
2) Distribute and absorb crash energy

D. Proper Positioning and Harnessing of Children in Child Restraints



1. How Tight Is Tight Enough?

A) No slack

B) Pinch test

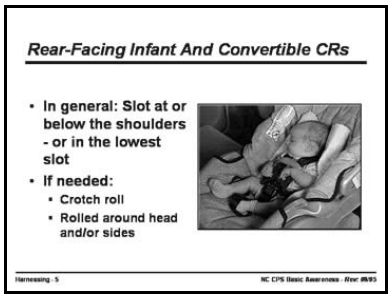
C) Not so tight as to press into the child's body

2. Retainer clips

A) Keeps the straps on the child's shoulders

B) Not required on all CRs

C) If required with CR, position about armpit level



3. Rear-Facing Infant And Convertible CRs

A) In general: Slot at or below the shoulders - or in the lowest slot

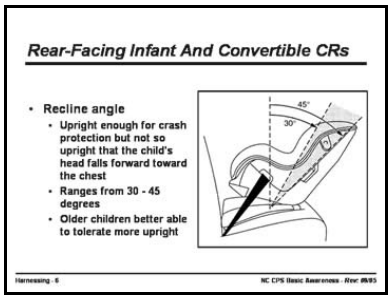
B) Always check instructions

C) If needed:

1) Rolled diaper or small blanket in front of the crotch strap between the child's legs to prevent slumping

2) Rolled diaper or blanket around head and/or on sides to prevent side-to-side movement

3) Manufacturer supplied or “aftermarket” head roll inserts OK if do not interfere with positioning of straps



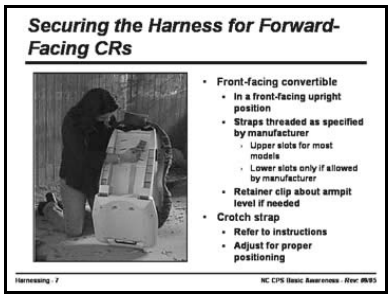
D) Recline angle

1) Semi-reclined rear-facing position provides primary crash protection

2) Recline angle upright enough for crash protection but not so upright that the child's head falls forward toward the chest

3) Manufacturer specified range for any specific model may be any where from 30 - 45 degrees

4) Older children better able to tolerate more upright



4. Securing the Harness for Forward-Facing CRs

A) Front-facing convertible

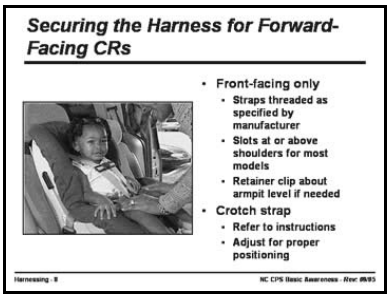
1) In an upright position - check for FF recline

2) Straps threaded as specified by manufacturer

(a) Upper slots for most models - lower slots may not be strong enough

(b) Can not determine reinforcement by look

3) Retainer clip about armpit level

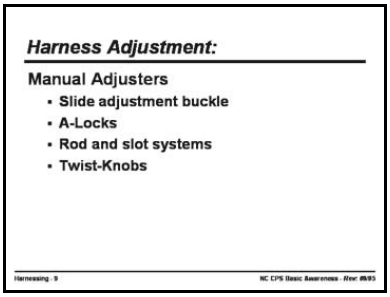


B) Front-facing only

1) Straps threaded as specified by manufacturer - slots at or above shoulders for most models
2) Retainer clip about armpit level

C) Crotch strap

1) Refer to instructions
2) Adjust for proper positioning



E. Adjusting the harness

EMPHASIZE: Different models have different methods for harness adjustment:

DEMONSTRATE: Show and demonstrate different adjustment mechanisms using different models of restraints.

1. Manual Adjusters

A) Slide adjustment buckle

1) Must be back-threaded/ re-looped
2) May be located at the bottom of the frame or behind the seat or hidden in storage compartments on infant seats
3) Tend to be inconvenient and prone to misuse

B) A-Locks

1) Single strap pull adjustment on the front of many CRs
2) Relatively easy and convenient to use
   (a) Pull one strap to tighten
   (b) Release lever to loosen

C) Rod and slot systems

1) Rod inserted in fabric loops at end of harness
2) Sometimes difficult to adjust with child in CR
3) Extremely difficult to use if on installed front-facing model

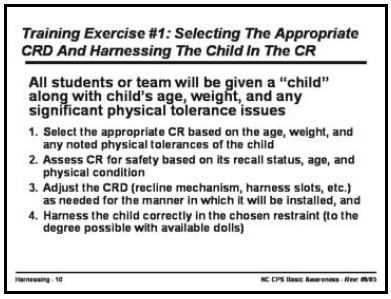
D) Twist-Knobs

1) Harness tightens or loosens as a knob or dial is twisted to wind or unwind the excess harness onto or from a spool.

2. Automatic adjusters

A) Note that harnesses on a few older models of CRs use retractors to take slack out of the harness and to lock the harness in place during a crash

B) Must read instructions to be sure



F. CONDUCT HANDS-ON TRAINING EXERCISE 1: Selecting the Appropriate Child Restraint and Harnessing the Child in the CR

1. All students or team will be given a "child" along with child's age, weight, and any significant physical tolerance issues.

2. Each student team will:

1) Select the appropriate CR for that child
   (a) Based on the age, weight, and any noted physical tolerances of the child
   (b) Be prepared to elaborate on reasons for choice
2) Assess CR for safety based on its recall status, age, and physical condition
3) Adjust the CRD (recline mechanism, harness slots, etc.) as needed for the manner in which it will be installed, and
4) Harness the child correctly in the chosen restraint (to the degree possible with available dolls)

UNIT 6: INSTALLATION OF CHILD RESTRAINTS IN VEHICLES

Lesson Objectives

After this lesson, the students should be able to:

- Demonstrate competency in properly installing the following child restraints in vehicles.
  - Rear-facing only without detachable base
  - Rear-facing with detachable base
  - Convertible: rear-facing
  - Convertible: forward-facing
  - Belt positioning booster
  - Child restraint device using a locking clip
  - Child restraint device using LATCH

Equipment Needed

- Instructor CD, laptop computer, and projector or overhead transparencies and overhead projector
- At least one example of each main type of CRD
- Dial-a-Belt or vehicle bench seat demonstrator
- Vehicles with the following systems for "Identification" and "Installation" training exercises:
  - Manual lap belt with locking latch plate
  - Lap/shoulder belt with sliding latch plate
  - Lap/shoulder belt with sewn-on latch plate
  - Lap/shoulder belt with lightweight locking latch plate
  - Emergency locking retractor (vehicle and/or webbing sensitive)
  - Automatic locking retractor.
  - Switchable retractor.

Handouts Needed

- Up-to-date set of Child Restraint Manufacturers' Instructions should be made available for use by students during this and subsequent lessons.

Refer to following materials found in the "Student Manual" Appendix:

- Installation of Child Safety Seats with Different Types of Seat Belts
  (Note: Instructors may make copies of this handout for more convenience and easier handling in the vehicles.

Exercises

- Training Exercise 2: Vehicle Occupant Protection Systems Identification
- Training Exercise 3: Installation Skills

Time Allotted on Recommended Agenda

4 hours 15 minutes including Exercises

Installation of Child Restraints in Vehicles

A. Importance of Correct Installation and Reasons for Incorrect Installation

1. Importance

A) Third step in the three-part process of correct use

B) CRs designed to be installed with very tight belt for maximum performance

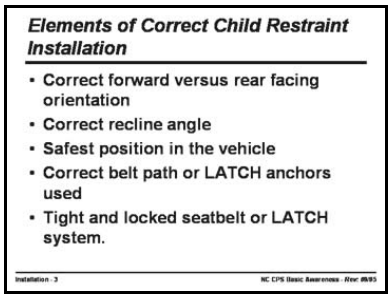
2. Many Reasons for Incorrect Installation

A) Failure to read instructions

B) Lack of instructions

C) Confusing instructions

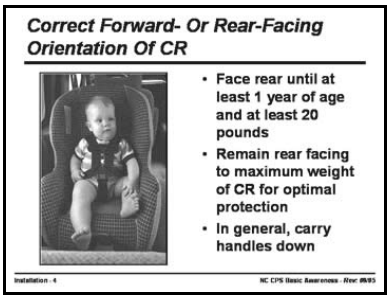
D) Child restraint and vehicle incompatibilities



B. Elements of Correct Child Restraint Installation

EMPHASIZE: There are basic elements involved with correct installation of CRs and all must be considered when assessing the relative safety of any installation. These elements - to be discussed in more detail - are that the CR must be installed:

1. In the correct orientation (forward versus rear facing).
2. With the recommended recline angle.
3. In the safest possible position in the vehicle.
4. Using the correct belt path or LATCH anchors.
5. With a tight and locked seatbelt or LATCH system.



1. Correct Forward- Or Rear-Facing Orientation Of CR

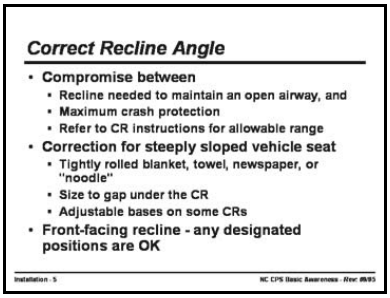
A) Recommendation is to face rear until at least 1 year of age and at least 20 pounds

B) Remain rear facing to maximum weight of CR for optimal protection

C) Top of head must remain below top of CR back

EMPHASIZE: This recommendation is based on the American Academy of Pediatrics. Explanation for AAP rationale can be found in appendices.

REMINDER: Most rear-facing only restraints with carrying handles require that the handles be down when installed in the vehicle, but there are exceptions. Refer to the CR instructions to be sure.



2. Correct Recline Angle

A) Manufacturer specified angle provides compromise between

1) Recline needed to maintain an open airway, and
2) Maximum crash protection.

B) Angle indicators

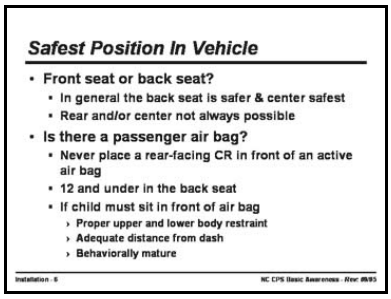
1) Use when possible
2) Recognize that
   (a) Can give false readings if the pavement the vehicle is parked on is not level.
   (b) Need to learn to ID correct angle by "eyeballing" CR in relation to horizontal vehicle surfaces

C) Correction for steeply sloped vehicle seats

1) Tested and acceptable "fix" is tightly rolled blanket, towel, newspaper, or solid core foam "pool noodle" at the vehicle seat bight
2) Limit to size of rolled object/noodle determined by amount of gap under the CR
3) Adjustable bases
   (a) On some CRs
   (b) Can circumvent need for rolls/noodles
   (c) For most CRs, either adjustable foot or noodle - not both

D) Front-facing recline

1) Designated positions are acceptable to use
2) Intended to allow easier sleeping
3) Recline positions may not be needed - most models recline enough when “upright”



3. Safest Position In Vehicle

EMPHASIZE: There are several general considerations involved in selecting the safest position for installation of CRs. All need to be taken into account,

A) Should the CR be installed in the front seat or back seat?

1) In general the back seat is safer
2) The center rear (or second seat) usually safest
3) The center rear not always best or possible for CR installation, e. g.,
   (a) No center seating position.
   (b) Poor belt fit.
   (c) Armrest or console (some CRs)
   (d) Vehicle manufacturer prohibits CR installation in that position
4) Placing child in the rear seat not always possible, e.g.,
   (a) No rear seat.
   (b) Families with more children than rear seating positions
   (c) Rear seat too narrow to accommodate a child restraint
   (d) Rear seats with lap only belts and older children who need lap and shoulder belts

B) Is there a passenger air bag in the vehicle?

1) NEVER place a rear-facing CR in front of an active air bag
2) Basic simple message - children ages 12 and under should ride in the back seat.
3) If children must regularly sit in the front because the vehicle has no rear seat or there are too many children for all to ride in the back:

(a) Air bag should be turned off - refer to NHTSA procedure for obtaining permission to have an air bag ON/OFF switch installed

(b) If air bag is active -

(1) Child (or adult) must have upper and lower body restraint

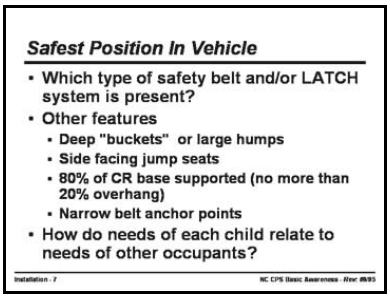
a] Lap and shoulder belt

b] Belt positioning booster or

c] Forward facing CR with harness

(2) The vehicle seat should be moved back as far as possible - at least 10 - 12 inches between head or chest and air bag compartment

(3) Behavioral maturity must also be considered



C) Which type of safety belt system is present?

1) Not all belts can be used to properly install child restraints

2) Some very difficult to use and best to avoid

3) Tether and LATCH anchors can impact choice

D) Any features that make installation of a CR easier or more difficult?

1) Vehicle seat contours such as deep "buckets" or large humps

2) CRs are not compatible with side facing jump seats

3) 80% of CR base must be supported

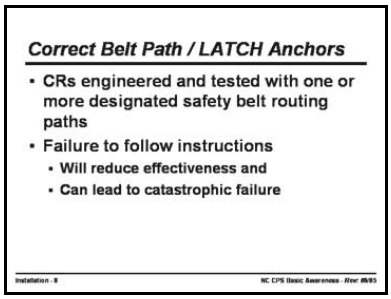
4) Narrow safety belt anchor points

E) How do the needs of each child relate to the needs of other children or adult occupants?

F) Make choices to give all occupants the best protection possible

1) Sometimes "real world" conditions lead to choices that are less than ideal

2) Parents should make the final decision as to occupants' seating positions



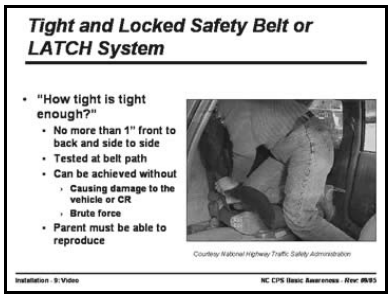
4. The child restraint must be installed using the correct belt path or LATCH anchors.

A) CRs engineered and tested with one or more designated safety belt routing paths

B) Failure to follow installation instructions

1) Will reduce effectiveness and
2) Can lead to catastrophic failure

Without video clip



With video clip

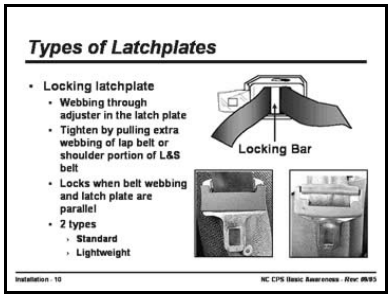
5. Tight and locked seatbelt or LATCH system

A) Tight and locked is critical

B) "How tight is tight enough?"

1) Acceptable installation is with no more than one inch of movement front to back and side to side when tested at the belt path **WITH REASONABLE FORCE**
2) Can be achieved without
   (a) Causing damage to the vehicle or CR and
   (b) Without using brute force
   (c) In some cases it helps to have a second person to assist.
   (d) **PARENT(S) OR CARE GIVER MUST BE ABLE TO REPRODUCE THE SECURE INSTALLATION**

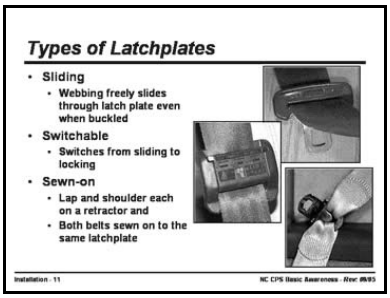
C. Types of Safety Belts, Latch plates and Retractors



1. Types of latchplates

A) Locking latchplate

1) Standard
   (a) Webbing threaded around locking bar
   (b) Locks when belt webbing and latch plate are parallel
2) Lightweight
   (a) Slides freely along webbing unless belt is buckled and webbing pulled tightly enough
   (b) May only "cinch"rather than lock and release with enough pressure



B) Sliding

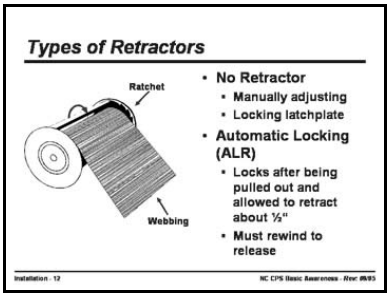
1) Webbing threaded through slot in latch plate
2) Webbing freely slides through latch plate even when buckled

C) Switchable

1) Flip a button on the latchplate to convert from sliding to locking
2) Not common, mostly imports

D) Sewn-on (fixed)

1) Lap and shoulder portions each on a separate retractor
2) Each sewn on to the same latch plate



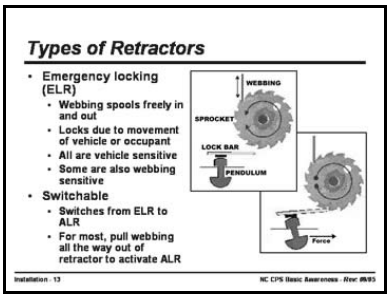
2. Types of retractors

A) None

1) Webbing fixed to anchor points
2) Manually adjusting
3) Locking latchplate

B) Automatic locking retractor (ALR)

1) Retractor stores excess webbing.
2) Locks in place after being pulled out and allowed to retract about ½"
3) Can not be extended until fully rewound

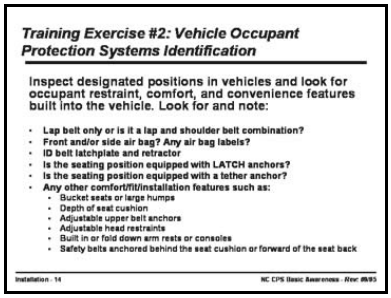


C) Emergency locking retractor (ELR)

1) Allows the belt to be freely extended or rewound
2) Locks when the vehicle slows, changes direction, or stops suddenly.
   (a) Vehicle sensitive ELRs lock only due to deceleration or quick movement of the vehicle
   (b) Some are also webbing or belt-sensitive ELR's
      (1) Temporarily lock in response to a quick jerk or pull on the belt
      (2) When tension is relaxed, the lock disengages and allows the belt to move freely
      (3) Can be mistaken for ALR if do not check with slow, gentle movement

D) Switchable

1) Switches from ELR to ALR
2) Most switch when belt is fully extended to engage the ALR.
3) CAUTION: “false locking“ can happen with webbing-sensitive ELRs if pulled too quickly
4) A few may convert by flipping a switch on the retractor
5) Check owner’s manual
6) Manually adjusted from ELR to ALR
7) For most, pull webbing all the way out of retractor to activate ALR
8) A few switch with the push of a button



D. CONDUCT TRAINING EXERCISE 2: Vehicle Occupant Protection Systems Identification

1. Inspect designated positions in vehicles

2. Look for occupant restraint, comfort, and convenience features built into the vehicle. Look for and note:

A) Lap belt only or is it a lap and shoulder belt combination?

B) Front and/or side air bag? Any air bag labels?

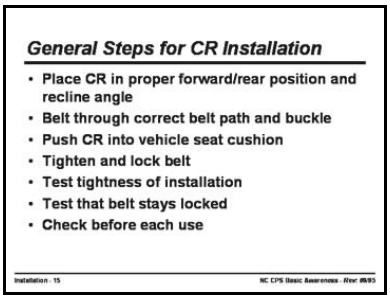
C) ID belt latchplate and retractor

D) Is the seating position equipped with LATCH anchors?

E) Is the seating position equipped with a tether anchor?

F) Any other comfort/fit/installation features such as:

1) Bucket seats or large humps
2) Depth of seat cushion
3) Adjustable upper belt anchors
4) Adjustable head restraints
5) Built in or fold down arm rests or consoles
6) Safety belts anchored behind the seat cushion or forward of the seat back



E. General Steps for CR Installation

1. Place CR on vehicle seat in proper forward- or rear-facing orientation with correct recline angle
2. Place belt through correct belt path and buckle
3. Push CR down into vehicle seat cushion using arm, forearm or knee as needed
4. Tighten and lock belt
5. Test for no more than 1" of side-to-side or forward movement
6. Test lap belt to be sure it will stay locked and tight
7. Check before each use

F. There are four ways to lock a belt system:

A) Latchplate

B) Retractor

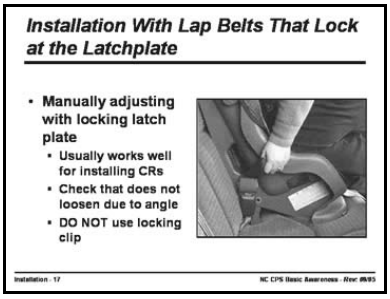
C) Locking clip

D) Belt shortening clip

E) NOTE: Child restraints installed with a LATCH system do not use the seatbelt.

NOTE: Refer students to Appendix “Installation of Child Safety Seats with Different Types of Seat Belts” but note that it is in a different format and order than as in participant manual.

G. Installation of Child Restraints with Lap Only Belts



1. Lap Belts That Lock at the Latchplate

A) Manually adjusting with locking latch plate

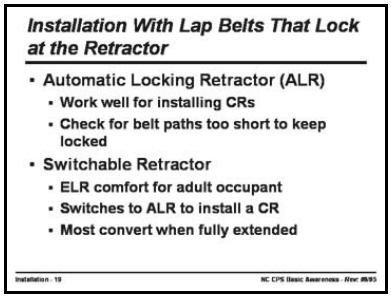
1) Usually works well for installing CRs
2) EMPHASIZE: Cannot be used for BPB
3) Latch plate keeps belt tight
4) Tilt latch plate to release

Without video clip

With video clip

B) To install a CR

1) Route belt through correct belt path and buckle
2) Push down on CR while tightening belt
3) Check latch plate angle
4) If belt loosens due to angle
   (a) Unbuckle the belt, flip the latch plate over one-half turn, and re-buckle
   (b) Twist the webbing on buckle portion once or twice to shorten webbing
      (1) Twisting webbing reduces its strength
      (2) Should only be done as a last resort
      (3) Decision should be made by the parent/caregiver
5) **DO NOT use locking clip on a lap only belt**



2. Lap Belts That Lock at the Retractor

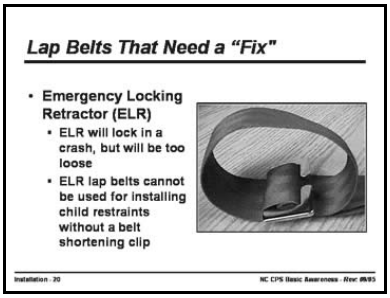
A) Automatic Locking Retractor (ALR) with fixed latchplate

1) Characteristics:
   (a) ALR's work well for installing CRs
   (b) Locking mechanism is in the retractor
   (c) Stays locked and tight around the occupant or the child restraint until unbuckled and allowed to fully retract
2) To install CR with ALR lap belt
   (a) Route belt through correct belt path and buckle
   (b) Push CR into vehicle seat cushion
   (c) Feeding slack back into the retractor

EMPHASIZE WARNING: Check to make sure the belt stays locked before and after the child is harnessed in the seat. Short belt paths (some shield boosters or infant bases) can allow the belt webbing to wind back to the point that it unlocks. If this occurs, try another seating position or contact a certified technician for instructions on how to install the seat.

B) Switchable (combination ALR and ELR) Retractor with Fixed Latch Plate

1) Characteristics:
   (a) Locks as ELR during routine driving to provides the comfort for adult occupant
   (b) Switches to ALR to install a CR
   (c) Most convert ELR to ALR when the webbing is fully extended
   (d) A few may convert by flipping a switch on the retractor - check the vehicle owner's manual and look for labels on the belt
2) To install CR with switchable retractor:
   (a) Route belt through correct belt path
   (b) Buckle the belt
   (c) Switch retractor to ALR mode
   (d) Tighten and lock belt as ALR
   (e) Check to be sure belt stays in the ALR mode



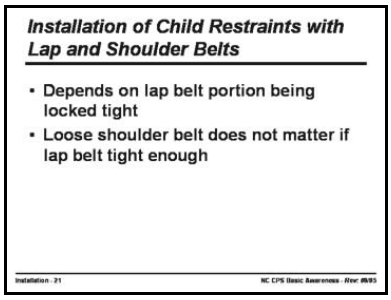
3. Lap Belts That Need a Special "Fix"

A) ELR with sewn-on latchplate

1) Characteristics:
   (a) ELR does not lock during normal driving to give the adult occupant comfort and convenience
   (b) ELR will loosen during normal driving and not secure the CR
   (c) ELR locks when vehicle and/or occupant moves suddenly
      (1) "Vehicle sensitive" locking due to pendulum - all ELRs are vehicle sensitive
      (2) Some also lock due to sudden movement of the belt webbing - can lock when tugged on swiftly
   (d) ELR will lock in a crash, but will be too loose

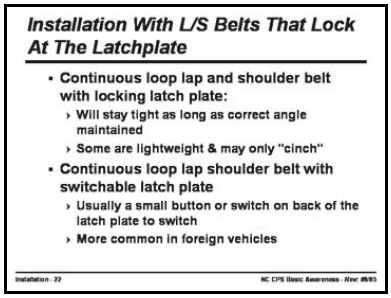
2) EMPHASIZE: ELR lap belts cannot be used for installing CRs without a belt shortening clip
   (a) Different than locking clip that comes with the CR [NOTE: Mention that locking clips will be discussed later as a part of installation with lap and shoulder belts.]
   (b) Shortening clip is obtained from a vehicle manufacturer

(c) Refer to a certified technician or
(d) EMPHASIZE: INSTALL THE CR IN ANOTHER SEATING POSITION IF POSSIBLE



H. Installation of Child Restraints with Lap and Shoulder Belts

EMPHASIZE: Whether or not a lap and shoulder belt can be used to correctly install a child restraint depends on if the lap belt portion of the system can be shortened and locked tight enough to secure the CR tightly. As long as the lap belt part of the system is tight enough and locked, it does not matter if the shoulder belt is loose.



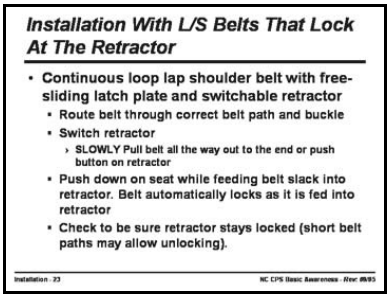
1. Systems That Lock At The Latchplate

A) Continuous loop lap and shoulder belt with locking latch plate:

1) Characteristics:
   (a) Lap belt portion acts like manual belt
   (b) Will stay tight as long as correct angle maintained
   (c) Some are lightweight
      (1) May or may not work
      (2) May only "cinch" and release under enough pressure
2) To install a CR with a continuous loop lap and shoulder belt with a locking latch plate
   (a) Route through correct belt path and buckle - note that the shoulder belt usually follows the lap belt
   (b) Pull on shoulder belt to tighten lap belt while pushing CR into cushion
   (c) Check lap portion for loosening by GENTLY pushing and pulling to simulate normal driving conditions
   (d) If belt loosens,
      (1) Flip latchplate one half turn or
      (2) Add a locking clip or
      (3) Shorten the buckle by twisting the webbing.

B) Continuous loop lap shoulder belt with switchable latch plate

1) Characteristics:
   (a) One continuous loop of webbing with
      (1) One ELR retractor on the shoulder belt and
      (2) Lap belt fixed to vehicle (no retractor)
      (3) Latch plate with a switch to convert it from free-sliding to locking
   (b) Usually a small button or switch on back of the latch plate to switch
   (c) More common in foreign vehicles
2) To install a CR
   (a) Switch latch plate to locking mode and
   (b) Install the CR as with standard locking latch plate

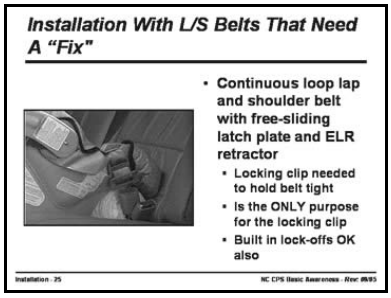


2. Systems That Lock At The Retractor

A) Continuous loop lap shoulder belt with free-sliding latch plate and switchable retractor

1) Characteristics:
   (a) One continuous loop of webbing with
      (1) One switchable (ELR to ALR) retractor on the shoulder belt and
      (2) Lap belt fixed to vehicle (no retractor) and
      (3) Sliding latchplate
      (4) Most switch from ELR to ALR when shoulder belt is fully extended.
      (5) A few convert by flipping a switch on the retractor (check the owner's manual)
2) To install a CR,
   (a) Route belt through correct belt path and buckle
   (b) SLOWLY pull belt webbing out of the retractor to switch
   (c) Allow retractor to take up slack
   (d) Pull on shoulder belt to tighten lap belt while feeding the slack back into the retractor
   (e) WARNING: Check to see that belt stays locked in the ALR mode. Short belt paths (some shield boosters or infant bases) can allow the belt webbing to wind back to the point that it switches back to the ELR again. If this occurs,
      (1) Use a locking clip or
      (2) Try another seating position.

(f) Note also that sometimes the tension on the shoulder belt will pull so hard on the child restraint that it tilts the CR to the side and off of the cushion on one side. If this happens,
  (1) Reinstall with less tension or
  (2) Leave retractor in ELR mode and use locking clip



3. Systems That Need A Special "Fix"

A) Continuous loop lap and shoulder belt with free-sliding latch plate and ELR retractor

1) Characteristics:
  (a) One continuous loop of webbing with
    (1) One ELR retractor on the shoulder belt and
    (2) Lap belt fixed to vehicle (no retractor) and
    (3) Sliding latchplate
    (4) Lap belt length cannot be kept short enough to hold a CR securely without the addition of a locking clip to hold the belt tight
      a] Locking clips come with most new CRs
      b] Instructions are included with the CR instructions
      c] EMPHASIZE: This is the ONLY purpose for the locking clip supplied with child restraint systems

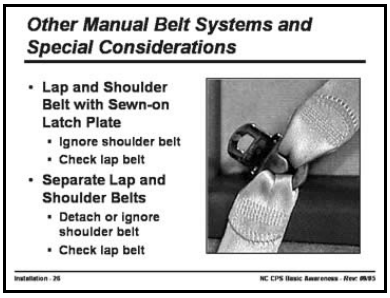
2) To install a CR,
  (a) Route belt through correct belt path and buckle
  (b) Install the locking clip - to do so
    (1) Pull on the shoulder belt to tighten the lap belt while pushing the CR down into the seat cushion
    (2) Grasp both the lap and shoulder portions of webbing directly behind the latch plate and hold them together.
    (3) Unbuckle the safety belt.
    (4) Place the locking clip on the safety belt webbing as close to the latch plate as possible and within 1 inch.
    (5) Re-buckle the safety belt and test to see that it is tight. It should be somewhat difficult to re-buckle if the safety belt is made tight enough.

(6) If the locking clip binds against the edge of the frame or shell of the CR and it can not be moved closer to the latch plate, move the clip so that it rests just inside the frame or shell.

(7) Remove the locking clip when the safety belt is used for another occupant.

EMPHASIZE WARNING: Locking clips must NOT be used on the side of the CR near the retractor. When the locking clip is placed incorrectly it is likely to release from the belt and becomes a dangerous projectile. This creates slack in the belt and will allow excessive movement of the CR.

NOTE: Some CRs are equipped with built in locking clips (sometimes called lock-offs). Built in locking clips work as well as standard locking clips and are easier to use.



I. Other Manual Belt Systems and Special Considerations

1. Lap and Shoulder Belt with Sewn-on Latch Plate

A) Characteristics:

1) Lap and shoulder portions attached to separate retractors
2) Both belts sewn on to the same latch plate

B) To install a CR

1) Ignore shoulder belt
2) Check lap belt to determine suitability for installing a CR

2. Separate Lap and Shoulder Belts

A) Characteristics:

1) Two separate pieces of webbing with two sets of buckles
2) Each belt must be buckled separately
3) Sometimes latch plates are interlocked before buckling
4) Found in older vehicles or as some shoulder belt retrofit kits

B) To install a CR

1) Detach or ignore shoulder belt
2) Check the lap belt to determine suitability for installing CR

3. Belt-Positioning-Boosters, Locking Clips, and Switchable Retractors

A) Function of the BPB is to position the lap and shoulder belts correctly on a child

B) With proper fit, functions as would a safety belt on an adult

C) Child in BPB should use belt in its ELR mode

D) Should not use a locking clip on belt securing a BPB

E) If shoulder belt has switchable retractor, leave in ELR mode

F) Check the CR manufacturer's instructions for exceptions.

4. Safety Belt Tightening Devices

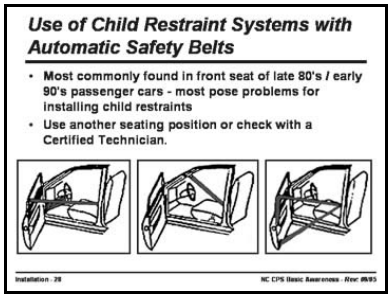
A) Cannot say belt tightening devices are good or bad

B) Do know there are no Federal regulations, requirements, or recommended testing procedures

C) Also concern about over-tightening and undue stress on CR and/or belt

D) Cannot endorse belt tightening devices unless approved by both the vehicle and CR manufacturers

J. Use of Child Restraints with Automatic Safety Belts and Air Bags

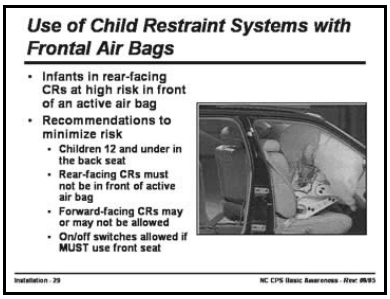


1. Automatic Safety Belts

A) Most commonly found in front seat of late 80's / early 90's passenger cars

B) Most types pose problems for installing and using CR systems

C) Use another seating position. If you must install a CR in that position read the owner's manual or check with a Certified Technician.



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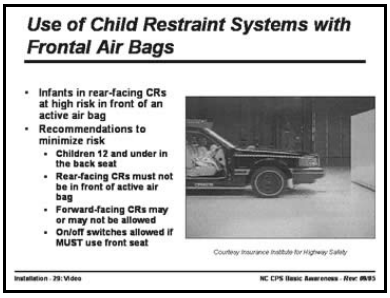


With video clip

2. Frontal Air Bags

A) Present special concerns and risks

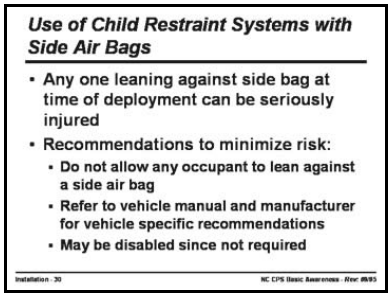
1) Any unrestrained occupant is at high risk for air bag related injuries
2) Any improperly restrained occupant is at high risk
3) Infants in rear-facing CRs at high risk in front of an active air bag
   (a) Infant's head very close to the dashboard and air bag
   (b) Air bag will strike CR right where the infant's head is positioned
   (c) Force of bag will load to the infant's head

B) Recommendations to minimize risk

1) Children 12 and under should ride properly restrained in the rear seat
2) Rear-facing restraints must not be installed in front of an active air bag
3) Forward-facing CRs may or may not be allowed
   (a) Vehicle specific
   (b) When allowed, move the vehicle seat back as far as possible.
4) On/off switches
   (a) Allows air bag to be turned off when a CR or small child is in front of it
   (b) Single seat vehicles may already have on/off switch
   (c) Driver must remember to turn air bag off and back on as needed
   (d) Can be installed in vehicles used for/by risk groups:
      (1) People who MUST transport infants riding in rear-facing infant seats in the front passenger seat.
      (2) People who MUST transport children ages 1 to 12 in the front passenger seat.
      (3) Drivers who cannot change their customary driving position and keep 10 inches between the center of the steering wheel and the center of their breastbone.

(4) People whose doctors say that, due to their medical condition, the air bag poses a special risk that outweighs the risk of hitting their head, neck or chest in a crash if the air bag is turned off.

NOTE: Parents often express concern about not being able to see their baby while driving. Healthy babies can ride unobserved with the same level of comfort that the parent has when they put their baby to bed at night or for nap, etc. Parents must be made aware of the significant safety risk taken by choosing to place infant in front seat or turning baby forward-facing too soon.



3. Side Air Bags

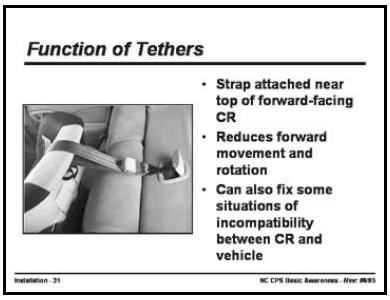
A) Concerns and risks

1) Any one leaning against side bag at time of deployment can be seriously injured
2) Side air bags vary greatly from model to model

B) Recommendations to minimize risk:

1) Do not allow any occupant to lean against a side air bag
2) Refer to vehicle manual for vehicle specific recommendations
3) Contact vehicle manufacturer with additional questions as necessary
4) At least one CR manufacturer states that their restraint devices must not be used in seating positions with side bags.
5) Side air bags may be disabled since they are not required safety equipment. Refer to the vehicle manufacturer for information about disabling side air bags in their vehicles.

K. Installation of Child Restraints with Tethers

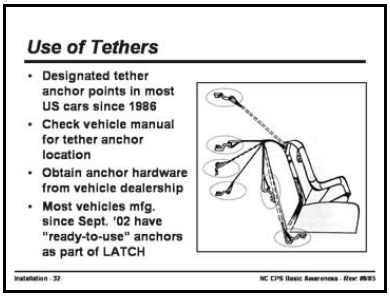


1. Function of tethers

A) Strap attached near top and in rear of most models of forward-facing CR manufactured since September 1999

B) Reduces forward movement and rotation

C) Can also fix some situations of incompatibility between CR and vehicle



2. Use of Tethers

A) Designated tether anchor points in most US cars since 1986

1) For sedans, usually in rear window shelf
2) For hatchbacks and station wagons,
   (a) Usually floor of the cargo area
   (b) Sometimes in ceiling or upper frame of cargo door
3) For a pickup truck
   (a) Usually rear wall
   (b) Not for use with side facing jump seats

B) Tether anchor hardware should be obtained through vehicle manufacturer

C) May be policy of vehicle manufacturer to supply part and/or installation at no charge

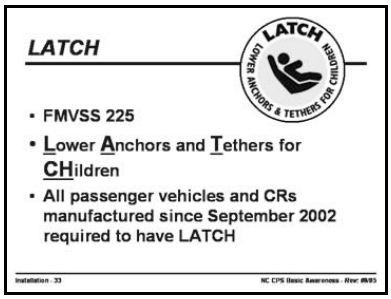
EMPHASIZE: Always check vehicle owner's manual for tether anchor location. When needed, tether anchor hardware should be obtained from vehicle dealership to ensure compatibility.

D) As part of LATCH

1) All passenger vehicles, light trucks, and vans manufactured since September 2002 are equipped with tether anchors
2) Vehicle manufacturers estimate tether anchors will be able to hold up to at least a 60-pound occupant

3) Heavier occupants, some special needs restraints, may need special installations and help from the shoulder belt anchorage

4) Follow the CR manufacturer instructions



L. Installation of Child Restraints with LATCH

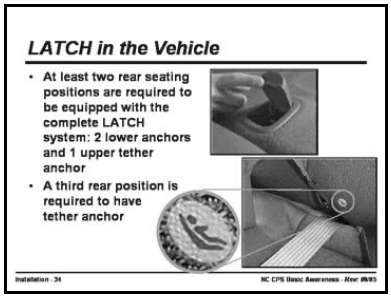
1. FMVSS 225

A) More universal method of installing the many different combinations of CRs and vehicles.

B) "LATCH" stands for Lower Anchors and Tethers for Children

C) Intended to allow installation of CRs independent of safety belts

D) All passenger motor vehicles and CRs manufactured since September 2002 are required to have LATCH.



2. LATCH in the Vehicle

A) Two lower anchors and one upper tether anchor

B) Lower anchor is rigid attachment point located in the vehicle seat bight

C) Tether anchor permanently attached to vehicle at top or behind rear seat

D) At least two rear seating positions are required to be equipped with the complete LATCH system

E) A third rear position is required to have tether anchor

Warning: Do not confuse cargo tie-down hooks in the cargo area with tether anchors. See vehicle owner's manual.

3. LATCH on the Child Restraint

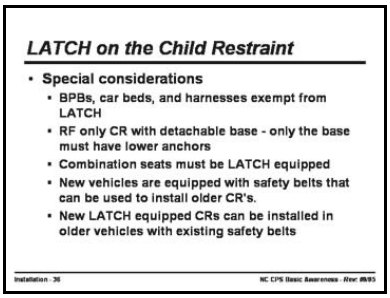
A) Lower anchors hook to or snap on lower anchor bars in vehicle

B) CR's can use either flexible or rigid anchor

1) Flexible uses hook attached to webbing

2) Rigid anchor is metal bar or rod that clamps on vehicle anchor

C) CR tether strap attaches to vehicle tether anchor



D) Special considerations

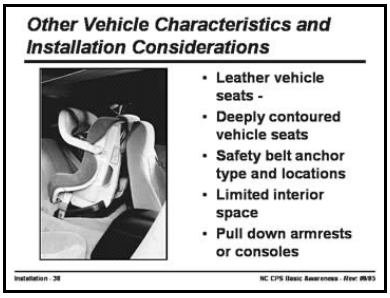
1) Belt-positioning boosters, car beds, and child harnesses - exempt from LATCH
2) Rear-facing only CR with detachable base - only the base must have lower anchors
3) Combination seats must be LATCH equipped
4) New Car, Older Seat?
   (a) New vehicles are equipped with safety belts that can be used to install older CR's.
   (b) New LATCH equipped CRs can be installed in older vehicles with existing safety belts
   (c) Most older vehicles can be retrofitted with top tether strap anchors

E) Installing child restraints with LATCH attachments

1) Locate the lower anchor bars in the vehicle seat.
2) Position the child restraint.
3) Snap the hooks to the lower anchors.
4) Tighten the webbing on one or both sides as appropriate.
5) Attach and tighten the tether strap.
6) Check for a tight installation and correct recline angle (if appropriate).

F) Installing Child Restraints with rigid LATCH attachments

1) Follow basic procedures except rigid lower attachments will have different ways to be adjusted
2) Some vehicle manufacturers supply plastic guides to help align rigid CR attachments with the lower anchors for easier latching.



M. Other Vehicle Characteristics and Installation Considerations

1. Several other aspects of vehicles may interfere with the use of child restraints or with belt fit. These include:

A) Leather vehicle seats -

1) Likely to allow CR to slide
2) OK to use a thin rubber mats or rubber shelf liner to reduce CR slippage

B) Deeply contoured vehicle seats

1) CRs might not fit in deeply contoured seats
2) Belt buckles often mounted so high that
   (a) Do not fasten tightly around many CRs
   (b) Tend to ride up on the belt wearer's abdomen

C) Safety belt anchor type and locations

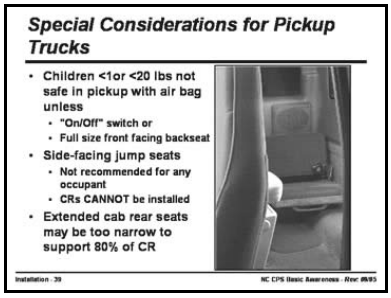
1) Rigid stems place buckle so high that
   (a) Cannot fasten tightly around many CRs
   (b) Make the lap belt ride up on belt wearer's abdomen
2) Anchors forward of the seat bight or asymmetrical anchors
   (a) Fit adults better but do not work well to install CRs
   (b) Tethers may help

D) Limited interior space

1) Small passenger compartments may restrict the use of some CR's, especially rear-facing models
2) Low roof lines can restrict full movement of shields, especially on front-facing shield convertibles.

E) Pull down armrests or consoles

1) Added contours can make position incompatible with rear-facing CRs
2) Check CR manufacturer instructions to see if prohibited



2. Special considerations for pickup trucks:

A) Children under age one or 20 pounds cannot be safely transported in a passenger air bag equipped pickup truck UNLESS it

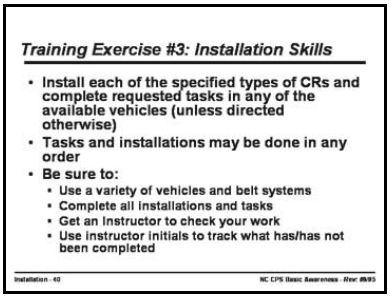
1) Has "On/Off" switch or
2) Has full size front facing backseat

B) side-facing jump seats

1) Not recommended as best practice for any occupant
2) CRs CANNOT be installed on side-facing jump seats.

C) Rear bench seats in extended cabs

1) May be too narrow to properly install a CR
2) 80% of CR base should fit on or be supported by the vehicle seat
3) Conversely, no more than 20% should hang over edge of vehicle seat
4) NOTE that support by rolled towel, noodle or adjustable foot counts for rear-facing only or rear-facing convertible



N. CONDUCT TRAINING EXERCISE 3: Installation skills

1. Install each of the specified types of CRs and complete requested tasks in any of the available vehicles (unless directed otherwise)

2. Tasks and installations may be done in any order

3. Be sure to:

A) Use a variety of vehicles and belt systems

B) Complete all installations and tasks

C) Get an Instructor to check your work

D) Use instructor initials to track what has/has not been completed

UNIT 7: CHILD RESTRAINT MISUSES

Lesson Objectives
After this lesson, the students should be able to:

- Recognize the basic types of misuse of child restraints including:
- Restraint selection errors
- Harnessing errors
- Installation errors

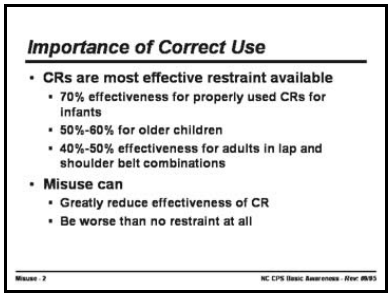
Equipment Needed
Instructor CD, laptop computer, and projector or overhead transparencies and overhead projector

Handouts Needed
None

Exercises
“What’s Wrong With This Picture” PowerPoint presentation module

Time Allotted on Recommended Agenda
45 minutes

A. Child Restraint Misuses



B. Importance of Correct Use

1. CRs are most effective restraint available

A) 70% effectiveness for properly used CRs for infants

B) 50%-60% for older children

C) 40%-50% effectiveness for adults in lap and shoulder belt combinations

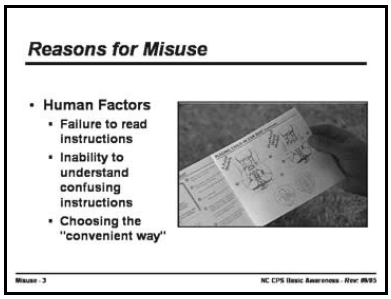
2. Misuse can

A) Greatly reduce effectiveness of CR

1) Example: safety belt used to install CR too loose can lead to striking vehicle interior

B) Be worse than no restraint at all

1) Example: Infant in carrier held on lap of adult in front of air bag likely to be crushed by adult possibly causing worse injuries than being thrown around the vehicle



C. Reasons for Misuse

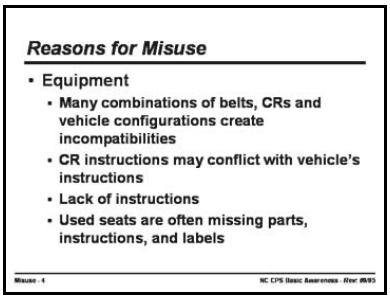
NOTE: In NC, there are many reasons that 90% of child restraints are installed or used improperly. Some are related to "human factors" while others are related to equipment.

1. Human Factors

A) Failure to read instructions

B) Inability to understand confusing instructions

C) Choosing the "convenient way"



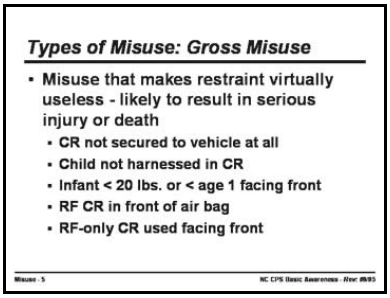
2. Equipment

A) Many combinations of belts, CRs and vehicle configurations create incompatibilities

B) CR instructions may conflict with vehicle's instructions

C) Lack of instructions

D) Used seats are often missing parts, instructions, and labels



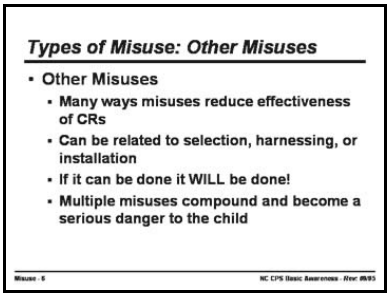
D. Types of Misuse

1. Gross Misuse

A) Misuse that makes restraint virtually useless - likely to result in serious injury or death

B) Examples of gross misuse are:

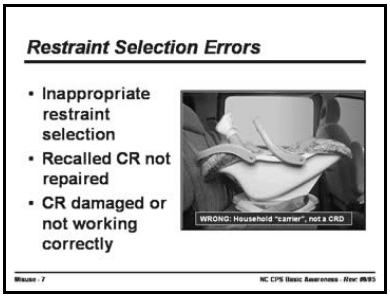
1) CR not secured to vehicle at all
2) Child not harnessed in CR
3) Infant forward facing well before 20 pounds or one year
4) Rear-facing CR in front of an air bag
5) A rear-facing only CR used facing front



2. Other Misuses

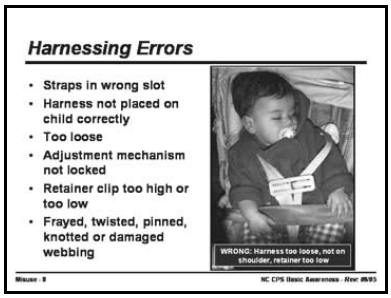
A) Many ways misuses reduce effectiveness of CRs

B) Multiple misuses compound and become a serious danger to the child

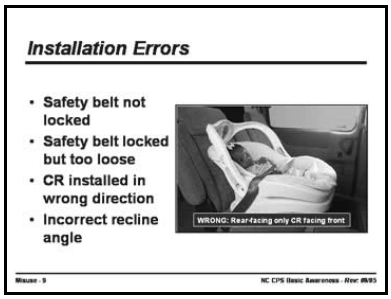


C) Examples of other types of misuse include:

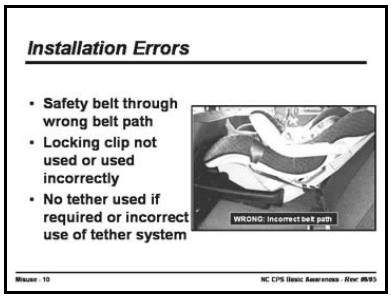
1) Restraint Selection
   (a) Inappropriate restraint selection
   (b) Recalled CR not repaired
   (c) CR damaged or not working correctly



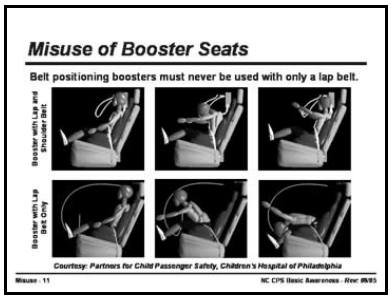
2) Harnessing Errors
   (a) Straps in wrong slot
   (b) Harness not placed on child correctly
   (c) Too loose
   (d) Adjustment mechanism not locked
   (e) Retainer clip too high or too low
   (f) Frayed, twisted, pinned, knotted or damaged webbing



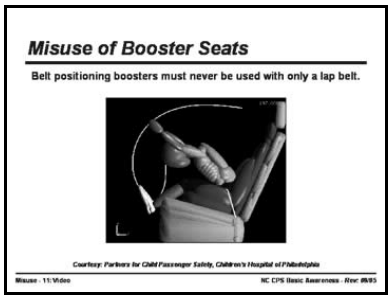
3) Installation Errors
   (a) Safety belt not locked
   (b) Safety belt locked but too loose
   (c) CR installed in wrong direction
   (d) Incorrect recline angle



   (e) Safety belt through wrong belt path
   (f) Locking clip not used or used incorrectly
   (g) No tether used if required or incorrect use of tether system



Without video clip

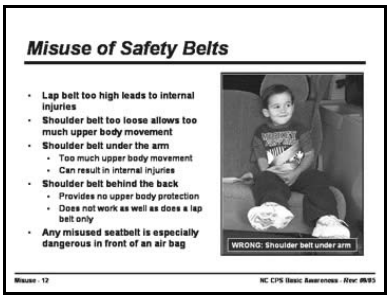


With video clip

3. Misuse of Booster Seats

A) Belt positioning boosters must never be used with just a lap belt

B) Jackknifing over the lap belt more exaggerated than with just the belt with no booster



4. Misuse of Safety Belts

A) Lap belt too high can result in internal injuries

B) Shoulder belt too loose increases upper body movement

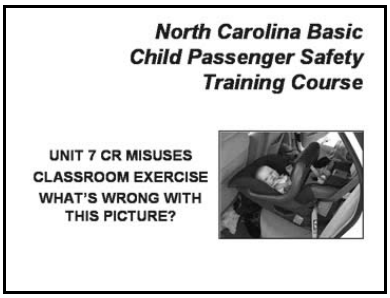
C) Shoulder belt under the arm

1) Increases upper body movement
2) Can result in internal injuries

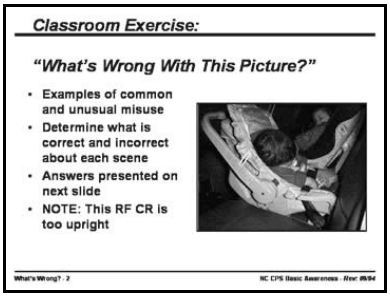
D) Shoulder belt behind the back

1) Provides no upper body protection
2) Does not work as well as does a lap belt only

E) Any misused seatbelt is especially dangerous in front of an air bag



E. Classroom Exercise - What's Wrong With this Seat?



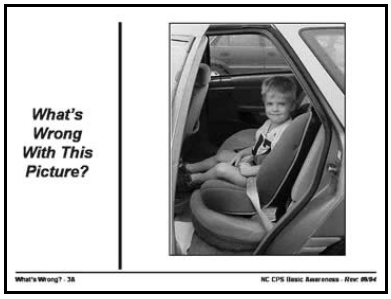
1. Examples of common and unusual misuse

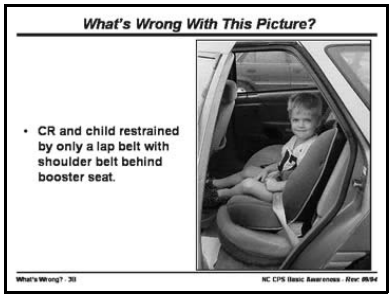
2. Determine what is correct and incorrect about each scene - discuss with class

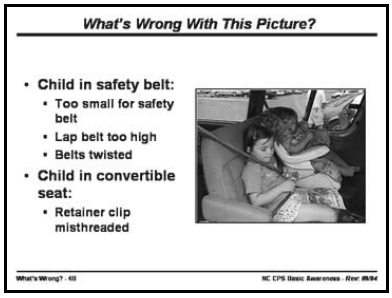
3. Answers presented on next slide

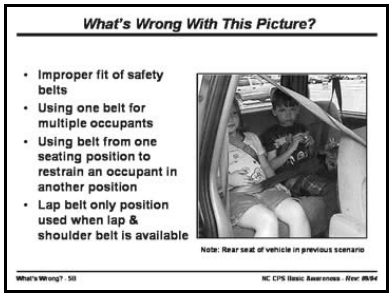
4. NOTE: This RF CR is too upright

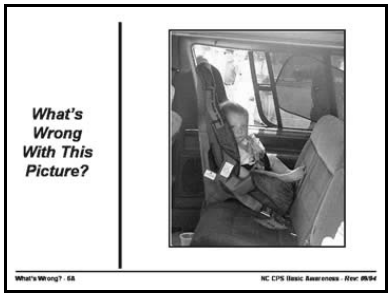
F. Misuse Cases

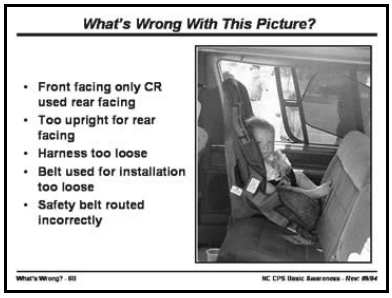


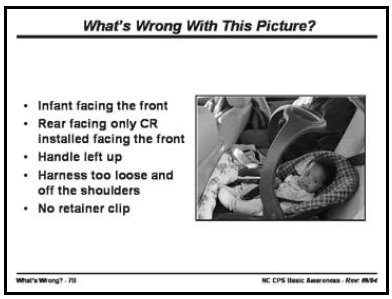












What's Wrong With This Picture?

What's Wrong? - 8A NC CPS Basic Awareness - *New: 09/04*

What's Wrong With This Picture?

- Too upright - No noodle or towel used to position rear facing seat
- Harness retainer clip too low
- Safety belt loose

What's Wrong? - 8B NC CPS Basic Awareness - *New: 09/04*

What's Wrong With This Picture?

What's Wrong? - 9A NC CPS Basic Awareness - *New: 09/04*

What's Wrong With This Picture?

- Getting too tall for CR
- Over the weight limit of seat
- Harness through lower slots
- Harness too loose
- Retainer threaded incorrectly

What's Wrong? - 9B NC CPS Basic Awareness - *New: 09/04*

What's Wrong With This Picture?

What's Wrong? - 10A NC CPS Basic Awareness - *New: 09/04*

What's Wrong With This Picture?

- Handle left up
- Too upright
- Note: Shoulder belt around back of CR is allowed on this model

What's Wrong? - 10B NC CPS Basic Awareness - *New: 09/04*

What's Wrong With This Picture?

What's Wrong? - 11A NC CPS Basic Awareness - *New: 09/04*

What's Wrong With This Picture?

- Too big for CR
- Rear facing only CR used facing the front
- Retainer clip incorrectly threaded
- In front seat of vehicle in front of active airbag

What's Wrong? - 11B NC CPS Basic Awareness - *New: 09/04*

What's Wrong With This Picture?

What's Wrong? - 12A NC CPS Basic Awareness - *New: 09/04*

What's Wrong With This Picture?

- Resting flat on the back of the CR rather than semi-reclined
- Harness on edge of shoulders
- Harness retainer clip too low

What's Wrong? - 12B NC CPS Basic Awareness - *New: 09/04*

What's Wrong With This Picture?

What's Wrong? - 13A NC CPS Basic Awareness - *Rev: 09/04*

What's Wrong With This Picture?

- Resting flat on the back of the CR rather than semi-reclined

What's Wrong? - 13B NC CPS Basic Awareness - *Rev: 09/04*

What's Wrong With This Picture?

What's Wrong? - 14A NC CPS Basic Awareness - *Rev: 09/04*

What's Wrong With This Picture?

- Infant bundled before harnessing with bulky clothing and a blanket
- Harness retainer clip too low

What's Wrong? - 14B NC CPS Basic Awareness - *Rev: 09/04*

What's Wrong With This Picture?

What's Wrong? - 15A NC CPS Basic Awareness - *Rev: 09/04*

What's Wrong With This Picture?

- CR placed on top of back seat that is lowered for access to the trunk
- Harness falling over edge of shoulders

What's Wrong? - 15B NC CPS Basic Awareness - *Rev: 09/04*

What's Wrong With This Picture?

What's Wrong? - 16A NC CPS Basic Awareness - *Rev: 09/04*

What's Wrong With This Picture?

- Too upright for infant
- Harness too loose
- Retainer clip out of position
- Safety belt not through belt path slots
- Belt too loose
- Aftermarket products used that did not accompany CR

What's Wrong? - 16B NC CPS Basic Awareness - *Rev: 09/04*

UNIT 8: CPS PROGRAMS AND SERVICES

Lesson Objectives
After this lesson, the students should be able to:

- Recognize his or her own limitations
- Identify other CPS resources and programs.

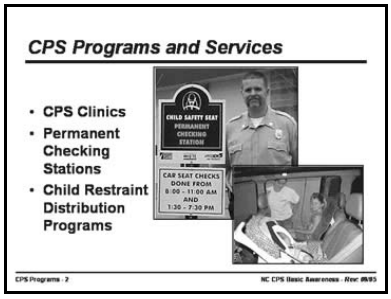
Equipment Needed
Instructor CD, laptop computer, and projector or overhead transparencies and overhead projector

Handouts Needed
Refer to following materials found in the “Student Manual” Appendix:
North Carolina and National CPS Resources

Exercises
None

Time Allotted on Recommended Agenda
30 minutes

A. CPS Programs and Services



B. As noted in Unit 1, persons wishing to provide community CPS services are encouraged to pursue CPS Technician certification after working with Certified Technicians in established local programs for a period time.

C. There are many opportunities for participating in local programs and activities. Opportunities for participating in local programs and activities.

1. Child Passenger Safety Clinics

A) Event that provides a public service to educate parents/caregivers about the correct use of child restraints

B) Teams of checkers, headed by Certified Technicians, teach caregivers the basics of correct selection, use, and installation of child restraints.

C) Opportunity to identify unsafe CRs and gain experience in diagnosing misuse.

D) Having CRs available for individuals without resources to purchase their own are most effective

E) Must be organized and promoted well in advance.

2. Permanent Checking Stations

A) Fixed location for parents/caregivers to get assistance with their child restraint.

B) Have a regular schedule of operation

C) Some require appointments and others allow drive-ups

D) Nationally certified and experienced CPS technicians must be available during hours of operation.

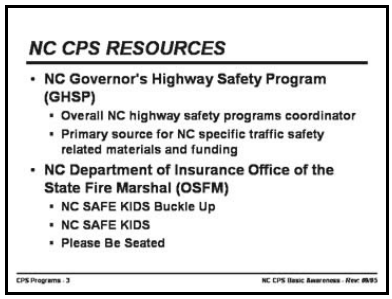
3. Child Restraint Distribution Programs

A) Program to provide CRs to families who are identified as needy or who receive public assistance

B) Recipient may be asked to make a donation and/or attend a training session to receive the CR.

Refer students to "North Carolina and National CPS Resources" appendix.

D. NC CPS Resources



1. NC Governor's Highway Safety Program (GHSP)

A) GHSP is the state agency serving as overall coordinator for highway safety programs in North Carolina

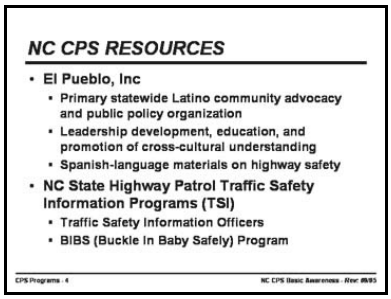
B) Primary source for NC specific traffic safety related materials and funding.

2. NC Department of Insurance Office of the State Fire Marshal

A) The NC DOI OSFM Injury Prevention Program serves as the coordinating agency for:

1) NC SAFE KIDS Buckle Up involves fire and rescue personnel as well as other health and safety advocates in safety seat distribution and education programs. NC child passenger safety activities are coordinated through the Buckle Up program. The Buckle Up Program coordinates child passenger safety training programs for the state.

2) NC SAFE KIDS is affiliated with the National SAFE KIDS Campaign to combat the causes of deaths among children caused by unintentional injuries. The NC Coalition works to address the major unintentional risk areas of traffic incidents, fire/burns, drowning, falls, poisonings, and choking/suffocation.



3. El Pueblo

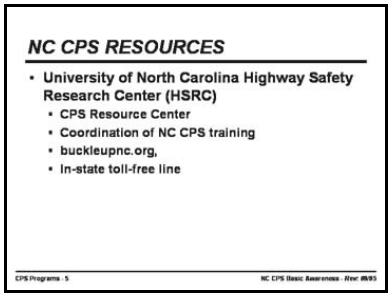
A) Primary statewide Latino advocacy organization

B) Spanish language highway safety materials

4. NC State Highway Patrol Traffic Safety Information Programs

A) The Patrol's Traffic Safety Information Officers can provide a variety of traffic safety related educational programs

B) BIBS (Buckle In Baby Safely) program.

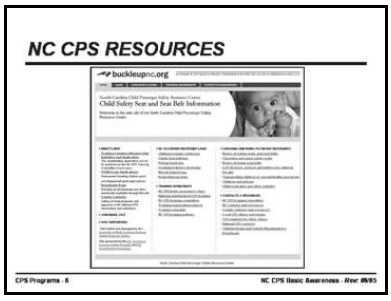


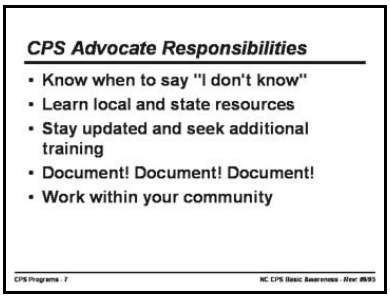
5. University of North Carolina Highway Safety Research Center

A) HSRC coordinates NC Child Passenger Safety training activities,

B) Host for buckleupnc.org,

C) Maintains an in-state toll-free phone line to answer child restraint and safety belt questions for parents and CPS advocates.





E. Responsibility as a Child Passenger Safety Advocate

1. Reiterate responsibilities

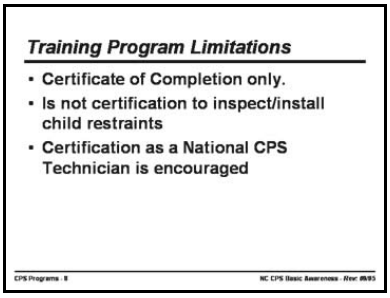
A) Know when to say "I don't know"

B) Learn local and state resources

C) Stay updated and seek additional training

D) Document! Document! Document!

E) Work within your community



2. Know your limitations and limits of this training

A) With this training program, participants will receive a Certificate of Completion only.

B) It will not result in a formal certification to inspect/install child restraints.

C) Participants are encouraged to seek National Child Passenger Safety Technician certification.

D) Refer to buckleupnc.org for additional information on certification courses in NC.

3. Reiterate appreciation for interest of participants

A) Your efforts will help reduce the unnecessary and preventable motor vehicle injuries and fatalities to infants and children.

B) Thank you for taking the time to participate in this training program.

APPENDICES

APPENDIX A: MATERIALS INCLUDED IN PARTICIPANT MANUAL

North Carolina and National CPS Resources
Summary of North Carolina Occupant Restraint Laws
Text of North Carolina Occupant Restraint Laws
North Carolina Child Passenger Safety Law: Questions Commonly Asked
Transportation of Children by Schools, Child Care Centers and other Organizations in NC and Homes
North Carolina Seat Belt Law: Questions Commonly Asked
Requirements of the North Carolina Children in Back of a Pickup Truck Law
Growing Up Buckled Up in North Carolina: Basics of NC Laws and Best Practice Recommendations
Buyer's Guide to Used Child Restraints
Recommendations for Replacement of Crash-Involved Safety Belts & Child Restraints
Installation of Child Safety Seats with Different Types of Seat Belts
Child Occupant Protection Glossary
English to Spanish Glossary
Spanish to English Glossary

APPENDIX B: PARTICIPANT HANDOUTS

CPS Workshop Participant Vehicle Information Form
NC Child Passenger Safety Training Evaluation Form

APPENDIX C: CLASS FORMS AND EXERCISES

Sample Agenda: Student Version
Sample Agenda: Instructor Planning Version
Class Roster
NC CPS Class Report Form
NC CPS Basic Awareness Instructor Candidate Application and Evaluation Forms
Lead Instructor Evaluation of Instructor Team for NC CPS Training Classes
Training Exercise 1: Selecting the Appropriate CR and Harnessing the Child in the CR
Training Exercise 2: Vehicle Occupant Protection Systems Identification
Training Exercise 3: Installation Skills

APPENDIX D: END-OF-CLASS ASSESSMENTS

Knowledge Assessment
Knowledge Assessment Answer Key
Student's Guide for End-of-Class Misuse Identification Skills Assessment
Instructors Guide for End-of-Class Misuse Identification Skills Assessment

APPENDIX A: MATERIALS INCLUDED IN PARTICIPANT MANUAL

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Child Occupant Protection Glossary
English to Spanish Glossary
Spanish to English Glossary

NORTH CAROLINA AND NATIONAL CHILD PASSENGER SAFETY RESOURCES

NORTH CAROLINA:

NC Governor's Highway Safety Program (GHSP)
215 E. Lane Street
Raleigh, NC 27601
919-733-3083 / 800-999-9676
www.ncdot.org/secretary/ghsp

GHSP is the state agency serving as overall coordinator for highway safety programs in North Carolina and is the primary source for NC specific traffic safety related materials and funding.

NC Department of Insurance
Office of the State Fire Marshal
322 Chapanoke Road
1202 Mail Service Center
Raleigh, NC 27699-1202
800-634-7854 / 919-661-5880
www.ncsafekids.org

The NC DOI OSFM Injury Prevention Program serves as the coordinating agency for:

- ***NC SAFE KIDS Buckle Up*** involves fire and rescue personnel as well as other health and safety advocates in safety seat distribution and education programs. NC child passenger safety activities are coordinated through the Buckle Up program. The Buckle Up Program coordinates child passenger safety training programs for the state.

- ***NC SAFE KIDS*** is affiliated with the National SAFE KIDS Campaign to combat the causes of deaths among children caused by unintentional injuries. The NC Coalition works to address the major unintentional risk areas of traffic incidents, fire/burns, drowning, falls, poisonings, and choking/suffocation.

- ***Buckle Bear*** is a program that teaches young children about car seat, passenger (car seats, seat belts and air bags), pedestrian, and bicycle safety. This curriculum with reusable material is targeted for children ages 2-6. The Buckle Bear program has many teaching tools including puppets and a tape that is used with the puppet to make the program lots of fun for the children.

- ***Risk Watch*** is a comprehensive injury prevention program designed for use in the classroom, giving children and their families the skills and knowledge they need to create safer homes and communities. Risk Watch addresses the eight risk areas that kill or injure the most children each year: motor vehicle crashes; fires and burns; choking, suffocation and strangulation; poisonings; falls; unintentional firearm accidents; bike and pedestrian hazards and water hazards.

NORTH CAROLINA AND NATIONAL CHILD PASSENGER SAFETY RESOURCES

El Pueblo, Inc
4 North Blount Street
2nd Floor
Raleigh, NC 27601
919-835-1525
www.elpueblo.org

A North Carolina non-profit statewide advocacy and public policy organization dedicated to strengthening the Latino community through leadership development, education, and promotion of cross-cultural understanding in partnerships at the local, state, and national levels. El Pueblo is the primary coordinating agency for Nuestra Seguridad, a statewide coalition that strives to reduce the disproportionate amount of highway safety fatalities among Hispanic drivers in North Carolina through the development and distribution of culturally appropriate Spanish-language materials on highway safety. A list of free materials available through the campaign is on El Pueblo's website.

NC State Highway Patrol
Traffic Safety Information Programs
512 N. Salisbury Street
4702 Mail Service Center
Raleigh, NC 27699-4702
919-733-7952
www.ncshp.org

The Patrol's Traffic Safety Information Officers can provide a variety of traffic safety related educational programs including their BIBS (Buckle In Baby Safely) program.

University of North Carolina
Highway Safety Research Center
CB #3430
730 Airport Road, Suite 300
Chapel Hill, NC 27599
800-672-4527 / 919-962-2202
www.hsrc.unc.edu
www.buckleupnc.org

HSRC operates the NC Child Passenger Safety Resource Center and coordinates NC Child Passenger Safety training activities, is the host for buckleupnc.org, and maintains an in-state toll-free phone line to answer child restraint and seat belt questions for parents and CPS advocates.

NORTH CAROLINA AND NATIONAL CHILD PASSENGER SAFETY RESOURCES

NC Department of Health and Human Services
Division of Child Development
2201 Mail Service Center
Raleigh, NC 27626-2201
800-859-0829 (in-state calls only) / 919-662-4499

The Division of Child Development oversees all aspects of child care services in North Carolina including the regulation of child care facilities. Transportation regulations for NC child care providers require that they adhere to the NC CPS law and also include additional standards relating to child-to-staff ratio, climate control, cleanliness, and safety.

NATIONAL:

American Academy of Pediatrics
Publications Department
P.O. Box 927
Elk Grove Village, IL
800-433-9016 / 317-274-2977
www.aap.org

Publishes CPS policy statements, pamphlets on child restraint use, and a CR shopping guide including one for transporting children with special needs.

Automotive Safety Program, Riley Hospital for Children
575 West Drive, Room 004
Indianapolis, IN 46202
800-543-6227 (Indiana only)
317-274-2977
www.preventinjury.org

Information available for transporting children with special needs including ambulance transport safety.

Children's Hospital of Philadelphia
3535, TraumaLink, 10th Floor
Philadelphia, Pa. 19104-4399
800-879-2467
215-590-3118
www.chop.edu/carseat

Partners for Child Passenger Safety is a research partnership of The Children's Hospital of Philadelphia, and the University of Pennsylvania, and State Farm Insurance developed to study how and why children are injured and killed in motor vehicle crashes and to help parents and caregivers learn more about child safety seats, booster seats and seatbelts. The Partners team has studied more than 300,000 motor vehicle crashes to learn more about child safety. Research findings and factsheets can be found through their Safety Research at TraumaLink: Experts Working Together to Protect Children From Injury site.

The information on their Keeping Kids Safe During Crashes: Every Child Deserves a Safe Ride site includes videos and other useful information on installing and using child safety seats and on seat belt use for older children and quick tips to help you review the information and links to other online resources.

Partners for Child Passenger Safety now has a Spanish version of their "Keeping Kids Safe" site on their Cómo mantener a los niños fuera de peligro durante los choques: Todos los niños merecen viajar seguros site.

Insurance Institute for Highway Safety
Communications Dept.
1005 N. Glebe Rd.
Arlington, VA 22201
703-247-1500
www.hwysafety.org

Distributes the newsletter "Status Report", and produces low-cost videos on a variety of highway safety topics. Produce fact sheets and lists of state seat belt and child passenger safety laws.

National SAFE KIDS Campaign
1301 Pennsylvania Ave., NW
Suite 1000
Washington, DC 20004
202-662-0600
www.safekids.org

A resource for parents and CPS advocates relating to unintentional injuries to children. NSK serves as the certifying body for the National Standardized Child Passenger Safety Training Program.

National Highway Traffic Safety Administration (NHTSA)
Office of Occupant Protection, NTS-13
400 Seventh Street, S.W.
Washington, DC 20590
202-366-0910
Auto Safety Hotline 1-888-327-4236
www.nhtsa.dot.gov

NHTSA is the federal agency that establishes and enforces motor vehicle safety standards. Establishes and promotes national and state highway safety related programs and materials including child passenger safety. Pamphlets, technical reports, program manuals, car seat Manufacturers' Instruction Manuals, recall lists, etc. are available through NHTSA.

NORTH CAROLINA AND NATIONAL CHILD PASSENGER SAFETY RESOURCES

National Child Passenger Safety Board
1025 Connecticut Avenue N.W., Suite 1200
Washington, D.C. 20036-5405
202-296-6263
www.cpsboard.org

The National Child Passenger Safety Board provides direction to the standardized NHTSA Child Passenger Safety Training curriculum and National SAFE KIDS Certification Program.

Safe Ride News
Safe Ride News Publications, Inc.
The Willapa Bay Company
Lake Forest Park, WA
800-403-1424 / 206-364-5696
www.saferidenews.com

Safe Ride News is a national newsletter with technical updates related to child passenger, pedestrian, and bicycle safety. Available by subscription.

Safety BeltSafe U.S.A. (SBS USA)
P.O. Box 553
Altadena, CA 91001
310-673-2666 / 800-745-7233 [SAFE]
800-747-7266 [SANO] (Spanish)
www.carseat.org

Pamphlets in multiple languages, flyers on correct use of CRs, training courses and materials, supplement to NHTSA distributed Manufacturers' Instructions Notebook, recall list, and other materials.

NORTH CAROLINA'S OCCUPANT RESTRAINT LAWS:
EFFECTIVE AS OF JANUARY 1, 2005

Child Passenger Safety G.S. 20-137.1	Seat Belt G.S. 20-135.2A	Children in Pickup Trucks G.S. 20-135.2B
Ages/Positions Covered: ▸ Children less than age 16 in front or back seats. Vehicles Covered: ▸ All vehicles required by federal standards to have seat belts. [Cars made after 1967 and light trucks/vans made after 1971.] Restraint Required: ▸ Any type of properly used child restraint device (CRD) meeting Federal standards (FMVSS 213) in effect at time of manufacture if child is less than age 8 AND less than 80 pounds. ▸ For children < than age 5 and < 40 lbs., the CRD must be in the rear seat if the vehicle has an active passenger side air bag and a rear seat [unless the CRD is designed for use with air bags]. ▸ Children may be secured in a properly fitted seat belt at age 8 OR if they reach 80 pounds before their 8th birthday. ▸ If there is no lap and shoulder belt available for a belt-positioning booster, a child <8 years and >40 pounds may be restrained by a properly fitted lap belt only. Exemptions: ▸ Vehicles not required to have seat belts. ▸ Ambulances and other emergency vehicles ▸ If child's "personal needs" are being tended to. ▸ If all seating positions with belts are occupied. Responsibility/Penalties: ▸ Driver responsible for all children less than sixteen. ▸ Penalty not to exceed $25. ▸ Court costs apply. ▸ Two (2) driver license points. ▸ No insurance points. ▸ No conviction if child is less than 8 and proof presented at trial that CRD has been acquired since violation for vehicle normally used to transport child.	Ages/Positions Covered: ▸ All drivers and front seat passengers ages 16 and older. Vehicles Covered: ▸ All passenger vehicles with capacity of <11 occupants required by federal standards to have seat belts. [Cars made after 1967 and light trucks/vans made after 1971.] Restraint Required: ▸ Full restraint system provided for the seating position. ▸ Requires lap and shoulder belt be used if provided even if the system is automatic shoulder belt or air bag is provided. Exemptions: ▸ Vehicles not required to have belts. ▸ Professionally certified medical condition or mental phobia preventing use. ▸ Rural letter carriers and newspaper carriers while performing duties. ▸ Frequently stopping delivery vehicles if speed between stops does not exceed 20 mph. ▸ Vehicles with "Farm" or "Commercial" license plates while being used for agricultural purposes. Responsibility/Penalties: ▸ Driver responsible for self and all children less than sixteen. ▸ Ages sixteen and older responsible for selves. ▸ Penalty of $25. ▸ No court costs apply. ▸ No driver license or insurance points.	Ages/Positions Covered: ▸ Children less than age 12 in open bed or open cargo area. Vehicles Covered: ▸ Vehicles having open beds or cargo areas without permanent overhead restraining construction. Restraint Required: ▸ Transport in open bed or open cargo area prohibited. Exemptions: ▸ If adult is present in bed or cargo area and is supervising the child. ▸ If child is secured or restrained by seat belt in compliance with FMVSS 208 installed to support load of 5000 lbs. for each belt and of a type approved by the Commissioner. ▸ An emergency situation exists ▸ Vehicle is being operated in a parade pursuant to a valid permit. ▸ Vehicle is being operated for agricultural purposes. ▸ In counties with no incorporated town with a population greater than 3,500*. Responsibility/Penalties: ▸ Driver responsible for all children less than twelve. ▸ Penalty of $25. ▸ No court costs apply. ▸ No driver license or insurance points. *Counties with <3,500 population: Alexander, Alleghany, Ashe, Avery, Bertie, Camden, Caswell, Cherokee, Clay, Currituck, Duplin, Franklin, Gates, Graham, Green, Hyde, Jackson, Jones, Macon, Madison, Mitchell, Montgomery, Northhampton, Pamlico, Pender, Perquimans, Polk, Swain, Tyrrell, Warren, Yadkin, and Yancey

NORTH CAROLINA CHILD PASSENGER SAFETY LAW

Effective: January 1, 2005

§ 20-137.1. Child restraint systems required.

(a) Every driver who is transporting one or more passengers of less than 16 years of age shall have all such passengers properly secured in a child passenger restraint system or seat belt which meets federal standards applicable at the time of its manufacture.

(a1) A child less than eight years of age and less than 80 pounds in weight shall be properly secured in a weight- appropriate child passenger restraint system. In vehicles equipped with an active passenger-side front air bag, if the vehicle has a rear seat, a child less than five years of age and less than 40 pounds in weight shall be properly secured in a rear seat, unless the child restraint system is designed for use with air bags. If no seating position equipped with a lap and shoulder belt to properly secure the weight-appropriate child passenger restraint system is available, a child less than eight years of age and between 40 and 80 pounds may be restrained by a properly fitted lap belt only.

(b) The provisions of this section shall not apply: (i) to ambulances or other emergency vehicles; (ii) when the child's personal needs are being attended to; (iii) if all seating positions equipped with child passenger restraint systems or seat belts are occupied; or (iv) to vehicles which are not required by federal law or regulation to be equipped with seat belts.

(c) Any driver found responsible for a violation of this section may be punished by a penalty not to exceed twenty-five dollars ($25.00), even when more than one child less than 16 years of age was not properly secured in a restraint system. No driver charged under this section for failure to have a child under eight years of age properly secured in a restraint system shall be convicted if he produces at the time of his trial proof satisfactory to the court that he has subsequently acquired an approved child passenger restraint system for a vehicle in which the child is normally transported.

(d) A violation of this section shall have all of the following consequences:

(1) Two drivers license points shall be assessed pursuant to G.S. 20-16.
(2) No insurance points shall be assessed.
(3) The violation shall not constitute negligence per se or contributory negligence per se.
(4) The violation shall not be evidence of negligence or contributory negligence."

This act becomes effective January 1, 2005.

NORTH CAROLINA SEAT BELT LAW

§ 20-135.2A. Seat belt use mandatory.

(a) Each front seat occupant who is 16 years of age or older and each driver of a passenger motor vehicle manufactured with seat belts shall have a seat belt properly fastened about his or her body at all times when the vehicle is in forward motion on a street or highway in this State.

(b) "Passenger Motor Vehicle," as used in this section, means a motor vehicle with motive power designed for carrying 10 passengers or fewer, but does not include a motorcycle, a motorized pedacycle or a trailer.

(c) This section shall not apply to any of the following:

(1) A driver or occupant with a medical or physical condition that prevents appropriate restraint by a safety belt or with a professionally certified mental phobia against the wearing of vehicle restraints;

(2) A motor vehicle operated by a rural letter carrier of the United States Postal Service while performing duties as a rural letter carrier and a motor vehicle operated by a newspaper delivery person while actually engaged in delivery of newspapers along the person's specified route;

(3) A driver or passenger frequently stopping and leaving the vehicle or delivering property from the vehicle if the speed of the vehicle between stops does not exceed 20 miles per hour;

(4) Any vehicle registered and licensed as a property-carrying vehicle in accordance with G.S. 20-88, while being used for agricultural or commercial purposes; or

(5) A motor vehicle not required to be equipped with seat safety belts under federal law.

(d) Evidence of failure to wear a seat belt shall not be admissible in any criminal or civil trial, action, or proceeding except in an action based on a violation of this section or as justification for the stop of a vehicle or detention of a vehicle operator and passengers.

(e) Any driver or passenger who fails to wear a seat belt as required by this section shall have committed an infraction and shall pay a penalty of twenty-five dollars ($25.00) plus court costs in the sum of fifty dollars ($50.00). Court costs assessed under this section are for the support of the General Court of Justice and shall be remitted to the State Treasurer. Conviction of an infraction under this section has no other consequence.

(f) No drivers license points or insurance surcharge shall be assessed on account of violation of this section.

(g) The Commissioner of the Division of Motor Vehicles and the Department of Public Instruction shall incorporate in driver education programs and driver licensing programs instructions designed to encourage compliance with this section as an important means of reducing the severity of injury to the users of restraint devices and on the requirements and penalties specified in this law.

Effective October 1, 2002.

NORTH CAROLINA CHILDREN IN BACK OF PICKUP TRUCK LAW

§ 20-135.2B. Transporting children under 12 years of age in open bed or open cargo area of a vehicle prohibited; exceptions.

(a) The operator of a vehicle having an open bed or open cargo area shall insure that no child under 12 years of age is transported in the bed or cargo area of that vehicle. An open bed or open cargo area is a bed or cargo area without permanent overhead restraining construction.

(b) Subsection (a) of this section does not apply in any of the following circumstances:

(1) An adult is present in the bed or cargo area of the vehicle and is supervising the child.

(2) The child is secured or restrained by a seat belt manufactured in compliance with Federal Motor Vehicle Safety Standard No. 208, installed to support a load strength of not less than 5,000 pounds for each belt, and of a type approved by the Commissioner.

(3) An emergency situation exists.

(4) The vehicle is being operated in a parade pursuant to a valid permit.

(5) The vehicle is being operated in an agricultural enterprise.

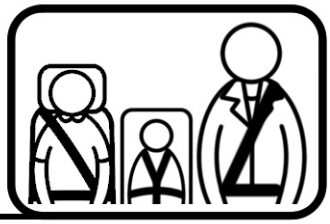
(6) The vehicle is being operated in a county that has no incorporated area with a population in excess of 3,500.

(c) Any person violating this section shall have committed an infraction and shall pay a penalty of twenty-five dollars ($25.00). Conviction of an infraction under this section has no consequence other than payment of a penalty. A person found responsible for a violation of this section may not be assessed court costs.

(d) No drivers license points or insurance surcharge shall be assessed on account of violation of this section.

Effective October 1, 1999.

The North Carolina Child Passenger Safety & Booster Seat Law: Commonly Asked Questions



What are the basic requirements of this law?

♦ All children less than 16 years of age must be properly restrained in all vehicle seating positions. Drivers and occupants 16 and older are covered by the NC Seat Belt Law.

♦ Vehicles covered are those required by federal standards to be equipped with seat belts. This includes cars made since 1968 as well as pickup trucks, sport utility vehicles, and vans made since 1972. Ambulances and other emergency vehicles are exempt.

♦ Children younger than age 8 AND who weigh less than 80 pounds must be properly secured in CRs appropriate for their weight and height. Most drivers will be able to comply with the changes by using belt-positioning booster seats for children over 40 pounds. Belt-positioning boosters raise children up to make lap and shoulder combination belts fit correctly.

♦ When a child reaches age 8 (regardless of weight) OR 80 pounds (regardless of age), a properly fitted seat belt may be used to restrain the child. Shoulder belts behind the back or under the arm are not allowed.

♦ If there is no lap and shoulder belt equipped seating position available for using a belt-positioning booster, a child who weighs at least 40 pounds may be restrained by a properly fitted lap belt only. WARNING: Belt-positioning booster seats can only be used with lap and shoulder combination safety belts. Belt-positioning booster seats must NEVER be used with just a lap belt.

Basic Types of Restraints

Rear-facing Only

Rear-facing Convertible

Front-facing Convertible

High Back Belt Positioning Booster

Backless Belt Positioning Booster

Lap and Shoulder Belt

Is it "8 OR 80" or "8 AND 80"???

In part the answer lies in which question is being asked:

Q: "Which children are required to be in a booster seat or other child restraint?"

A: Children who are both less than age 8 AND less than 80 pounds are required to be in some type of child restraint. Note that "some type of child restraint" includes booster seats.

Q: "When can children be switched to seat belts alone?"

A: Children may be restrained by properly fitted seat belts when they reach age 8 (regardless of weight) OR reach 80 pounds (regardless of age).

♦ Note, however, that a child who has reached 40 pounds, regardless of age, may be restrained by just a properly fitted lap belt if there is not a lap and shoulder belt equipped seating position available for using a belt-positioning booster seat.

♦ There are no booster seats currently being made that can be used with just a lap belt. Belt-positioning booster seats may only be used with lap and shoulder combination belts and must NEVER be used with just a lap belt.

Which car seats are approved for use in NC, and how can I tell if I have an approved seat?

♦ Any type of child restraint (CR) is legal to use as long as: 1) It is certified to meet Federal Motor Vehicle Safety Standard 213; 2) the child is within the weight range specified for the CR; and 3) the CR is being used correctly according to the manufacturer's instructions.

♦ Car booster seats, harnesses, and CR's built into vehicles are legal and safe to use. Look for labels on the CR which certifies that it meets federal standards for use in a motor vehicle and gives the model number and date of manufacturer.

♦ A child restraint should not be used if it has labels missing, or it is older than 10 years, or if it has missing or broken parts. CRs that have previously been involved in severe crashes should not be used either.

When can infants be turned around to face the front of the car?

♦ In NC it is legal to turn an infant to face the front of the vehicle whenever the manufacturer of the child restraint (CR) being used allows it. However, the American Academy of Pediatrics (AAP) recommends that infants be kept rear-facing as long as possible but at least until 1 year of age AND at least 20 pounds.

♦ Most current convertible CR's, those that can be used either rear- or front-facing, can be used up to at least 30 pounds rear-facing.

When can children be put in a booster seat?

♦ It is legal to switch to a booster seat at any weight as long as the child is within the booster's weight range. However, it is not generally recommended to use booster seats until after the front-facing child restraint (CR) with a harness is outgrown, usually about 40 pounds..

♦ Belt-positioning booster seats, designed to make lap and shoulder belts fit correctly on children and youth, should be used. WARNING: Belt-positioning boosters must be used with vehicle lap and shoulder combination seat belts - NEVER with just a lap belt.

♦ Older shield type booster seats, those with just a padded bar or shield in front of the child, no longer meet Federal standards, are no longer being made and are not generally recommended.

When is my child big enough for a seat belt?

♦ Effective January 1, 2005, NC law does not allow the use of a lap and shoulder combination seat belt until a child is at least 8 years old OR at least 80 pounds, whichever comes first.

♦ In addition to the legal requirements, properly fitted lap belts fit low and snug across the hips and should be at least touching the upper thighs. Properly fitted shoulder belts must fit correctly across the collar bone and chest.

♦ An improperly fitted seat belt, with the shoulder belt placed under the arm or behind the back, is neither legal nor safe for children or adults. Improper use such as this can lead to serious injuries to the head, internal organs, or spine in a crash.

♦ Add-on shoulder belt adjusters are not legal, nor are they recommended, since they are not covered by any Federal standards and may, in fact, do more harm than good.

♦ SafetyBeltSafe U.S.A. has developed a simple "5-Step Test" to see if a child is big enough to ride in a lap and shoulder belt combination. If you answer "no" to any of these questions, your child needs a booster seat to ride safely and comfortably in the car:

1) Does the child sit all the way back against the auto seat?
2) Do the child's knees bend comfortably at the edge of the auto seat?
3) Does the belt cross the shoulder between the neck and arm?
4) Is the lap belt as low as possible, touching the thighs?
5) Can the child stay seated like this for the whole trip?

Do children have to ride in the back seat?

♦ NC law requires that a child restraint (CR) be properly installed in the rear seat if the child is less than 5 years of age and less than 40 pounds in weight and the vehicle has an active passenger side air bag.

♦ The CR may be installed in the front seat if it is designed for use with air bags or if the vehicle has an air bag on-off switch that is turned off.

♦ Regardless of what is legal, it is strongly recommended that:

- All children age 12 and under should ride buckled up in a rear seat in restraints appropriate for their ages and sizes.
- Infants in rear facing child restraints should NEVER ride in the front seat of a vehicle with an active passenger side air bag.
- If a child over 1 year old MUST ride in the front seat with a passenger side air bag, put the child in a front facing full harness CR, belt-positioning booster seat, or a properly fitted lap and shoulder belt and move the vehicle seat as far back as possible.

Who is responsible for the children in a car?

♦ The driver is responsible for obeying the law and would get the ticket even if the child's parent is also in the car.

What are the penalties for violations of this law?

♦ Violations carry a fine of up to $25 plus court costs (currently about $100) plus two driver license points.

What are the differences between what the NC law allows and what is recommended for buckling up children?

♦ What is allowed under this law can be considered to be "minimum standards" and is not necessarily what is recommended to provide the best protection for a child or adult.

♦ For best protection, recommendations are that:

- Children should ride in a rear-facing-only or rear-facing convertible child restraint (CR) as long as possible but at least until one year of age AND at least 20 pounds.
- Once turned around facing to the front, children should ride in a front-facing seat with a full harness or harness-shield until it is outgrown, usually at about 40 pounds. Several models can be used with their harnesses over 40 pounds.
- Children should switch to a belt-positioning booster seat when the full harness seat is outgrown and continue riding in the booster seat until the seat belt fits correctly without the booster seat - but remember that NC law does not allow the use of a seat belt for most children until 8 years or 80 pounds.
- Children should not be switched to a seat belt until the child is big enough for a correct fit of the belt and is mature enough to sit reasonably still.
- Lap belts alone should be used if nothing else is available. Currently, there are no boosters on the market certified for use over 40 pounds in a lap-belt-only position, so options for larger children are limited. Safer options for lap-belt-only positions are as follow:
  - Purchase and use one of the few full harness CRs with weight ranges higher than 40 pounds.
  - Order, install, and use a harness that is designed for children over 40 pounds. These require extra installation, but do provide good upper body protection in lap belt only positions.
  - Check with your local car dealer or vehicle manufacturer to see if retrofit shoulder belt kits are available for the rear seat. If so, these can be installed and a child can be secured in a belt-positioning booster.
  - No one should ever ride unrestrained in the vehicle or in a non-belted position such as the cargo area of a station wagon or pickup truck.

How important is it that car seats are used the way the instructions say?

♦ Child restraints (CRs) that are not used correctly lose much of their ability to protect children in crashes. Correct use requires three important steps:

1) the CR must be the right type for the size of the child,
2) the child must be buckled correctly into the CR, and
3) the CR must be correctly buckled to the car.

♦ If you have any questions about the proper use of child restraints or need to obtain complete manufacturer's instructions, call the manufacturer or the UNC Highway Safety Research Center.

Are there any exemptions to this law?

♦ Vehicles not required to have seat belts are exempt. Also, children may be left unbuckled if all belted seating positions are occupied and children may be removed from their seats to "tend to personal needs" such as nursing or changing a diaper.

♦ These exemptions were added to get the law first passed in 1981 and have never been removed. They have never been considered to be safe practices. Indeed, children have been killed when crashes happened right after being taken out of their restraints for "just a minute."

Are organizations such as schools, churches, and child care centers covered under this law?

♦ No organizations - including public and private schools, churches, child care centers, and camps -are exempt from the NC CPS Law. Any organization or agency transporting children in vehicles required by Federal standards to have seat belts must comply with all provisions of the NC CPS law.

♦ Most buses, including school, charter and public transit buses, are not required to be equipped with seat belts and thus are exempt from the NC CPS law. School buses do not have seat belts because they rely on strong, closely spaced, well-padded, energy absorbing seats and higher seat backs to "compartmentalize" and protect passengers during a crash.

♦ Note, however, that seat belts are required on small school buses (under 10,000 lbs) and children being transported in these smaller buses are covered under this law.

♦ Refer to "Transportation of Children by Schools, Child Care Centers and other Organizations in NC and Homes", available through www.buckleupnc.org for more information.

Can I let my children ride in the back of a pickup truck?

♦ A separate NC law prohibits most children less than age 12 from riding in the open bed of a pickup truck or other cargo area. No child or adult should ride in the bed of a pickup truck or any other place in the vehicle not designated as a seating position.

For further information contact:

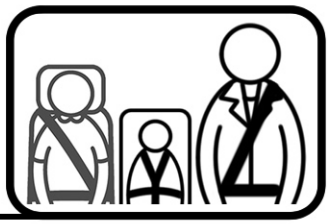
UNC Highway Safety Research Center
800-672-4527 / 919-962-2202
www.buckleupnc.org
www.hsrc.unc.edu

For further information or to order brochures or other educational materials, contact:

NC Governor's Highway Safety Program
800-999-9676 / 919-733-3083
www.ncdot.org/secretary/GHSP

NC Department of Insurance
NC Safe Kids Buckle Up
888-347-3737 / 919-661-5880
www.ncsafekids.org

Requirements and Recommendations for the Transportation of Children by Schools, Child Care Centers and other Organizations in North Carolina



Basic Provisions of the NC Child Passenger Safety (CPS) Law:

- All children less than 16 years old must be buckled up in either the front or back seat of any vehicle required by federal standards to be equipped with safety belts.
- Drivers are responsible for all children and youth less than age 16 in the vehicle.
- A child who is younger than age 8 AND who weighs less than 80 pounds must be properly secured in a child passenger restraint device (CRD) or booster seat.
- When a child reaches age 8 (regardless of weight) OR 80 pounds (regardless of age), a properly fitted safety belt may be used.
- A child who weighs at least 40 pounds may be restrained by a properly fitted lap-belt-only if no seating position equipped with a lap and shoulder belt is available. All lap and shoulder belt positions must be occupied before the lap-only safety belt is allowed.

Basic Types of Restraints

Rear-facing Only

Rear-facing Convertible

Front-facing Convertible

No type of organization is exempt from the NC CPS Law, only types of vehicles. In addition, some programs may be subject to additional state and/or federal regulations as noted below.

WARNING: Belt-positioning booster seats must NEVER be used with just a lap belt. Belt-positioning booster seats can only be used with lap and shoulder safety belts.

Belt Positioning Booster

Transporting Children in 15-Passenger Vans

15-passenger vans are required to have safety belts in all seating positions and are covered under the NC Child Passenger Safety Law. Organizations using vans or other passenger vehicles to transport children must comply with all provisions of the NC CPS law. Some programs, however, may be subject to additional state, federal, or program-specific regulations that prohibit the use of vans for transporting children unless they are built to school bus standards. (See "Additional State and Federal Regulations.")

Lap and Shoulder Belt

Older models of vans may have lap-belt-only safety belts in <u>all</u> rear seats. In this case, children less than 40 pounds in weight are required to be in a front-facing restraint with a harness. Children weighing at least 40 pounds can be in just the lap belt without a booster seat.

Lap Belt with Harness

Some rear seat positions in newer vans are equipped with lap and shoulder combination belts. If this is the case:

1. Place children less than 40 pounds in child restraints with harnesses and install these restraints in lap-belt-only positions.
2. Place children who are at least 8 years old OR weigh at least 80 pounds in <u>properly fitted</u> lap and shoulder safety belts. Shoulder belts tucked under the arm or placed behind the back are ILLEGAL and UNSAFE.
3. Place children less than age 8 AND less than 80 pounds in remaining lap and shoulder belt positions in belt positioning boosters.
4. Place children who are at least 40 pounds in any remaining lap-belt-only positions using just the lap belt. DO NOT use belt-positioning booster seats in the lap-belt-only positions.

Transporting Children in School Buses

Federal standards do not require safety belts on large buses with Gross Vehicle Weight Ratings (GVWR) of more than 10,000 pounds. School buses rely on strong, closely spaced, well-padded, energy absorbing seats and higher seat backs to "compartmentalize" and protect passengers during a crash. The size and construction of school buses as well as compartmentalization make them very safe vehicles.

Large buses are exempt from the NC CPS Law since they are not required to have safety belts. This exemption includes large school and activity buses as well as municipal transit and charter buses. Organizations that provide transportation on large buses do not have to install safety belts and use child restraints for the children being transported in order to comply with this law unless the organization is subject to additional standards and regulations. (See "Additional State and Federal Regulations.")

Safety belts are required on small buses that weigh 10,000 pounds or less. Some school buses (Types A1 and B1) fit into this category. Children being transported in these smaller buses are covered under the NC CPS law. Most of the safety belts on these smaller buses are lap-belt-only safety belts. Children less than 40 pounds in weight are required to be in a child restraint appropriate for their weight. Children who weigh 40 pounds or more can be restrained by just the lap belt without a booster seat.

WARNING: Belt-positioning booster seats must NEVER be used with just a lap belt. Belt-positioning booster seats can only be used with lap and shoulder safety belts.

Operators of smaller buses (under 10,000 lbs) required to have safety belts are subject to the NC CPS law and must comply. Note that most safety belts on school buses, even the smaller buses, are lap-belt-only safety belts that may not be used with belt positioning boosters. Refer to "Summary of Requirements to comply with the NC CPS Law and Recommendations for Maximum Safety in ANY VEHICLE" for recommendations.

Recommendations for Transporting Pre-School Children on School Buses

The National Highway Traffic Safety Administration (NHTSA) believes, and research confirms, that school buses are one of the safest forms of transportation in this country. Therefore NHTSA strongly recommends that all buses used to transport pre-school and school children be certified as meeting NHTSA's school bus safety standards. Using vans that do not meet the school bus standards to transport students could result in increased liability in the event of a crash.

The National Highway Traffic Safety Administration (NHTSA) further recommends that preschool age children are best transported in child restraints even on the larger school buses. If it is determined that a child must be transported in a child restraint on a bus, the NHTSA "Guidelines for the Safe Transportation of Preschool Age Children in School Buses" (February, 1999) should be followed. These guidelines are available on www.buckleupnc.org.

An additional resource is the "Guide for the Transportation of Preschoolers and Children with Disabilities for North Carolina Public Schools: Transportation Policies, Guidelines, and Best Practices," also available on www.buckleupnc.org.

Additional State and Federal Regulations

Federal regulations do not prohibit the use of vans by schools *per se*. Instead, federal regulations require that any new van with a capacity of more than 10 persons that is sold or leased for transporting children to or from school meet the safety standards applicable to school buses. Federal regulations apply only to the manufacture and sale/lease of new vehicles.

Head Start regulations require that children weighing 50 pounds or less must be restrained in height- and weight-appropriate child restraints. Programs transporting children to and from Head Start and Early Head Start programs must use school buses or "allowable alternate vehicles" by January 2006.

An "allowable alternate vehicle" is a vehicle designed for carrying eleven or more people, including the driver, that meets all the Federal Motor Vehicle Safety Standards applicable to school buses except those related to flashing lights and stop arms. Vans that do not meet the school bus standards are prohibited. Head Start transportation regulations are available on www.buckleupnc.org.

North Carolina Child Care Transportation standard NCAC 09 .1001 covers NC child care centers and requires that all children less than 2 years of age to be transported in a child restraint, even on buses. Thus, child care centers transporting children less than age 2 on buses may need to retrofit the bus with belts in order to use child restraints for these children. Transportation standards for NC child care centers are available on www.buckleupnc.org.

Summary of NC Restraint Requirements for Vehicle Types

- No type of organization is exempt from the NC Child Passenger Safety Law, only types of vehicles.
- *Buses weighing more than 10,000 pounds:*
  - Are not required by Federal Standards to be equipped with safety belts and are exempt from the NC CPS law.
  - Organizations that provide transportation on large buses do not have to restrain children in safety belts or child restraints to comply with NC law.
  - Organizations that provide transportation on large buses may be required to restrain children in safety belts or child restraints to comply with applicable state, federal or program-specific regulations.
- *Buses weighing under 10,000 pounds:*
  - Are required to have safety belts.
  - Organizations that provide transportation on smaller buses are subject to and must comply with the NC CPS law.
- *Vans and mini-vans:*
  - Organizations that provide transportation on vans of any size are subject to and must comply with the NC CPS law.

Summary of Requirements to comply with the NC CPS Law and Recommendations for Maximum Safety in ANY VEHICLE:

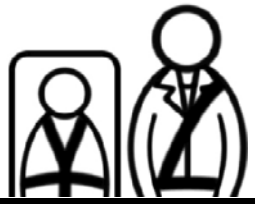
- In positions equipped with lap and shoulder safety belts, restrain children:
  - In properly installed child restraints with harnesses if they weigh less than 40 pounds.
  - In belt positioning booster seats if they are both less than eight years old and weigh less than 80 pounds.
  - In properly fitted lap and shoulder belt if they are at least eight years old or if they weigh at least 80 pounds.
  - *RECOMMENDATION:* Continue to use booster seats until both the lap and shoulder belts fit correctly on the child.
- In positions equipped with just lap belts, and if there are no lap and shoulder belted positions available, restrain children:
  - In properly installed child restraints with harnesses if they weigh less than 40 pounds.
  - In properly fitted lap-only safety belts if they weigh 40 pounds or more.
  - *RECOMMENDATION:* Children over 40 pounds should be restrained by options other than just the lap belt if possible. These options may require additional installation in vehicles because they are anchored with top tether straps in addition to safety belts. Recommended options for children over 40 pounds in lap-belt-only positions include:
    - There are several models of restraints with harnesses that can be used for children heavier than 40 pounds.
    - There are harnesses of various types that can be used for children over 40 pounds (example: E-Z-On Products).
    - Retrofit shoulder belt kits are available for some older models of cars and vans. Check with the vehicle manufacturer for availability.

For further information contact:
UNC Highway Safety Research Center
800-672-4527 / 919-962-2202
www.buckleupnc.org
www.hsrc.unc.edu

For further information or to order brochures or other educational materials, contact:
NC Governor's Highway Safety Program
800-999-9676 / 919-733-3083
www.ncdot.org/secretary/GHSP

NC Department of Insurance
NC SAFE KIDS Buckle Up
888-347-3737 / 919-661-5880
www.ncsafekids.org

The North Carolina Seat Belt Law:
Commonly Asked Questions



What are the basic requirements of the North Carolina Seat Belt law?

♦ All drivers and front seat passengers ages 16 and older are covered by the seat belt law and must have a seat belt properly fastened about his or her body at all times when the vehicle is being driven on a street or highway.

♦ North Carolina's Graduated Driver Licensing law requires all vehicle occupants - regardless of their age or their seating position - to wear a seatbelt when riding with a driver younger than 18.

♦ Children less than age 16 are covered under the North Carolina Child Passenger Safety Law.

♦ All occupants of ANY age in ALL seating positions should ride buckled up to help protect all occupants. Unbuckled rear seat occupants can injure buckled up front seat occupants as well as themselves when they are thrown around or out of the car in a crash.

What vehicles are covered?

♦ All "passenger motor vehicles" required by federal standards to be equipped with seat belts are covered. "Passenger motor vehicle" is defined as a motor vehicle designed for carrying ten or fewer passengers but excludes motorcycles, mopeds or trailers.

♦ All passenger cars manufactured after 1967 are required by federal law to have seat belts. Requirements for vans, pickup trucks and sport utility vehicles to be equipped with belts began with the models manufactured after 1971. There are no exemptions for vehicles registered in other states.

What are the penalties for not complying with this law?

♦ Violators are issued tickets and are subject to a penalty of $25.00 plus $50.00 in court costs. Of course, the worst outcome of non-compliance would be a crash in which a driver or passenger is seriously injured or killed because of not being buckled up.

If a passenger isn't buckled up, who gets the ticket?

♦ Drivers are responsible for themselves and for all children less than age 16 in the front or back seat. Front seat passengers ages 16 and older are responsible for themselves and would get the ticket rather than the driver.

Are both lap and shoulder belts required?

♦ The law requires the proper use of whatever seat belt system the seating position provides. Vehicles equipped with air bags also provide lap and shoulder belts that must be worn. Some vehicles have automatic shoulder belts with lap belts that have to be fastened manually. These manual lap belts must be used for compliance and for maximum protection.

How is the law that covers children different?

♦ Children and youth less than age 16 are covered under the Child Passenger Safety Law. Children less than age 16 must be buckled up in the rear seat as well as the front.

♦ As of January 1, 2005, most children under age 8 and less than 80 pounds in weight must be in properly used child restraints or booster seats appropriate for their weight. Child restraints for children less than age 5 and less than 40 pounds must be installed in the rear seat if the vehicle has a passenger side front air bag. Children may be buckled in using a properly fitted seat belt at the age of 8 or when they weigh at least 80 pounds.

♦ A separate NC law prohibits children less than age 12 from riding in the open bed of a pickup truck unless there is an adult present supervising the child; if the child is secured in a seat belt installed in a manner approved by the Commissioner of motor vehicles; if an emergency exists, if the truck is being used in a parade or for agricultural purposes; or if the truck is being operated in a county with no incorporated area of a population greater than 3,500.

My car doesn't have seat belts. Do I have to install them?

♦ Cars manufactured after 1967 and vans, pickup trucks and sport utility vehicles manufactured after 1971 are required by federal standards to have belts. Belts must be installed in these vehicles if the original seat belts have been removed. Belts do not have to be added to older models.

♦ Passenger vehicles, light trucks and vans brought in from other countries must be fitted with

belts if they were manufactured after the above dates but do not have seat belts in them.

Our pickup truck has only three seat belts but there are four in our family. What do we do?

♦ There is no safe way to carry more people than you have belts to accommodate. If room allows, extra belts can be installed to protect more people.

♦ There is no “more occupants than belts” exemption in the NC Seat Belt Law. If you have four people age sixteen or older and three belts, the fourth person is in violation of the law.

Are employees required to wear their belts in company cars?

♦ In most cases, yes. Vehicles with "commercial" or "farm" license plate that are being used for business purposes, delivery vehicles making frequent stops and not exceeding 20 mph, and those being used by a rural mail or newspaper carrier are exempt. Many employers, however, have seat belt use policies for their vehicles.

What are valid medical exemptions? How do I get one?

♦ The North Carolina Medical Society's Executive Council has stated that "medical exemptions to the state's seat belt law be granted only in extraordinary cases of medical necessity..." If a physician decides that a patient has an "extraordinary case of medical necessity" preventing his or her from wearing a seat belt, then a letter from the physician stating this situation and carried by the patient is needed.

I'm too large for my seat belt to fit around me. What should I do?

♦ Seat belt extenders are available for most domestic vehicles for a small fee. These extenders are 10 inch lengths of webbing with buckles on both ends to fit onto the belts already in the vehicles. Take the information on the seat belt label along with your vehicle to the parts department of your local dealer. Extenders are not interchangeable so go to the dealer for your particular vehicle. If you have any trouble getting service from the dealer, try another dealer or call the customer assistance number listed in your owner's manual. Check your owner's manual for an explanation of these belt systems.

Now that I'm pregnant, should I still wear my seat belt?

♦ Yes, especially now. The greatest threat to the unborn child is death or serious injury to the mother, and a seat belt will help insure your survival in the event of a crash. When possible, both the lap and shoulder belt should be worn with the lap portion low and snug on the hips beneath the baby and the shoulder belt snug and above the baby.

Can't seat belts actually cause injuries?

♦ Yes, they can cause some injuries, especially in severe crashes. These injuries are usually limited to bruises and cracked collar bones and ribs - very minor injuries when compared to what often happens without the seat belt. It is important that belts be worn correctly to reduce the chance that they might injure you.

♦ Lap belts should be worn as low and snug as possible on the hips since belts that are worn high on the stomach can cause injuries.

♦ Shoulder belts must also be worn snugly across the shoulder and chest. Never wear a shoulder belt with more than an inch of space between your chest and the belt. Too much slack will allow your head to go too far forward in a crash. If the shoulder belt rubs against your neck and is uncomfortable, try adjusting your sitting position or the position of the vehicle seat to get a proper fit. Cloth comfort sleeves can be placed on the shoulder belt to make it more comfortable.

♦ Do not place the shoulder belt behind your back or under your arm. With the shoulder belt behind the back, your head will be thrown forward to strike the dashboard, windshield, or the air bag. As with the belts behind the back, shoulder belts under the arm do not hold your head back away from danger. In addition, the belt under the arm can fracture ribs and cause serious internal injuries.

For further information contact:
UNC Highway Safety Research Center
800-672-4527 / 919-962-2202
www.buckleupnc.org
www.hsrc.unc.edu

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NC Governor's Highway Safety Program
800-999-9676 / 919-733-3083
www.ncdot.org/secretary/GHSP

NC Department of Insurance
NC SAFE KIDS Buckle Up
800-634-7854 / 919-661-5880
www.ncsafekids.org

Requirements of the North Carolina Children in Back of a Pickup Truck Law

What are the basic requirements of the North Carolina Pickup law?
On January 1, 1995, a separate NC law went into effect that prohibits children less than
age twelve from riding in the open bed of a pickup truck. An open bed or open cargo area is a bed or cargo area without permanent overhead restraining construction.

What is a "permanent overhead restraining construction"?
What constitutes a permanent overhead restraining construction has never been defined by the NC Legislature or the courts. The generally accepted interpretation is that a this is a structure welded or bolted to the vehicle.

Note, however, that "permanent overhead restraining constructions" may help to reduce ejection from the vehicle but do not in fact protect occupants as seat belts and child safety seats do. Riders in camper shells and other similar structures are also exposed to a greater risk of carbon monoxide poisoning.

What are the exemptions to this law?
There are six exemptions to this law: The provisions for proper securement of children do not apply:

1. If an adult is present in the bed or cargo area of the vehicle and is supervising the child;
2. If the child is secured or restrained by a seat belt manufactured in compliance with Federal Motor Vehicle Safety Standard No. 208, installed to support a load strength of not less than 5,000 pounds for each belt, and of a type approved by the Commissioner;
3. If an emergency situation exists;
4. If the vehicle is being operated in a parade pursuant to a valid permit;
5. If the vehicle is being operated in an agricultural enterprise; or
6. If the vehicle is being operated in a county which has no incorporated area with a population in excess of 3,500.
   [Note: Counties with <3,500 population: Alexander, Alleghany, Ashe, Avery, Bertie, Camden, Caswell, Cherokee, Clay, Currituck, Duplin, Franklin, Gates, Graham, Green, Hyde, Jackson, Jones, Macon, Madison, Mitchell, Montgomery, Northhampton, Pamlico, Pender, Perquimans, Polk, Swain, Tyrrell, Warren, Yadkin, and Yancey.]

What will happen to me if I don't comply with this law?
Violators are issued tickets and are subject to a penalty of $25.00. Violations of this law have been defined as "infractions" and do not incur court costs, driver license points or insurance surcharges. Of course, the worst outcome of non-compliance would be a crash in which a child is seriously injured or killed because of not being properly buckled up.

Can safety seats be safely and legally used on side facing-seats in a truck cab?
This is illegal since the NC Child Passenger Safety Law requires use of the restraint system according to the manufacturer's instructions, all of which specify that the safety seats should not be used in side-facing seats.

For further information, contact:
The University of North Carolina Highway Safety Research Center
CB# 3430
Chapel Hill, NC 27599
919-962-2202 or (in NC) 800-672-4527

Growing Up Buckled Up in North Carolina

There are differences between what is LEGAL and what is RECOMMENDED for buckling up children.

Protecting Children in Crashes Requires 3 Important Steps:

1. The restraint must be right for the size and age of the child.

- Use rear-facing child restraints (CRs) for children until at least 1 year of age AND at least 20 pounds. Most children reach 20 pounds before age 1 and need to be in a rear-facing convertible CR approved for heavier babies. Keep children facing the rear as long as possible.
- Use forward-facing CRs with a harness and/or shield for children over 1 year old. Use the harness and/or shield until it is outgrown, usually 40 pounds. There are a few models that have harnesses or shields that can be used over 40 pounds.
- Use belt-positioning booster seats that make a lap and shoulder belt combination fit correctly for children who have outgrown their harness type CR until they are large enough for the seat belt to fit correctly.
- Add-on shoulder belt adjusters are not recommended since they are not covered by any Federal standards and may, in fact, do more harm than good.
- Never tuck the shoulder belt under the arm or behind the back. Both of these common practices are dangerous and illegal.
- Use seat belts for older children only when they are large enough for the belt to fit correctly. Usually, this will be about 8 years old and about 80 pounds. To tell if a child is big enough to use just the vehicle lap and shoulder belt, ask the following questions: 1) can he sit all the way back against the auto seat, 2) do his knees bend comfortably at the edge of the auto seat, 3) does the shoulder belt cross his shoulder between his neck and arm, 4) is the lap belt positioned low and touching his thighs, and 5) will he stay seated like this for the whole trip? If the answer is "no" to any of these questions, a belt-positioning booster seat is needed for the best crash protection.
- Whenever possible, keep children younger than age 13 buckled up in a rear seat of the vehicle.
- CRs older than 10 years should not be used. Any child seat, regardless of age, that has been in a severe crash should be replaced.

2. The child must be buckled correctly into the restraint .

- The type of harness or shield must be appropriate for the size of the child. Harnesses with shields do not fit small infants well.
- All parts of the harness must be present and in good condition.
- In general, the harness straps should be at or below shoulder level for rear-facing restraints and at or above shoulder level for forward-facing restraints. Refer to the CR manufacturer's instructions to be sure.

NC has three occupant restraint laws. Effective as of January 1, 2005, their basic requirements are that...

- All drivers and front seat passengers, regardless of age, must be properly buckled up.
- All children less than 16 years old must be buckled up in either the front or back seat.
- As of January 1, 2005, children younger than age 8 and who weigh less than 80 pounds must be properly secured in a child restraint (CR).
- Car booster seats can be used for older and larger children if lap and shoulder combination belts are available.
- Lap-only seat belts can be used for children over 40 pounds if no lap and shoulder combination seat belt is available. Belt-positioning booster seats may not be used with just a lap belt.
- CRs for children less than age 5 and less than 40 pounds must be installed in the rear seat in vehicles with active passenger-side air bags.
- When a child reaches age 8 (regardless of weight) OR 80 pounds (regardless of age), a correctly fitted seat belt may be used instead of a CR to restrain the child.
- Placing the shoulder belt under a child's (or adult's) arm or behind the back is dangerous and is illegal.
- Children less than age 12 are prohibited from riding in the open bed of a pickup truck or other open cargo area.
- Drivers are responsible for obeying these laws.
- The penalty for not complying with the Child Restraint/Booster Seat law is 2 driver license points, a $25 fine and $100 court costs.

- The harness must be as snug as possible without pressing into the child's skin and causing physical discomfort. You should not be able to pinch the strap to make a fold in the harness webbing.

3. The restraint must be correctly installed in the vehicle.

- NEVER install a rear-facing restraint in front of an active air bag.
- The rear seat is safer for children than the front seat. Whenever possible, child restraints should be installed in the center-rear seat.
- Infants less than a year in age should ride in a restraint that faces the rear of the car. Follow the CR's instructions for the correct recline angle.
- The vehicle seat belt must be routed correctly through or around the restraint according to the CR's instructions.
- LATCH (Lower Anchors and Tethers for Children) is a new system that can make CR installation easier and without using seat belts. LATCH is found on most CRs and vehicles manufactured after September 1, 2002.
- The CR must be installed tightly in the vehicle. To check, hold the shell of the CR at the seat belt path (where the seat belt goes through the CR or where it would go through if not using the lower LATCH attachments) and pull toward the front of the car and side-to-side. There should be no more than 1 inch of movement in either direction.
- The seat belt or LATCH attachments must be locked in order to stay tight. Locking clips are needed on some seat belts. Check the vehicle owner's manual to be sure.
- Top tethers can make most front-facing restraints work better. Follow instructions to install and use tether straps whenever possible.

*For further information or to order brochures or other educational materials, visit **www.buckleupnc.org** or contact:*

UNC Highway Safety Research Center	NC Governor's Highway Safety Program	NC Dept. of Insurance Safe Kids Buckle Up
800-672-4527 / 919-962-2202	800-999-9676 / 919-733-3083	800-634-7854 / 919-661-5880
www.hsrc.unc.edu	www.ncdot.org/secretary/ghsp/	www.ncsafekids.org

Buyer's Guide to Used Child Restraints

Condition should come before price when shopping for a used child restraint.

The price of a child restraint should not be used as the main determining factor when selecting a child restraint to use. The most expensive model is not necessarily safer than a basic inexpensive model. On the other hand, the low cost of a used child restraint (or no cost for a hand-me-down) is not worth it if you end up with an unsafe seat.

Parents and other caregivers can obtain good, safe second-hand child restraints but should use caution in selecting one and must decide if the lower cost of a used restraint is really worth it. Most of the newer models are more convenient and easier to use than older models. An inexpensive but hard-to-use restraint may not be a bargain over time. Without a doubt, an unsafe child restraint is no bargain at all!

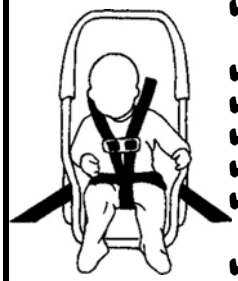
When deciding whether or not to purchase a second-hand child restraint or to use any other "hand-me-down," check to be sure that:

- The child restraint has a full set of labels giving the manufacturer, model number, date of manufacture and statement that it complies with "all applicable Federal Motor Vehicle Safety Standards." (*Restraints without these important labels can not be identified for sure, may not safe, and should not be used!*)
- The restraint has not passed the expiration date indicated on the label or shell or, if there is no expiration date, that it is less than ten years old. (*Some models are labeled with an expiration date, some manufacturers set a six year limit, and any restraint older than ten years should not be used!*)
- The restraint has not been recalled or, if there was a recall issued on it, that any defects have been corrected. (*To find out for sure, call the manufacturer.*)
- You have a copy of the manufacturer's instruction book, not just the basic installation and use labels. (*If you don't, call the manufacturer to request a copy.*)
- The restraint has all its parts: harness straps and/or shield, retainer clip, padding, tether strap, and bolts. (*If not, do not use the restraint until the replacement parts are obtained and properly installed.*)
- The restraint is free from cracks, bends, or breaks in the frame or shell. (*If damaged, the restraint may not hold up in a crash and should not be used!*)
- The harness straps are not worn or frayed. (*If so, the restraint is not safe and should not be used until a replacement harness is obtained from the manufacturer and properly installed!*)
- The buckle area is free from rust and the buckle latch mechanism fastens securely, remains fastened, and unfastens smoothly. (*If not, the restraint is not safe and should not be used until a replacement buckle is obtained and properly installed!*)
- The restraint has never been involved in a serious crash. (*Crash-involved restraints may be weakened even if there is no apparent damage. If so, the restraint may not safe and should not be used!*)

Developed by the North Carolina State Highway Patrol, Buckle In Baby Safely Program - July 2001

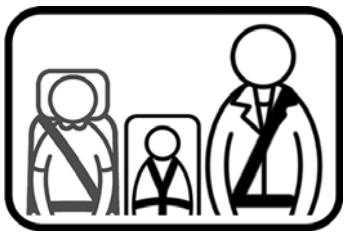
Adapted by the University of North Carolina Highway Safety Research Center - March 2004
800-672-4527 (in NC) ♦ 919-962-8721 ♦ buckleupnc.org

Check to be sure...



- ✔ Labeled with manufacturer, model, and date
- ✔ Less than 10 years old
- ✔ No uncorrected recalls
- ✔ All manufacturer's instructions
- ✔ All parts present
- ✔ Frame, shell and all parts are in good condition, working smoothly
- ✔ Has not been used in a crash

Prospective buyers should be able to answer "yes" to all seven items. If not, the restraint is not a safe buy.



Recommendations for Replacement of Crash-Involved Safety Belts & Child Restraints

Airbags, safety belts, and child restraints (CRs) are generally considered "one time use" products. After a crash they may need to be replaced. Without a doubt, airbags and pretensioners used with some belt systems must be replaced if they are activated during a crash.

Vehicle manufacturers also recommend that safety belts in use in a crash be replaced except in minor crashes. Some vehicle manufacturers suggest that the safety belts should be inspected by a service technician after any type or severity of collision. Contact your vehicle manufacturer's Customer Service for their guidelines and recommendations.

Most child restraint manufacturers recommend replacement of their child restraints after any crash. Contact your child restraint manufacturer's Customer Service for their guidelines and recommendations.

The National Highway Traffic Safety Administration (NHTSA) recommends that a child restraint always be replaced if it is involved in a moderate to severe crash. In general, automobile collision insurance should cover replacement of airbags, safety belts, and child restraints.

To determine if a crash is severe enough to warrant CR replacement, NHTSA advises parents/caregivers to use the following criteria:

1) Does a visual inspection of the child restraint (CR), including inspection under any easily movable seat padding, reveal any cracks or deformities that might have been caused by the crash?
   ❒ Yes: Replace CR[1] ❒ No: Continue to next question
2) Did the vehicle in which the CR was installed have to be towed from the scene of the crash?
   ❒ Yes: Replace CR[1] ❒ No: Continue to next question
3) Was the vehicle door nearest the CR damaged?
   ❒ Yes: Replace CR[1] ❒ No: Continue to next question
4) Were there injuries to any of the vehicle occupants?
   ❒ Yes: Replace CR[1] ❒ No: Continue to next question
5) Did the air bags in the vehicle (if any) deploy?
   ❒ Yes: Replace CR[1] ❒ No: Replacement of CR not warranted[2]

[1]If the answer is "Yes" to ANY of the above questions, the crash is considered to be serious enough to warrant replacement of the child restraint.

[2]If the answer is "No" to ALL of the above questions, the crash is NOT considered to be serious enough to warrant replacement of the child restraint.

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www.hsrc.unc.edu

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www.ncsafekids.org

INSTALLATION OF CHILD SAFETY SEATS WITH DIFFERENT TYPES OF SEAT BELTS

For Training Purposes Only...Not Intended for Distribution to General Public

Vehicles manufactured on or after September 1, 1995 (1996 model year) must be equipped with belt systems that secure safety seats without the need for locking clips or other additional hardware. Check owner's manual, as well as checking lap/shoulder belts for switchable ALR/ELR retractors, lightweight locking latch plates, or switchable latch plates on late model vehicles. Newer systems introduced in response to this requirement are indicated by a "**"

TYPE OF BELT	CHARACTERISTICS / HOW TO LOCK	COMMENTS ON USE WITH CHILD SAFETY SEATS (CSS)
LAP BELT ONLY		
Manually Adjusting	Insert latch plate in buckle and pull on free end to tighten. Belt stays locked as long as belt webbing and latch plate are parallel. Tilt latch plate to release webbing to loosen.	Generally easy to use. Latch plate must be at correct angle to stay locked. If belt will not stay tight when buckled and reasonable force applied, 1) flip latch plate upside down before buckling, or 2) Shorten buckle end of belt by twisting belt webbing as much as needed to correct the latch plate angle.
Automatic Locking Retractor (ALR)	Pull belt from retractor, will automatically lock after retracting about a quarter inch. Remains locked and cannot lengthen belt until belt rewinds completely.	Relatively easy to use. Push safety seat into vehicle seat while pushing belt back into retractor. Belt will automatically stay locked.
Emergency Locking Retractor (ELR) Belt moves freely in and out of the retractor during normal driving. Locks only when the vehicle or occupant moves very suddenly. PULL SLOWLY AND GENTLY TO TEST. Types of ELR's include:		
Vehicle Sensitive ELR	Belt locks only if there is sudden movement of the vehicle. Belt will not lock when webbing is pulled on sharply. All ELRs are vehicle sensitive	DO NOT USE AS IS. ELR retractors will release locking mechanism when allowed to rewind about 1/4 to 1/2 inch Solutions: 1) Use another position, 2) Use belt-shortening locking clip from Ford or Toyota or other vehicle manufacturer to shorten belt enough to stay tight around seat when fully extended. May need more than one clip. Difficult and inconvenient to use, 3) Replace with manually adjusting belt for long term use. NOTE: Belt sensitive ELR may be confused with ALR unless belt is pulled very gently out of the retractor.
Belt Sensitive ELR	Some ELR belts also lock when there is sudden movement of the belt itself. Tug sharply on the belt webbing to test.	
Switchable ELR/ALR Combination Retractor	Works as ELR for use by adults. Converts to ALR for use with CSS. Converts back to ELR for use by adults and larger children.	Easy to use. Be sure belt locks in ALR mode. Most switch when belt is fully extended to engage the ALR. Other types convert by flipping a switch on the retractor (check owner's manual). Route belt through CSS and buckle, switch retractor to ALR and use like ALR above.
LAP/SHOULDER BELT COMBINATIONS		
Separate Lap and Shoulder Belts	Most often found on older cars. Lap and shoulder belts are two different belts with separate buckles or latch plates interlock before buckling.	May or may not be able to use. Ignore shoulder belt and determine what type of lap belt is present. Can be used with safety seat if lap belt is not ELR.
Sewn-on (Fixed) Latch Plate	Lap and shoulder portions each have their own retractors with each belt sewn onto latch plate.	May or may not be able to use. Ignore shoulder portion. May be used if lap belt is ALR or switchable ELR/ALR. If lap belt appears to be ELR, check to see if it will convert to ALR.**
Continuous Loop Lap/ Shoulder Belts One piece of webbing passes through a latch plate to form both the lap and shoulder portions of the belt. Generally, the lap belt portion is fixed to the vehicle [is not on a retractor]. The length of the belt is controlled by the shoulder belt retractor. Types of latch plates found on continuous loop belts include:		
Locking Latch Plate	Belt webbing is threaded through and around a locking bar in the latch plate that holds lap portion tight when lap belt is parallel to latch plate.	Generally good to use with seat. Thread lap belt through belt routing location (shoulder portion will follow lap belt), then pull on shoulder belt to tighten. Check to see that lap belt does not loosen due to improper angle of latch plate. If belt will not stay tight when pulled on: 1) flip latch plate upside down before buckling, 2) shorten buckle end of belt by twisting belt webbing as much as needed to correct the latch plate angle, or 3) use locking clip.

For Training Purposes Only...Not Intended for Distribution to General Public

TYPE OF BELT	CHARACTERISTICS / HOW TO LOCK	COMMENTS ON USE WITH CHILD SAFETY SEATS (CSS)
Lightweight Locking Latch Plate **	Latch plate slides freely along webbing unless belt is buckled and webbing pulls tightly enough to engage latch plate locking mechanism. Latch plate may only "cinch" rather than lock and release when enough pressure is applied.	May or may not work well "as is" with safety seats. Route belt through correct path, buckle and tighten. Test installation by pulling on the seat at the belt path with a reasonable amount of force. If belt loosens: 1)Flip latch plate upside down before buckling, 2) shorten buckle end of belt by twisting belt webbing, or 3) use locking clip.
Free-Sliding Latch Plate with ELR Retractor	Belt webbing threaded through slot in latch plate. Webbing can be pulled back and forth through latch plate after being buckled. Allows lap portion to loosen after seat is buckled in.	LOCKING CLIP MUST BE USED TO KEEP LAP BELT TIGHT. Regular locking or belt-shortening clip can be used. Route belt through correct path, buckle and tighten. Grasp and hold both portions of webbing directly behind latch plate & unbuckle. Thread locking clip on belt as close to latch plate as possible (within 1 inch) & re-buckle. Should be difficult to re-buckle if belt is made tight enough.
Free-Sliding Latch Plate with Switchable ELR to ALR Retractor **	Works as ELR for use by adults. Converts to ALR for installing CSS.	Relatively easy to use. Be sure belt locks in ALR mode. Most switch when belt is fully extended to engage the ALR. Other types convert by flipping a switch on the retractor (check owner's manual). Belt will automatically stay locked. Route belt through CSS and buckle, switch retractor to ALR, push safety seat into vehicle seat while pushing belt back into retractor. NOTE: May need to reinstall with less force applies or use locking clip if tension on shoulder belt pulls too hard and tilts the CSS to the degree that it is pulled off of the cushion on one side.
Switchable Latch Plate**	Switch on latch plate converts it from a free-sliding to a locking latch plate.	Follow vehicle owner's manual for switching latch plate from free-sliding to locking. Follow "Comments On Use" for "Lap Belt Only Locking Latch plate" above.
AUTOMATIC RESTRAINTS		
Automatic Shoulder Belt with Knee Bolster	Shoulder belt is fixed to the door. Belt closes over occupant when door is closed. No lap belt is provided. Knee bolster (padded lower dashboard) stops forward movement.	CAN NOT BE USED TO INSTALL CSS. No lap belt is provided. Must be installed in rear seat.
Automatic Shoulder Belt with Manual Lap Belt	Shoulder belt is fixed to the door or on a motorized track above door frame. Belt closes over occupant when door is closed or ignition is turned on. Lap belt must also be used, but must be fastened manually.	MAY NOT BE ABLE TO USE AS IS. Shoulder belt must be disconnected. Majority of lap belts are on an emergency locking retractor. Check owner's manual for model specific information. If lap belt is ELR: 1) Install safety seat in rear seat, 2) Check to see if auxiliary locking lap belt is available from dealer, or 3) Use belt-shortening clip.
Automatic Lap and Shoulder Belt	Lap and shoulder belts are both on retractors inside door. Occupant slides under belts when getting in and both belts close over occupant when door is closed. Primarily on General Motors vehicles.	DO NOT USE AS IS. Lap belt cannot be threaded through safety seat with door open plus the lap belts are on emergency locking retractors. Options are to: 1) Install safety seat in rear seat, or 2) Have auxiliary lap belt designed for use with CSS installed by dealer (free part and service for GM vehicles through local dealers).
Air Bags (Supplemental Restraint Systems)	Inflates instantly in frontal crashes over 12-15 mph. Positions covered by air bags have manual lap/shoulder belts. Owners can petition NHTSA to receive permission for a dealer to install an on/off switch. Petitions generally granted only when use of front seat absolutely necessary	DO NOT INSTALL REAR-FACING SEATS IN AN AIR BAG EQUIPPED POSITION. MUST USE REAR SEAT FOR CHILD UNDER 20 LBS. AND LESS THAN A YEAR OLD. INSTALL FRONT-FACING SEATS IN AN AIR BAG POSITION ONLY IF ABSOLUTELY NECESSARY. For front-facing seats, check owner's manual for recommendations for specific vehicles. May be allowed by vehicle manufacturer for front-facing safety seat, but use with extreme caution and move the vehicle seat back as far as possible. Air bag equipped vehicles have manual belts. If installation of safety seat is allowed, refer to "Lap/Shoulder Belt Combinations" section above for comments on use.

How tight is tight enough? Child safety seats should be installed so that there is no more than one inch of movement front to back and side to side when tested at the belt path. A secure installation can be achieved without causing damage to the vehicle or CSS and without using brute force.

Child Occupant Protection Glossary

3-point CR harness:	A restraint system with three attachment points: two at the shoulder and one between the legs.
3-point safety belt:	A safety belt with both a lap and a shoulder portion that has three attachment points (one at the shoulder and two at the hips).
5-point CR harness:	A child restraint harness with five attachment points: two at the shoulder, two at the hips, one between the legs.
Air bag:	A passive restraint system that automatically deploys during a crash to act as a cushion for the occupant. It creates a broad surface on which to spread the forces of the crash, in order to reduce head and chest injury. It is considered a "supplementary" system to the lap/shoulder belt because it enhances their protective action in frontal collisions. Also known as SRS-supplemental restraint system; SIR-supplemental inflatable restraint; SIPS-side impact protection system; IC-inflatable curtain.
Armrest:	A U-shaped bar encircling the child on older models of child restraints. Not a shield. Not connected to the harness system. Not part of the system intended to restrain the child. No longer allowed on child restraints meeting FMVSS 213.
Automatic locking retractor (ALR):	A safety belt retractor that locks maintaining fixed length during use.
Automatic restraint:	A type of passive restraint system that requires no action by the user. Includes shoulder/lap or shoulder belts that wrap "automatically" around the occupant; air bags.
Belt anchor points:	Fixed location where the safety belt is anchored to the vehicle structure.
Belt path or route:	The place where the safety belt passes around or through the child restraint.
Belt positioning booster seat (BPB):	A crash tested platform that raises the child so that the required lap and shoulder belts fit correctly. All BPBs act as pre-crash positioning devices and must be used with lap/shoulder (L/S) belts. BPB models may have high backs, or be backless.
Belt-shortening clip:	A heavy duty locking clip intended for use to shorten lap belts around a child restraint. Not to be confused with the standard locking clip that comes with a car seat. Must be purchased or ordered from vehicle manufacturer.
Best practice:	Recommendations that provide the safest way to travel for a child of certain age, size, and physical tolerances. Best practice recommendations may conflict with real world situations.
CPS:	Child passenger safety.
Child Restraint (CR), Child Restraint System (CRS), or Child Restraint Device (CRD):	A device or system that is specially designed to provide infant/child crash protection. A general term for all sorts of devices including those that are vests or car beds rather than seats.
Child Safety Seat (CSS):	Another commonly used term for a child restraint.
Children with special transportation needs:	Children whose physical or behavioral conditions make the use of specially designed, restraint systems necessary.

Child Occupant Protection Glossary

Compliance tests:	Rigorous crash tests done to assure that manufacturers meet required federal standards (in this case, FMVSS 213). Established by NHTSA.
Continuous loop lap/shoulder belt:	A three-point belt that uses one continuous strip of webbing that slides through the latch plate. It is connected at one end to the vehicle at the anchor point and the other to a retractor system.
Convertible child restraint:	A child restraint that "converts" from rear-facing for infants to forward-facing for children up to at least 40 pounds. (New seats have higher weight limits.)
Combination child seat / booster:	A type of forward facing child restraint that is used with an internal harness system to secure a child to 40 pounds or more and then, with removal of the internal harness, is used as a high back belt positioning booster seat.
Crush zone:	The energy absorbing capability of the vehicle to reduce injury to the occupants.
Emergency locking retractor (ELR):	A retractor on a safety belt system that locks in response to rapid deceleration of the vehicle. ELRs respond to pressure applied to the belt or the sudden change in motion of the vehicle or both.
Excursion:	The distance traveled by an occupant or test dummy in the direction of impact during a crash.
FAA approval:	Certification that the child restraint meets the compliance test (within FMVSS 213) that is required for use on aircraft.
FMVSS 213:	Federal Motor Vehicle Safety Standard that pertains to all restraint systems intended for use as crash protection in vehicles for children up to 65 pounds.
FMVSS 225:	Federal Motor Vehicle Safety Standard that pertains to the standardized vehicle anchorage systems (upper and lower) that are independent of the vehicle seat belts.
Foam Noodles:	The solid core noodles commonly sold to be used by children in pools. These can be used to position the rear-facing child restraint to the correct angle.
Forward facing child restraint:	A restraint system that is intended for use only in the forward facing position for a child at least age 1 and at least 20 lbs.
Frontal collision / impact / crash:	An impact at the front end of the vehicle. The most common and usually the most severe type of collision.
Gross misuse:	The most flagrant CR errors. Those that completely negate the intended effect of the child restraint. These types of misuse are often visible from outside the vehicle.
Harness retainer clip:	A plastic (sometimes cloth) tie or clasp that holds the shoulder straps close together over the child's chest at armpit level. Pre-crash positioning device intended to keep harness straps in position on the shoulders.
Head excursion:	The distance forward that the occupant's head travels during an impact. An element regulated by FMVSS 213.
Incompatibility:	The ways in which motor vehicle seats, seat belts, and other elements impede the correct use of child restraints and vice versa.

Child Occupant Protection Glossary

Infant only restraint:	A child restraint system designed for use only by a baby (usually weighing less than 17 - 22 pounds) in a rear facing or flat position.
Integral (integrated) child seat:	A child sized forward facing restraint or booster built into a vehicle seat. Some have a full harness and hold children over 20 pounds. Others are belt positioning boosters for use with L/S belts.
Lap belt:	A safety belt anchored at two points for use across a vehicle occupant's thighs/hips.
Lap/shoulder (L/S) belt:	A safety belt that is anchored at three points and restrains the vehicle occupant at the hips and across the shoulder. Also referred to as a combination L/S belt.
LATCH):	Lower Anchors and Tethers for CHildren (new acronym for standardized vehicle anchorage system).
Latch plate:	The part of the buckle mechanism that slides into the buckle. Usually the part that effects the length of the belt webbing.
Lateral collision/impact:	An impact into the side of a vehicle. Current occupant protection systems offer little protection in lateral impacts. Side air bag systems afford increased head and upper body protection in lateral crashes.
Locking clip:	A flat H-shaped metal item intended to clip belt webbing together at a free sliding latch plate in order to prevent the webbing from sliding through. A pre-crash positioning device only. Not to be used as a belt shortening clip.
Locking latch plate:	A latch plate that holds the lap belt snug after it has been adjusted.
Manual safety belt:	A seat belt that must be fastened and adjusted by the occupant.
Morbidity:	Non-fatal injuries or illnesses.
Mortality:	Fatal injuries or illnesses.
National Highway Traffic Safety Administration (NHTSA):	The federal agency that regulates motor vehicles and products such as child restraints. It also promotes safety.
Noodle:	See "Foam noodle"
Passive occupant protection:	Features of the vehicle that lessen the injury to the occupant without any action taken by the occupant.
Primary prevention:	Stopping an incident before it happens or preventing a resultant injury from an incident that has already occurred.
Rebound:	Reactive motion in the opposite direction after initial impact has occurred.
Recalls:	Actions to correct problems or deficiencies once products have been distributed or sold. Manufacturers must offer free repairs or replacement for products recalled for violations of safety standards.
Retractor:	A mechanism that rolls up the unused webbing of the safety belt when it is not in use and takes up slack around the user.

Child Occupant Protection Glossary

Retrofitted shoulder belt:	A shoulder belt that is added to an existing vehicle belt system. Most often in the rear seat outboard positions. Most manufacturers make kits for older model vehicles.
Safety belt:	The webbing, anchor, and buckle system that restrains the occupant in the vehicle. A seat belt.
Seat bight:	The intersection between the bottom vehicle seat cushion and the back cushion. The seat crack.
Secondary prevention:	Minimizing injury to the body after an incident has occurred.
Sewn-on latch plate:	A latch plate on a lap belt or a lap/shoulder belt that has the webbing permanently stitched in place.
Shield booster seat:	A platform that raises the child and positions a small convex shield across the lap and lower abdomen to restrain the child. A vehicle lap belt restrains the booster seat. Some models have removable shields and convert to BPBs.
Shell:	The molded plastic structure of the child restraint. In some models, the shell is attached to or reinforced by a metal frame.
Shoulder belt adjusters:	Devices (some built in and some add-ons) that can be used to reposition shoulder belts so they fit across the shoulder rather than across the neck.
Shoulder harness slots:	Slots in the back of the child restraint through which shoulder straps are routed.
Sliding latch plate:	A latch plate that moves freely on a continuous loop of belt webbing.
Submarine:	The motion of a body during a crash under certain conditions. The body slides, legs first, often causing the lap belt to ride up onto the abdomen.
Switchable (ALR/ELR) retractor:	A retractor that usually functions as an ELR or can be transformed into an ALR to secure a child restraint.
T-shield:	Part of the restraint system in a CR. A roughly triangular or "T" shaped pad that is attached to the shoulder harness, fits over the child's abdomen and hips, and buckles between the legs.
Tether anchor hardware:	The kit or set of hardware used to secure the tether anchor bracket at the designated anchor point in the vehicle. The tether strap and hook attach directly to the anchor bracket.
Tether strap:	A piece of belt webbing that anchors the top of the CR to the vehicle frame. It keeps the restraint from tipping forward on impact and can provide an extra margin of protection. Can be optional or factory installed.
Tray shield:	Part of the restraint system in a CR. A wide, curved padded surface that swings down around the child's body and is attached to shoulder harness and crotch buckle. It looks like a padded armrest, but is an integral part of the harness system. Often (erroneously) perceived by parents as "safer" than a 5-point harness alone.
Turn-around time:	The point at which the young child's body has developed enough so he or she can be turned from rear facing to forward facing in the vehicle. Also, the weight designated by the manufacturer at which the convertible restraint should be turned to face forward.

Child Occupant Protection Glossary

Vest:	A child restraint system that has shoulder straps, hip straps, (and sometimes) a crotch strap. Must meet the same crash standards as a CRS.
Whiplash injury:	An injury to the neck usually caused by sudden whipping of the head backward during a rear impact collision.

English to Spanish Glossary	
English Word(s)	**Spanish Translation**
#2 Lead Pencil	Lápiz de grafito #2
“Smart” air bags	Bolsas de aire “inteligentes”
5-point harness	Arnés de 5 puntos
Abdomen	Abdomen
Additional padding	Forros acolchonados adicionales
Adult vehicle occupant	Pasajero adulto
Affordability	Habilidad para pagarlo
After market products	Productos hechos después de la fabricación original
After market products	Productos hechos posteriormente
Air bag deployment	Despliegue de la bolsa de aire
Air bags	Bolsas de aire
Amount of slack in the seat belt	Cantidad de soltura de la correa del asiento
Anchor plate	Plancha del ancla
Anchor strap	Correa de anclar
Anchorage systems	Sistemas de anclaje, sistemas para anclar
Anchors	Anclas
Armpit level	Nivel de la axila
As tightly as possible	Tan apretadamente como sea posible
Asymmetrical	Asimétrico
Automatic locking retractor (ALR)	Retractor de agarre automático
Automatic restraint system	Sistema de restricción automático
Automatically lock	Agarrarse automáticamente
Automobile crashes	Choques automovilísticos
Automobile manufacturers	Manufactureros (o fabricantes) de automóviles
Being thrown out of the car	Ser arrojado del carro
Belt	Correa
Belt path	Trayectoria del cinturón
Belt shortening clip	Broche para acortar la correa
Belt-positioning booster seat	Asiento elevado ajustado con correas
Bench seat	Asiento de automóvil de banqueta (asiento largo)
Brush against (To)	Rozar
Bucket seat	Asiento de automóvil deportivo
Buckle	Hebilla
Buckle (To)	Abrocharse
Buckle the belt	Abrocharse la correa
Bumper	Parachoques
Bus driver	Chofer del bus
Buttocks	Trasero
Car	Carro

English to Spanish Glossary	
English Word(s)	**Spanish Translation**
Center front seat position	Posición del centro del asiento de enfrente
Certify, certified	Certificar, certificado
Check (To)	Comprobar, inspeccionar
Check with (To)	Comunicarse con
Checkup	Inspección
Chest	Pecho
Child	Niño
Child passenger safety class	Clase de seguridad para niños pasajeros
Child Passenger Safety Technician	Técnico de Seguridad para Pasajeros Niños
Child restraint checkup event	Evento de inspección de restricciones de niños
Child restraint crash tests	Pruebas de choque de restringidores de niños
Child restraint harness straps	Correas de arnés de las restricciones de niños
Child restraint industry	Industria de restricciones (sujetadores) de niños
Child restraint label	Etiqueta de la restricción de niños
Child restraint owner's manual	Manual de la restricción (¿del retenedor?)de niños
Child restraint systems	Sistemas de restricción de niños (Sistemas para sujetar a los niños)
Child restraints	Restricciones de niños (Sujetadores de niños)
Child safety	Seguridad de los niños
Child vehicle safety	Seguridad de los niños en los vehículos
Clip	Broche
Collapsible steering columns	Columnas de dirección plegables
Collar bone	Hueso del cuello
Colleague	Colega
Collision	Colisión, choque
Compartment	Compartimiento
Compliance	Estar de acuerdo con, estar conforme a, estar en cumplimiento de
Compliance testing	Pruebas sobre el cumplimiento de las reglas
Confiscate	Confiscar
Conventional	Convencionales
Cracked	Quebrado, con quebraduras
Cracks	Quebraduras
Crash forces	Fuerzas del choque
Crash protection	Protección contra choques
Crash, crashes	Choque, choques
Damage	Daño
Day care center	Centro de cuidado infantil
Deceleration	Desaceleración
Decrease (To)	Disminuir

English to Spanish Glossary	
English Word(s)	**Spanish Translation**
Defect	Defecto
Defect form	Formulario de defectos
Defects	Defectos
Degrees	Grados
Deploy (To)	Desplegarse
Disabled children	Niños impedidos
Do so safely (To)	Hacerlo de manera segura
Dummy	Maniquí
Ejection	Sser arrojado/a, ser tirado/a)
Emergency locking retractors	Retractores de agarre en emergencias
Encourage (To)	Alentar, animar, estimular
FAA (Federal Aviation Administration)	FAA (Siglas en inglés para la Administración Federal de Aviación)
Facing	Con cara a, mirando hacia, orientado hacia
Faded padding	Forro descolorido
Fail to	No lograr
Fall forward	Caerse hacia el frente
Fall forward	Caerse hacia delante
Fasten (To)	Abrochar
Fastened securely	Abrochado/a firmemente
Federal Motor Vehicle Safety Standard (FMVSS)	Norma (o Regla) Federal sobre la Seguridad de los Vehículos de Motor (FMVSS, por sus siglas en inglés)
Federal regulations	Regulaciones federales, reglamentaciones federales
Federal standards	Normas federales
Firmly positioned	Ajustados(as) firmemente
Flame retardant padding	Relleno que retarde el fuego
Flammability	Inflamabilidad
Force	Fuerza
Force (To)	Obligar
Force of deployment	Fuerza de despliegue
Force, forces	Fuerza, fuerzas
Forward	El frente, delantero
Forward anchor	Ancla del frente, ancla delantero
Forward facing	Con cara al frente, mirando hacia el frente, orientado hacia el frente
Forward facing child restraints	Restricciones de niños orientados hacia el frente
Forward motion	Movimiento hacia el frente
Fray (To)	Desgastarse, deshilacharse
Frayed area	Parte desgastada, parte deshilachada
Free-sliding latch plate	Plancha de abrocharse que se desliza fácilmente

English to Spanish Glossary	
English Word(s)	**Spanish Translation**
Front	Frente
Front (The)	La parte del frente
Front air bags	Bolsas de aire delanteras
Front bench seats	Asiento de banqueta (asiento largo) de enfrente
Front bucket seat of a vehicle	Asiento de tipo deportivo de enfrente
Front outboard passenger seat	Asiento del pasajero hacia fuera de enfrente
Front seat	Asiento del frente, asiento delantero
Frontal	Frontal, De frente
Gaze out (To)	Mirar hacia fuera
Give (To)	Ceder
Grasp (To)	Agarrar
Guarantee (To)	Garantizar
Harness retainer clip	Broche retenedor del arnés
Harness straps	Correas de arnés
Has not been tested	No ha sido probado
Head restraint	Sostén de cabeza
Heavy duty tape	Cinta engomada extra fuerte
Heavy-duty tape	Cinta engomada extra fuerte
High padded seat backs	Espaldares de asiento alto forrados
Highway	Carretera, autopista
Highway safety	Seguridad en las carreteras
Impact	Impacto
Improperly secured	Sujetado(a) inadecuadamente
Inboard	Del interior, de adentro, hacia adentro
Incorrectly installed, badly installed	Instalado incorrectamente, mal instalado
Incorrectly secured	Sujetado(a) incorrectamente
Increase (To)	Aumentar
Individual's weight	Peso del individuo
Infant	Niño, bebé
Infant	Bebé
Infant seat	Asiento de bebé
Injure himself / herself	Hacerse daño a sí mismo / misma
Injured	Lesionado/a, herido/a
Injury, injuries	Lesión, lesiones, daños, heridas
Integrated child restraint	Restricción de niños integrada al asiento
Integrated seat	Asiento integrado
Intentional, unintentional	Intencional, involuntario
Internal	Interno, interna (En el interior)
Internal harness	Arnés interno

English to Spanish Glossary	
English Word(s)	**Spanish Translation**
Lap	Falda, enfaldo, regazo, parte superior de los muslos
Lap and shoulder belt	Correa de regazo y hombros
Lap belt	Correa de regazo
Lap portion of the belt	Porción del regazo de la correa
Lap/shoulder belt	Correa de regazo/hombro
Large enough	Lo suficientemente grande
Latch plate	Plancha de abrocharse
Latch tongue side	Lado de la plancha para abrocharse
Laws	Leyes
Left rear passenger door	Puerta del pasajero del lado izquierdo trasero
Legal liability	Obligación legal
Liver	Hígado
Load limiters	Limitadores de carga
Lobby	Cabildear
Lock position	Posición cerrada (agarrada)
Locking clip	Broche de sujetar la correa
Locking latch plates	Planchas de abrocharse con cierre
Lower body	Parte baja del cuerpo
Lower hips	Parte debajo de las caderas
Manual lap belt	Correa de cintura manual
Manuals	Manuales
Manufactured by	Manufacturado por, fabricado por
Manufacturer	Fabricante
Manufacturer’s labels	Etiquetas del manufacturero (o del fabricante)
Mid-hips	A mitad de caderas
Minimize (To)	Minimizar
Minivan	Microbús
Monitors	Monitores
Motion sickness (To have)	Marearse
Motor vehicle collisions	Choques automovilísticos
Motor vehicle crashes	Choques automovilísticos
Motor vehicle, motor vehicles	Vehículo de motor, vehículos de motor
Newly manufactured	Manufacturado recientemente, fabricado recientemente
Not readable	No es leíble, no se puede leer
Older air bags	Bolsas de aire viejas
Outboard	Del exterior, de afuera, hacia fuera
Overall safety record	Historial de seguridad en general
Padded instrument panels	Paneles de instrumentos acolchonados
Padded seat backs	Espaldares forrados

English to Spanish Glossary	
English Word(s)	**Spanish Translation**
Parents and other caregivers	Padres y demás cuidadores de niños
Passage of laws	Promulgación de leyes
Passage of legislation	Aprobación de legislación
Passenger	Pasajero
Passenger vehicles	Vehículos de pasajeros
Passenger vehicles	Vehículos de pasajeros
Paternal values	Valores de los padres
Pliable plastic shell	Armazón de plástico plegable
Police patrol cars	Carros de patrulla de la policía
Position (To)	Situar, ubicar, colocar, poner
Position the seat	Colocar el asiento, acomodar el asiento
Pre-crash speed	Velocidad antes del choque
Prevent (To)	Evitar, impedir
Printed handouts	Materiales impresos
Prisoner screen	Pantalla para prisioneros
Protect (To)	Proteger
Protruding	Sobresaliendo, que sobresale
Provision	Medida, disposición, cláusula, estipulación, condición
Ratchet mechanism	Mecanismo de engranaje
Rear (The)	La parte de atrás
Rear bench seats	Asiento de banqueta (asiento largo) de atrás
Rear seat position	Posición del asiento de atrás
Rear window	Ventana trasera
Rear-end impacts	Impactos en la parte de atrás
Rear-ending the vehicle	Chocar la parte de atrás del vehículo
Rear-facing infant seat	Asiento de bebé orientado hacia atrás
Re-buckle the belt	Abrocharse de nuevo el cinturón
Recalls	Llamadas para la devolución
Recline adjustment mechanism	Mecanismo para ajustar el declive
Reel	Carrete, bobina
Regular locking clip	Broche corriente de ajustar la correa
Regulation	Regla
Release the seat belt	Desabrochar (soltar) el cinturón del asiento
Replacement	Reemplazo
Restrain (To)	Restringir, limitar (Sujetar)
Restrained, unrestrained	Restringidos, no restringidos (Sujetados, no sujetados)
Restraint	Restricción (Sujetador)
Restraint base	Base de la restricción
Restraint systems	Sistemas de restringir (Sistemas de sujetar o sujetadores)

English to Spanish Glossary	
English Word(s)	**Spanish Translation**
Retainer	Retenedor
Retract (To)	Desenrollar
Review	Repasar
Ribs	Costillas
Rolled towel	Toalla enrollada
Rotational spin	Giro rotatorio
Safety	Seguridad
Safety rationale	Fundamento de seguridad
Safety seat harness	Arnés del asiento de seguridad
Scantron Sheet	Hoja Scantron
School bus seats	Asientos de autobús escolar
School Buses	Autobuses escolares
Seat	Asiento
Seat back	Espaldar del asiento
Seat belt	Cinturón del asiento
Seat belt system	Sistema de cinturones de asientos
Seat bight	Recodo del asiento
Seat's padding	Forro del asiento
Second hand child restraint	Restricción de niños de segunda mano
Second-hand	De segunda mano
Secure (To)	Asegurar (sujetar)
Secure from (To)	Proteger contra
Secure it	Sujetarlo(a)
Securing	Estar asegurando (estar sujetando)
Seriously	Seriamente
Several inches thick	Varias pulgadas de espesor
Shell	Armazón
Shield booster seat	Asiento elevado con protector
Shoulder belt positioners	Acomodadores de cinturón de hombro
Shoulder restraint	Restricción de hombro
Shoulder, shoulders	Hombro, hombros
Side (The)	La parte del lado
Side impact crash	Choque con el impacto en el lado, choque por el lado
Side window	Ventana del lado
Side-facing jump seat	Asiento de acceso orientado hacia el lado
Side-facing seats	Asientos orientados hacia el lado
Silicone caulking	Pasta silicona
Slack	Estar holgado, suelto
Slight indentation	Hundimiento leve

English to Spanish Glossary	
English Word(s)	**Spanish Translation**
Slip (To)	Deslizar, acomodar, escurrir
Snugly	Ajustadamente
Special training	Entrenamiento especial
Spool (To)	Enrollar
Spread (To)	Distribuir
Standard	Norma, regla
Standardization	Normalización
Statement	Declaración, planteamiento, afirmación
Station Wagon	Carro camioneta, automóvil camioneta
Stopping distance	Distancia en detenerse
Store	Tienda
Strike (To)	Golpear
Striking	Golpeando
Stronger	Más fuerte
Sudden stop	Parada repentina, detenerse repentinamente
Supplemental	Suplementario
Switchable latch plates	Planchas de abrocharse cambiables
Switchable retractor	Retractor cambiable
Technician	Técnico
Testing	Hacer pruebas
Testing process	Transcurso de la prueba
Tests	Pruebas, exámenes
Tether	Cuerda
Tether anchor strap	Correa de anclar de cuerda
Tether strap	Correa de cuerda
The retractor locks	El retractor se cierra, se agarra, se tranca
Thighs	Muslos
Thread it through	Enhebrar (pasar) a través
Three-point restraint	Restricción de tres puntos
To record	Apuntar, anotar, grabar
Transfer, transferred	Transferir, transfirió
Transportation to and from school	Transportación yendo y viniendo de la escuela
Trapped	Atrapado/a
Tree limb	Rama de árbol
Tug (To)	Halar
Two-point seat belt	Correa de asiento de dos puntos
Unbuckle	Desabrochar
Unlocked position	Posición abierta (suelta)
Unrestrain (To)	Dejar de restringir, dejar de limitar (Dejar de sujetar)

English to Spanish Glossary	
English Word(s)	**Spanish Translation**
Unrestrained occupants	Pasajeros que no están restringidos (sujetados)
Update (To)	Acción de ponerse al día
Upper thighs	Parte de arriba de los muslos
Upright forward-facing position	Posición erguida orientada hacia el frente
Upward	Hacia arriba
Vehicle comes to a complete stop	El vehículo se detiene completamente
Vehicle compatibility	Compatibilidad del vehículo
Vehicle design	Diseño de vehículos
Vehicle features	Aditamentos de automóvil
Vehicle owner's manual	Manual del vehículo
Vehicle seat bight	Recodo del asiento del vehículo
Vehicular crash	Choque de vehículos
Vouchers	Comprobantes
Waiver of liability of claim	Declaración de renuncia al derecho de reclamo
Warning labels	Etiquetas de advertencia
Warning systems	Sistemas de advertencia
Webbing	Tejido de la correa
Weight of the object struck	Peso del objeto golpeado
Weight of the occupant	Peso del pasajero
Whiplash	Torcedura del cuello
Wiggle out	Zafarse
Windshield	Parabrisas
With restraints	Con restricciones (sujetado/a)

Spanish to English Glossary	
Spanish Word(s)	**English Translation**
A mitad de caderas	Mid-hips
Abdomen	Abdomen
Abrochado/a firmemente	Fastened securely
Abrochar	Fasten (To)
Abrocharse	Buckle (To)
Abrocharse de nuevo el cinturón	Re-buckle the belt
Abrocharse la correa	Buckle the belt
Acción de ponerse al día	Update (To)
Acomodadores de cinturón de hombro	Shoulder belt positioners
Aditamentos de automóvil	Vehicle features
Agarrar	Grasp (To)
Agarrarse automáticamente	Automatically lock
Ajustadamente	Snugly
Ajustados(as) firmemente	Firmly positioned
Alentar, animar, estimular	Encourage (To)
Ancla del frente, ancla delantero	Forward anchor
Anclas	Anchors
Aprobación de legislación	Passage of legislation
Apuntar, anotar, grabar	To record
Armazón	Shell
Armazón de plástico plegable	Pliable plastic shell
Arnés de 5 puntos	5-point harness
Arnés del asiento de seguridad	Safety seat harness
Arnés interno	Internal harness
Asegurar (sujetar)	Secure (To)
Asiento	Seat
Asiento de acceso orientado hacia el lado	Side-facing jump seat
Asiento de automóvil de banqueta (asiento largo)	Bench seat
Asiento de automóvil deportivo	Bucket seat
Asiento de banqueta (asiento largo) de enfrente	Front bench seats
Asiento de banqueta (asiento largo) de atrás	Rear bench seats
Asiento de bebé	Infant seat
Asiento de bebé orientado hacia atrás	Rear-facing infant seat
Asiento de tipo deportivo de enfrente	Front bucket seat of a vehicle
Asiento del frente, asiento delantero	Front seat
Asiento del pasajero hacia fuera de enfrente	Front outboard passenger seat
Asiento elevado ajustado con correas	Belt-positioning booster seat
Asiento elevado con protector	Shield booster seat

Spanish to English Glossary	
Spanish Word(s)	**English Translation**
Asiento integrado	Integrated seat
Asientos de autobús escolar	School bus seats
Asientos orientados hacia el lado	Side-facing seats
Asimétrico	Asymmetrical
Atrapado/a	Trapped
Aumentar	Increase (To)
Autobuses escolares	School Buses
Base de la restricción	Restraint base
Bebé	Infant
Bolsas de aire “inteligentes”	“Smart” air bags
Bolsas de aire	Air bags
Bolsas de aire delanteras	Front air bags
Bolsas de aire viejas	Older air bags
Broche	Clip
Broche corriente de ajustar la correa	Regular locking clip
Broche de sujetar la correa	Locking clip
Broche para acortar la correa	Belt shortening clip
Broche retenedor del arnés	Harness retainer clip
Cabildear	Lobby
Caerse hacia delante	Fall forward
Caerse hacia el frente	Fall forward
Cantidad de soltura de la correa del asiento	Amount of slack in the seat belt
Carrete, bobina	Reel
Carretera, autopista	Highway
Carro	Car
Carro camioneta, automóvil camioneta	Station Wagon
Carros de patrulla de la policía	Police patrol cars
Ceder	Give (To)
Centro de cuidado infantil	Day care center
Certificar, certificado	Certify, certified
Chocar la parte de atrás del vehículo	Rear-ending the vehicle
Chofer del bus	Bus driver
Choque, choques	Crash, crashes
Choque con el impacto en el lado, choque por el lado	Side impact crash
Choque de vehículos	Vehicular crash
Choques automovilísticos	Automobile crashes
Choques automovilísticos	Motor vehicle collisions
Choques automovilísticos	Motor vehicle crashes
Cinta engomada extra fuerte	Heavy duty tape

Spanish to English Glossary	
Spanish Word(s)	**English Translation**
Cinta engomada extra fuerte	Heavy-duty tape
Cinturón del asiento	Seat belt
Clase de seguridad para niños pasajeros	Child passenger safety class
Colega	Colleague
Colisión, choque	Collision
Colocar el asiento, acomodar el asiento	Position the seat
Columnas de dirección plegables	Collapsible steering columns
Compartimiento	Compartment
Compatibilidad del vehículo	Vehicle compatibility
Comprobantes	Vouchers
Comprobar, inspeccionar	Check (To)
Comunicarse con	Check with (To)
Con cara a, mirando hacia, orientado hacia	Facing
Con cara al frente, mirando hacia el frente, orientado hacia el frente	Forward facing
Con restricciones (sujetado/a)	With restraints
Confiscar	Confiscate
Convencionales	Conventional
Correa	Belt
Correa de anclar	Anchor strap
Correa de anclar de cuerda	Tether anchor strap
Correa de asiento de dos puntos	Two-point seat belt
Correa de cintura manual	Manual lap belt
Correa de cuerda	Tether strap
Correa de regazo/hombro	Lap/shoulder belt
Correa de regazo	Lap belt
Correa de regazo y hombros	Lap and shoulder belt
Correas de arnés de las restricciones de niños	Child restraint harness straps
Correas de arnés	Harness straps
Costillas	Ribs
Cuerda	Tether
Daño	Damage
De segunda mano	Second-hand
Declaración de renuncia al derecho de reclamo	Waiver of liability of claim
Declaración, planteamiento, afirmación	Statement
Defecto	Defect
Defectos	Defects
Dejar de restringir, dejar de limitar (Dejar de sujetar)	Unrestrain (To)
Del exterior, de afuera, hacia fuera	Outboard

Spanish to English Glossary	
Spanish Word(s)	**English Translation**
Del interior, de adentro, hacia adentro	Inboard
Desabrochar	Unbuckle
Desabrochar (soltar) el cinturón del asiento	Release the seat belt
Desaceleración	Deceleration
Desenrollar	Retract (To)
Desgastarse, deshilacharse	Fray (To)
Deslizar, acomodar, escurrir	Slip (To)
Desplegarse	Deploy (To)
Despliegue de la bolsa de aire	Air bag deployment
Diseño de vehículos	Vehicle design
Disminuir	Decrease (To)
Distancia en detenerse	Stopping distance
Distribuir	Spread (To)
El frente, delantero	Forward
El retractor se cierra, se agarra, se tranca	The retractor locks
El vehículo se detiene completamente	Vehicle comes to a complete stop
Enhebrar (pasar) a través	Thread it through
Enrollar	Spool (To)
Entrenamiento especial	Special training
Espaldar del asiento	Seat back
Espaldares de asiento alto forrados	High padded seat backs
Espaldares forrados	Padded seat backs
Estar asegurando (estar sujetando)	Securing
Estar de acuerdo con, estar conforme a, estar en cumplimiento de	Compliance
Estar holgado, suelto	Slack
Etiqueta de la restricción de niños	Child restraint label
Etiquetas de advertencia	Warning labels
Etiquetas del manufacturero (o del fabricante)	Manufacturer’s labels
Evento de inspección de restricciones de niños	Child restraint checkup event
Evitar, impedir	Prevent (To)
FAA (Siglas en inglés para la Administración Federal de Aviación)	FAA (Federal Aviation Administration)
Fabricante	Manufacturer
Falda, enfaldo, regazo, parte superior de los muslos	Lap
Formulario de defectos	Defect form
Forro del asiento	Seat’s padding
Forro descolorido	Faded padding
Forros acolchonados adicionales	Additional padding

Spanish to English Glossary	
Spanish Word(s)	**English Translation**
Frente	Front
Frontal, De frente	Frontal
Fuerza	Force
Fuerza de despliegue	Force of deployment
Fuerza, fuerzas	Force, forces
Fuerzas del choque	Crash forces
Fundamento de seguridad	Safety rationale
Garantizar	Guarantee (To)
Giro rotatorio	Rotational spin
Golpeando	Striking
Golpear	Strike (To)
Grados	Degrees
Habilidad para pagarlo	Affordability
Hacer pruebas	Testing
Hacerlo de manera segura	Do so safely (To)
Hacerse daño a sí mismo / misma	Injure himself / herself
Hacia arriba	Upward
Halar	Tug (To)
Hebilla	Buckle
Hígado	Liver
Historial de seguridad en general	Overall safety record
Hoja Scantron	Scantron Sheet
Hombro, hombros	Shoulder, shoulders
Hueso del cuello	Collar bone
Hundimiento leve	Slight indentation
Impacto	Impact
Impactos en la parte de atrás	Rear-end impacts
Industria de restricciones (sujetadores) de niños	Child restraint industry
Inflamabilidad	Flammability
Inspección	Checkup
Instalado incorrectamente, mal instalado	Incorrectly installed, badly installed
Intencional, involuntario	Intentional, unintentional
Interno, interna (En el interior)	Internal
La parte de atrás	Rear (The)
La parte del frente	Front (The)
La parte del lado	Side (The)
Lado de la plancha para abrocharse	Latch tongue side
Lápiz de grafito #2	#2 Lead Pencil
Lesión, lesiones, daños, heridas	Injury, injuries

Spanish to English Glossary	
Spanish Word(s)	**English Translation**
Lesionado/a, herido/a	Injured
Leyes	Laws
Limitadores de carga	Load limiters
Llamadas para la devolución	Recalls
Lo suficientemente grande	Large enough
Maniquí	Dummy
Manual de la restricción (¿del retenedor?)de niños	Child restraint owner's manual
Manual del vehículo	Vehicle owner's manual
Manuales	Manuals
Manufacturado por, fabricado por	Manufactured by
Manufacturado recientemente, fabricado recientemente	Newly manufactured
Manufactureros (o fabricantes) de automóviles	Automobile manufacturers
Marearse	Motion sickness (To have)
Más fuerte	Stronger
Materiales impresos	Printed handouts
Mecanismo de engranaje	Ratchet mechanism
Mecanismo para ajustar el declive	Recline adjustment mechanism
Medida, disposición, cláusula, estipulación, condición	Provision
Microbús	Minivan
Minimizar	Minimize (To)
Mirar hacia fuera	Gaze out (To)
Monitores	Monitors
Movimiento hacia el frente	Forward motion
Muslos	Thighs
Niño	Child
Niño, bebé	Infant
Niños impedidos	Disabled children
Nivel de la axila	Armpit level
No es leíble, no se puede leer	Not readable
No ha sido probado	Has not been tested
No lograr	Fail to
Norma (o Regla) Federal sobre la Seguridad de los Vehículos de Motor (FMVSS, por sus siglas en inglés)	Federal Motor Vehicle Safety Standard (FMVSS)
Norma, regla	Standard
Normalización	Standardization
Normas federales	Federal standards

Spanish to English Glossary	
Spanish Word(s)	**English Translation**
Obligación legal	Legal liability
Obligar	Force (To)
Padres y demás cuidadores de niños	Parents and other caregivers
Paneles de instrumentos acolchonados	Padded instrument panels
Pantalla para prisioneros	Prisoner screen
Parabrisas	Windshield
Parachoques	Bumper
Parada repentina, detenerse repentinamente	Sudden stop
Parte baja del cuerpo	Lower body
Parte de arriba de los muslos	Upper thighs
Parte debajo de las caderas	Lower hips
Parte desgastada, parte deshilachada	Frayed area
Pasajero	Passenger
Pasajero adulto	Adult vehicle occupant
Pasajeros que no están restringidos (sujetados)	Unrestrained occupants
Pasta silicona	Silicone caulking
Pecho	Chest
Peso del individuo	Individual's weight
Peso del objeto golpeado	Weight of the object struck
Peso del pasajero	Weight of the occupant
Plancha de abrocharse que se desliza fácilmente	Free-sliding latch plate
Plancha de abrocharse	Latch plate
Plancha del ancla	Anchor plate
Planchas de abrocharse con cierre	Locking latch plates
Planchas de abrocharse cambiables	Switchable latch plates
Porción del regazo de la correa	Lap portion of the belt
Posición abierta (suelta)	Unlocked position
Posición cerrada (agarrada)	Lock position
Posición del asiento de atrás	Rear seat position
Posición del centro del asiento de enfrente	Center front seat position
Posición erguida orientada hacia el frente	Upright forward-facing position
Productos hechos después de la fabricación original	After market products
Productos hechos posteriormente	After market products
Promulgación de leyes	Passage of laws
Protección contra choques	Crash protection
Proteger	Protect (To)
Proteger contra	Secure from (To)

Spanish to English Glossary	
Spanish Word(s)	**English Translation**
Pruebas de choque de restringidores de niños	Child restraint crash tests
Pruebas, exámenes	Tests
Pruebas sobre el cumplimiento de las reglas	Compliance testing
Puerta del pasajero del lado izquierdo trasero	Left rear passenger door
Quebrado, con quebraduras	Cracked
Quebraduras	Cracks
Rama de árbol	Tree limb
Recodo del asiento	Seat bight
Recodo del asiento del vehículo	Vehicle seat bight
Reemplazo	Replacement
Regla	Regulation
Regulaciones federales, reglamentaciones federales	Federal regulations
Relleno que retarde el fuego	Flame retardant padding
Repasar	Review
Restricción (Sujetador)	Restraint
Restricción de hombro	Shoulder restraint
Restricción de niños integrada al asiento	Integrated child restraint
Restricción de niños de segunda mano	Second hand child restraint
Restricción de tres puntos	Three-point restraint
Restricciones de niños (Sujetadores de niños)	Child restraints
Restricciones de niños orientados hacia el frente	Forward facing child restraints
Restringidos, no restringidos (Sujetados, no sujetados)	Restrained, unrestrained
Restringir, limitar (Sujetar)	Restrain (To)
Retenedor	Retainer
Retractor cambiable	Switchable retractor
Retractor de agarre automático	Automatic locking retractor (ALR)
Retractores de agarre en emergencias	Emergency locking retractors
Rozar	Brush against (To)
Seguridad	Safety
Seguridad de los niños	Child safety
Seguridad de los niños en los vehículos	Child vehicle safety
Seguridad en las carreteras	Highway safety
Ser arrojado del carro	Being thrown out of the car
Seriamente	Seriously
Sistema de cinturones de asientos	Seat belt system
Sistema de restricción automático	Automatic restraint system
Sistemas de advertencia	Warning systems

Spanish to English Glossary	
Spanish Word(s)	**English Translation**
Sistemas de anclaje, sistemas para anclar	Anchorage systems
Sistemas de restricción de niños (Sistemas para sujetar a los niños)	Child restraint systems
Sistemas de restringir (Sistemas de sujetar o sujetadores)	Restraint systems
Situar, ubicar, colocar, poner	Position (To)
Sobresaliendo, que sobresale	Protruding
Sostén de cabeza	Head restraint
Sser arrojado/a, ser tirado/a)	Ejection
Sujetado(a) inadecuadamente	Improperly secured
Sujetado(a) incorrectamente	Incorrectly secured
Sujetarlo(a)	Secure it
Suplementario	Supplemental
Tan apretadamente como sea posible	As tightly as possible
Técnico	Technician
Técnico de Seguridad para Pasajeros Niños	Child Passenger Safety Technician
Tejido de la correa	Webbing
Tienda	Store
Toalla enrollada	Rolled towel
Torcedura del cuello	Whiplash
Transcurso de la prueba	Testing process
Transferir, transfirió	Transfer, transferred
Transportación yendo y viniendo de la escuela	Transportation to and from school
Trasero	Buttocks
Trayectoria del cinturón	Belt path
Valores de los padres	Paternal values
Varias pulgadas de espesor	Several inches thick
Vehículo de motor, vehículos de motor	Motor vehicle, motor vehicles
Vehículos de pasajeros	Passenger vehicles
Vehículos de pasajeros	Passenger vehicles
Velocidad antes del choque	Pre-crash speed
Ventana del lado	Side window
Ventana trasera	Rear window
Zafarse	Wiggle out

APPENDIX B: PARTICIPANT HANDOUTS

CPS Workshop Participant Vehicle Information Form
NC Child Passenger Safety Training Evaluation Form

CPS Workshop Participant Vehicle Information

To assure the most effective child passenger safety technical training, a variety of vehicles and seat belt systems are needed for hands-on demonstrations and practice. Generally, vehicles of workshop participants are used for these exercises. Please provide the following information for the vehicle you are driving today.

If you have an alternate vehicle that you could bring for additional class day(s), please provide this information as well.

As much notice as possible will be given so that selected vehicles can be cleaned out if desired.

Participant's Name: _____

Year: _____ (Vehicle year of manufacture)

Make: _____ (e.g. Ford, Dodge, Chevrolet, Toyota, etc.)

Model: _____ (e.g. Taurus, Caravan, S-10, etc.)

Type: _____ (e.g., 4 door sedan, mini van, pick up, SUV, etc.)

Color: _____

License Plate: _____ (or other useful identifying information)

Please check if you know that you have:

☐ Driver air bag
☐ Passenger air bag
☐ Integrated (built-in) child restraint
☐ Automatic seat belts
☐ Side air bags
☐ Tether anchors
☐ LATCH lower anchors
☐ Other belt system or vehicle characteristic that could make child restraint installation difficult: _____

Alternate Vehicle

Year: _____ (Vehicle year of manufacture)

Make: _____ (e.g. Ford, Dodge, Chevrolet, Toyota, etc.)

Model: _____ (e.g. Taurus, Caravan, S-10, etc.)

Type: _____ (e.g., 4 door sedan, mini van, pick up, SUV, etc.)

Color: _____

License Plate: _____ (or other useful identifying information)

Please check if you know that you have:

☐ Driver air bag
☐ Passenger air bag
☐ Integrated (built-in) child restraint
☐ Automatic seat belts
☐ Side air bags
☐ Tether anchors
☐ LATCH lower anchors
☐ Other belt system or vehicle characteristic that could make child restraint installation difficult: _____

NC Child Passenger Safety Training Evaluation

The objective of this training is to present useful and effective training in the area of Child Passenger Safety. As a participant, you can best assess how successfully this objective has been met and your thoughtful completion of this form will play an important role in planning for future training. Do not feel bound by your remarks to questions on this form. Comments on any aspect of this workshop will be appreciated.

Course:	Dates Attended
Location:	From: To:
Lead Instructor:	
Your Prior CPS Knowledge/Experience: ❑ None ❑ A little ❑ More than most ❑ A lot ❑ Expert	
OPTIONAL	Your Name & Agency/Organization:

Responses (Please circle the response closest to your opinion)		Strongly Disagree	Disagree	Agree	Strongly Agree	Not Applicable
1. Printed materials were:	a. well organized	SD	D	A	SA	na
	b. complete and suitable	SD	D	A	SA	na
	c. readable (printed well)	SD	D	A	SA	na
Comments:						

2. Audio visual materials were:	a. related to the course	SD	D	A	SA	na
	b. good quality	SD	D	A	SA	na
	c. sufficient in number and length	SD	D	A	SA	na
Comments:						

3. Course:	a. Length of course was	Too Short		Just Right		Too Long
	b. Contributed to my knowledge/skills	SD	D	A	SA	na
	c. Met my expectations	SD	D	A	SA	na
Comments:						

4. "Hands-on" time for	a. manipulating different seats was ample	Too Short	Just Right	Too Long	na
	b. securing kids in seats was ample	Too Short	Just Right	Too Long	na
	c. securing seats in cars was ample	Too Short	Just Right	Too Long	na
Comments:					

5. Instruction in general:	a. Subject was thoroughly covered	SD	D	A	SA	na
	b. Course objectives were made clear	SD	D	A	SA	na
	c. Participation was encouraged	SD	D	A	SA	na
	d. Class time was spent effectively	SD	D	A	SA	na
Comments:						

INSTRUCTOR EVALUATIONS

Responses (Please circle the response closest to your opinion)		Strongly Disagree	Disagree	Agree	Strongly Agree	Not Applicable
Instructor 1 Name:	a. Was prepared for class	SD	D	A	SA	na
	b. Demonstrated a high degree of knowledge . .	SD	D	A	SA	na
	c. Responded to specific needs of students	SD	D	A	SA	na
	d. Demonstrated good instructor skills	SD	D	A	SA	na
	e. Made course a worthwhile experience	SD	D	A	SA	na
Comments:						

Instructor 2 Name:	a. Was prepared for class	SD	D	A	SA	na
	b. Demonstrated a high degree of knowledge . .	SD	D	A	SA	na
	c. Responded to specific needs of students	SD	D	A	SA	na
	d. Demonstrated good instructor skills	SD	D	A	SA	na
	e. Made course a worthwhile experience	SD	D	A	SA	na
Comments:						

Instructor 3 Name:	a. Was prepared for class	SD	D	A	SA	na
	b. Demonstrated a high degree of knowledge . .	SD	D	A	SA	na
	c. Responded to specific needs of students	SD	D	A	SA	na
	d. Demonstrated good instructor skills	SD	D	A	SA	na
	e. Made course a worthwhile experience	SD	D	A	SA	na
Comments:						

Instructor 4 Name:	a. Was prepared for class	SD	D	A	SA	na
	b. Demonstrated a high degree of knowledge . .	SD	D	A	SA	na
	c. Responded to specific needs of students	SD	D	A	SA	na
	d. Demonstrated good instructor skills	SD	D	A	SA	na
	e. Made course a worthwhile experience	SD	D	A	SA	na
Comments:						

GENERAL COMMENTS ABOUT THIS COURSE AND/OR THIS CLASS :

(continue on additional sheet if necessary)

APPENDIX C: CLASS FORMS AND EXERCISES

Sample Agenda: Student Version
Sample Agenda: Instructor Planning Version
Class Roster
NC CPS Class Report Form
NC CPS Basic Awareness Instructor Candidate Application and Evaluation Forms
Lead Instructor Evaluation of Instructor Team for NC CPS Training Classes
Training Exercise 1: Selecting the Appropriate CR and Harnessing the Child in the CR
Training Exercise 2: Vehicle Occupant Protection Systems Identification
Training Exercise 3: Installation Skills

Recommended Agenda for the
North Carolina Basic Child Passenger Safety Training Program

Day 1

Start - End	*Topic*
8:30 - 9:00	UNIT 1 - Introduction and Course Objectives
9:00 - 9:30	UNIT 2 - The Need for Child Restraints and NC Occupant Restraint Laws
9:30 - 9:45	Break
9:45 - 10:15	UNIT 3 - How Restraints Protect Occupants in Crashes
10:15 - 11:00	UNIT 4 - Choosing the "Best" Child Restraint
11:00 - 11:15	Break
11:15 - 12:00	UNIT 5 - Harnessing Children Correctly In Child Restraints
12:00 - 1:00	Lunch
1:00 - 2:00	Training Exercise 1: Select & Adjust CR and Harness Child
2:00 - 2:30	UNIT 6 - Installation of Child Restraints in Vehicles
2:30 - 3:00	Training Exercise 2: ID Occupant Restraint Systems (Includes Break)
3:00 - 3:45	UNIT 6 - Installation of Child Restraints in Vehicles
3:45 - 4:45	Training Exercise 3: Installation Skills (Includes Break)
4:45 - 5:00	Wrap up Day 1

Day 2

Start - End	*Topic*
8:30 - 9:00	Review of Day 1
9:00 - 10:30	Training Exercise 3: Installation Skills (Includes Break)
10:30 - 11:15	UNIT 7 - Child Restraint Misuses
11:15 - 11:30	Break
11:30 - 12:00	UNIT 8 - CPS Programs and Resources
12:00 - 1:00	Lunch
1:00 - 2:00	Knowledge Assessment & Review
2:00 - 2:30	Course Evaluation
2:30 - 4:30	Simulated Clinic or Scenarios
4:30 - 5:00	Wrap Up

Recommended Agenda for the
North Carolina Basic Child Passenger Safety Training Program
Instructor Planning Version

Day 1

Duration	*Start - End*	*Topic*	*Instructor*
0:30	8:30 - 9:00	UNIT 1 - Introduction and Course Objectives	
0:30	9:00 - 9:30	UNIT 2 - The Need for Child Restraints and NC Occupant Restraint Laws	
0:15	9:30 - 9:45	Break	
0:30	9:45 - 10:15	UNIT 3 - How Restraints Protect Occupants in Crashes	
0:45	10:15 - 11:00	UNIT 4 - Choosing the "Best" Child Restraint	
0:15	11:00 - 11:15	Break	
0:45	11:15 - 12:00	UNIT 5 - Harnessing Children Correctly In Child Restraints	
1:00	12:00 - 1:00	Lunch	
1:00	1:00 - 2:00	Training Exercise 1: Select & Adjust CR and Harness Child	
0:30	2:00 - 2:30	UNIT 6 - Installation of Child Restraints in Vehicles	
0:30	2:30 - 3:00	Training Exercise 2: ID Occupant Restraint Systems (Includes Break)	
0:45	3:00 - 3:45	UNIT 6 - Installation of Child Restraints in Vehicles	
1:00	3:45 - 4:45	Training Exercise 3: Installation Skills (Includes Break)	
0:15	4:45 - 5:00	Wrap up Day 1	

Day 2

Duration	*Start - End*	*Topic*	*Instructor*
0:30	8:30 - 9:00	Review of Day 1	
1:30	9:00 - 10:30	Training Exercise 3: Installation Skills (Includes Break)	
0:45	10:30 - 11:15	UNIT 7 - Child Restraint Misuses	
0:15	11:15 - 11:30	Break	
0:30	11:30 - 12:00	UNIT 8 - CPS Programs and Resources	
1:00	12:00 - 1:00	Lunch	
1:00	1:00 - 2:00	Knowledge Assessment & Review	
0:30	2:00 - 2:30	Course Evaluation	
2:00	2:30 - 4:30	Simulated Clinic or Scenarios	
0:30	4:30 - 5:00	Wrap Up	

NC SAFE KIDS Buckle Up

CLASS ROSTER

buckleupnc.org
North Carolina Child Passenger Safety Resource Center

North Carolina Child Passenger Safety Basic Awareness Training Program

Participant # _____

Name Prefix: [ ] Dr. [ ] Mr. [ ] Mrs. [ ] Ms. [ ] Miss [ ] Other: _____

Name: _____
First Middle Last Suffix

Position / Job Title: _____

Business/Organization: _____

Mail Address: _____

_____

City: _____ State: _____ Zip: _____

County(ies): _____ Phone: (_____) _____ x _____

E-mail: _____

To be completed by Lead Instructor at conclusion of class: Participant completed class? [ ] Yes [ ] No

---

Participant # _____

Name Prefix: [ ] Dr. [ ] Mr. [ ] Mrs. [ ] Ms. [ ] Miss [ ] Other: _____

Name: _____
First Middle Last Suffix

Position / Job Title: _____

Business/Organization: _____

Mail Address: _____

_____

City: _____ State: _____ Zip: _____

County(ies): _____ Phone: (_____) _____ x _____

E-mail: _____

To be completed by Lead Instructor at conclusion of class: Participant completed class? [ ] Yes [ ] No

---

Participant # _____

Name Prefix: [ ] Dr. [ ] Mr. [ ] Mrs. [ ] Ms. [ ] Miss [ ] Other: _____

Name: _____
First Middle Last Suffix

Position / Job Title: _____

Business/Organization: _____

Mail Address: _____

_____

City: _____ State: _____ Zip: _____

County(ies): _____ Phone: (_____) _____ x _____

E-mail: _____

To be completed by Lead Instructor at conclusion of class: Participant completed class? [ ] Yes [ ] No

Class Date: _____/_____/_____ Location: _____ Page ___ of ___

CLASS REPORT

North Carolina Child Passenger Safety Training Classes

REPORT DATE _____

GENERAL CLASS INFORMATION

Class Type: ❑ Certification Class ❑ NC Basic Awareness Class ❑ Update/refresher

Class Dates: _____

Hosting Agency: _____

Class Location: _____

City: _____ State: ____ County _____

Number of students beginning class: _____ Number of students completing class: _____

INSTRUCTIONAL TEAM *(Use additional sheets as necessary)*

Class Administrator/Primary Contact:

Name: _____ Cert. # _____

Agency: _____

Phone: _____ E-mail _____

Lead Instructor: ❑ *Check here and skip to "Team Member 3" if Lead Instructor is same as Class Administrator/Contact*

Name: _____ Cert. # _____

Phone _____ E-mail _____

Team Member 3: ❑ Instructor ❑ Instructor Candidate ❑ Mentored Technician ❑ MT Candidate ❑ Technician Assistant

Name: _____ Cert. # _____

Phone _____ E-mail _____

Team Member 4: ❑ Instructor ❑ Instructor Candidate ❑ Mentored Technician ❑ MT Candidate ❑ Technician Assistant

Name: _____ Cert. # _____

Phone _____ E-mail _____

Team Member 5: ❑ Instructor ❑ Instructor Candidate ❑ Mentored Technician ❑ MT Candidate ❑ Technician Assistant

Name: _____ Cert. # _____

Phone _____ E-mail _____

Team Member 6: ❑ Instructor ❑ Instructor Candidate ❑ Mentored Technician ❑ MT Candidate ❑ Technician Assistant

Name: _____ Cert. # _____

Phone _____ E-mail _____

Team Member 7: ❑ Instructor ❑ Instructor Candidate ❑ Mentored Technician ❑ MT Candidate ❑ Technician Assistant

Name: _____ Cert. # _____

Phone _____ E-mail _____

COMMENTS

Comments on Classroom and Training Facility: _____

_____

_____

_____

_____

_____

_____ *(Use additional sheets as necessary)*

Comments on Support from Local, State, and National Agencies/Organizations: _____

_____

_____

_____

_____

_____

_____ *(Use additional sheets as necessary)*

General Class Comments: _____

_____

_____

_____

_____

_____

_____ *(Use additional sheets as necessary)*

Person Submitting Report: ❑ Class Administrator ❑ Lead Instructor ❑ Other*

Name (print): _____

Signature: _____

*If other than Class Administrator or Lead Instructor, complete the following:

Role in Class: _____

Agency: _____

Address: _____

_____

Phone: _____ E-mail _____

Mail Report Form and Class Roster to:

NC CPS Resource Center
c/o UNC Highway Safety Research Center
CB#3430 - Chapel Hill, NC 27599
919-962-2202 / 800-672-4527

FOR CPSRC USE ONLY
Date Received:

NORTH CAROLINA CPS BASIC AWARENESS CURRICULUM
INSTRUCTOR CANDIDATE APPLICATION

Revised: April 2005

North Carolina Child Passenger Safety Training Committee

The North Carolina CPS Training Committee has determined that the North Carolina CPS Basic Awareness course may be taught by Instructors certified to teach the National Standardized CPS Training Curriculum and by mentored and approved CPS Technicians.

A Nationally Certified Technician who wishes to become a Basic Awareness Instructor must:

1. Hold National certification for at least 6 months
2. Demonstrate active participation as a CPS Technician through participation as a checker in at least 4 clinics (provide location, dates and senior checker signatures) or by serving as a checker for a permanent checking station (provide location, dates and supervisor signatures).
3. Be mentored as an instructor for the NC Basic Awareness curriculum by at least two different Nationally Certified Instructors for at least three classes total, and
4. Receive satisfactory evaluations from each Nationally Certified Instructor for at least three classes.

The Technician seeking approval as a North Carolina Basic Awareness Instructor must provide the following information and documentation:

Name: _____ _____ _____ _____
Prefix/Rank First: MI Last

Position/Title: _____

Organization: _____

Address: _____

_____

City / ST/ Zip: _____ _____ _____
City ST Zip

Email: _____

Phones: Work (_____) _____ Home: (_____) _____

Fax: (_____) _____

Technician Certification Number: _____

Current Expiration Date: _____

---

1. NC Basic Awareness Instructor Candidates must be certified as a Child Passenger Safety Technician for at least six months prior to making application to the NC CPS Training Committee to become a Technician Instructor. List the date, location, and Lead Instructor for your original CPS Technician Certification class:

   Date: ____/____/____

   Location: _____

   Lead Instructor: _____

2. NC Basic Awareness Instructor Candidates must demonstrate active participation as a CPS Technician through participation as a checker in at least 4 CPS clinics OR by serving as a checker for a permanent checking station. Use Section 2-A to provide location, dates and supervising checker or Certified Instructor signatures to document participation in the clinic. Use Section 2-B to document participation in a permanent checking station. Both A and B may be completed if desired.

A) Clinic Participation:

Clinic #1 Date: ____/____/____ Location: _____

Instructor/Checker Name: _____ Cert #: _____

Clinic #2 Date: ____/____/____ Location: _____

Instructor/Checker Name: _____ Cert #: _____

Clinic #3 Date: ____/____/____ Location: _____

Instructor/Checker Name: _____ Cert #: _____

Clinic #4 Date: ____/____/____ Location: _____

Instructor/Checker Name: _____ Cert #: _____

B) Permanent Checking Station Participation: The Certified CPS Technician named on this application has demonstrated active participation as a CPS Technician by serving as a checker for a CPS permanent checking station as noted below:

Dates: From ____/____/____ to ____/____/____

Location: _____

Supervisor: Name: _____

Signature: _____

---

3. NC Basic Awareness Instructor Candidates must have been mentored as an instructor for the Basic Awareness curriculum by at least two different Nationally Certified Instructors for at least three classes total and must have received satisfactory evaluations (evaluation form attached) from each Nationally Certified Instructor for each class. List the dates, locations, and Lead Instructor(s) for all NC CPS Basic Training Program classes taught:

Class Date(s)	Location(s)	Lead Instructor(s)	#Students
____/____/____	_____	_____	_____
____/____/____	_____	_____	_____
____/____/____	_____	_____	_____
____/____/____	_____	_____	_____
____/____/____	_____	_____	_____
____/____/____	_____	_____	_____

5. NC Basic Awareness Instructor Candidates must provide information on any continuing education and prior activity in the area of Child Passenger Safety. This may include any conferences attended, education of parents/caregivers, estimated number of inspections performed, and any other relevant information for the Committee to consider. Use the space provided below to provide this information and use additional pages if necessary:

_____

_____

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_____ *(use additional pages as necessary)*

I agree to adhere to the course content and procedures set forth by the NC CPS Training Committee when performing duties as a NC CPS Basic Awareness Class Instructor. Failure to comply with policies and procedures may result in my authorization to teach this course being suspended or revoked.

Print Name: _____

Signature: _____ Date: ____ / ____ / ____

Return Completed Applications to:
North Carolina Child Passenger Safety Resource Center
UNC Highway Safety Research Center
730 Airport Road, Suite 300, CB# 3430, Chapel Hill, NC 27599

NC CPS BASIC AWARENESS INSTRUCTOR CANDIDATE EVALUATION WORKSHEET INSTRUCTIONS

Revised: April 2005

The NC CPS Basic Awareness curriculum may be taught only by Nationally Certified Technician Instructors or Technicians approved to be Instructors. According to policies established bt the NC CPS Training Committee, an "Approved Mentored Technician" is a Nationally Certified Technician who:

1) Holds National certification for at least 6 months
2) Demonstrates active participation as a CPS Technician through participation as a checker in at least 4 clinics (provide location, dates and senior checker signatures) or by serving as a checker for a permanent checking station (provide location, dates and supervisor signatures).
3) Has been mentored as an instructor for the Basic Awareness curriculum by at least two different Nationally Certified Instructors for at least three classes total, and
4) Has received satisfactory evaluations from each Nationally Certified Instructor for each class

Technicians wishing to teach the Basic Awareness Curriculum should apply to do so using the NC CPS Basic Awareness Instructor Candidate Application form available by download from www.buckleupnc.org.

You have been asked to serve as a mentor for one or more Basic Awareness Instructor Candidates during this North Carolina CPS Basic Awareness (BA) training class. As noted in the above policies, Technician's approved through this process are allowed to serve as Instructors for NC BA classes. Thus, mentors should take this responsibility very seriously.

The attached worksheet is a valuable tool that allows Nationally Certified Technician Instructors to comprehensively evaluate the technical, interpersonal, and instructional skills of each BA Instructor Candidates. This worksheet should be used throughout the course to track the progress of the candidate(s) as they teach, interact with the class, and perform other course assignments.

Following are a few general guidelines for you to follow while acting as an Instructor Mentor.

1. The Evaluation Worksheet is to be used throughout the standardized course.
2. Each Certified Technician Instructor who is acting as a Mentor for a BA Instructor Candidate must fill out a worksheet.
3. Each Instructor Mentor should be present in the classroom or location where the exercises are being conducted for all instructional segments or exercises being lead by the BA Instructor Candidate.
4. Evaluations of each BA Instructor Candidate should be reviewed and discussed with the Candidate by all Mentors at the end of each day.

USING THE WORKSHEET

1. Skills being evaluated with this worksheet are grouped into three main categories: instructor skills, technical & hands-on skills, and interpersonal skills.

2. Space has been provided to assess instructor, technical & hands-on, and interpersonal skills on an interim basis during the course of the training class as well as final assessments to be made at the conclusion of the course. For each topic presented or exercise coordinated by the Candidate, circle the appropriate letter code for each statement listed in pencil in the "Interim Ratings" column. Blue or black ink should be used for all final ratings.

3. For each segment taught or exercise coordinated by the Candidate, rate each relevant skill performed as either Excellent (E), Acceptable (A), Conditionally Acceptable (C), or Unacceptable (U). For most BA Instructor Candidates, "Conditionally Acceptable" or "Unacceptable" ratings should improve during each subsequent teaching segment. The worksheet asks you to evaluate and rate the Candidate on 30 different "skills". Columns are provided for evaluating five teaching or hands-on segments, plus one Final Rating, for each of the 30 skills. Knowledge and technical/interpersonal skills should be rated according to the following guidelines:

    - *Excellent (E):* Knowledge demonstrated by the Candidate during lecture and demonstration is clearly current and within the standardized and NC Basic Awareness curricula content. Technical knowledge, instructor proficiency, and/or interpersonal skills exceed levels to be expected of the "average" instructor.

    - *Acceptable (A):* Knowledge and instructor proficiency demonstrated by the Candidate during lecture and demonstration is clearly current and within the standardized curriculum content. Technical knowledge meets or exceeds levels to be expected in an instructor. Interpersonal skills facilitate learning by the students as well as encourage and facilitate team work among the instructors.

    - *Conditionally Acceptable (C):* The instructor, technical, or interpersonal skill in question requires some modification or improvement before receiving an "Acceptable" rating. Conditionally Acceptable ratings should be accompanied by verbal and written comments that provide specific constructive suggestions for skill improvement.

    - *Unacceptable (U):* Knowledge and instructor proficiency demonstrated by the Candidate and presented during lecture or demonstration is clearly incorrect, out-of-date, or not within the standardized curriculum content. Technical knowledge clearly fails to meet the level expected as acceptable for an instructor. Interpersonal skills hinder learning by the students as well as discourage or hinder team work among the instructors.

4. The "Final Rating" for each of the 25 items should be based on the overall performance by the BA Instructor Candidate.

5. At the end of the course, indicate the overall "final" score for the BA Instructor Candidate. Indicate any conditions that need to be met to bring any "Conditionally Acceptable" scores up to the "Acceptable" level and add any comments or suggestions as may be needed and appropriate.

6. The Candidate must secure at least 25 Final "Acceptable" ratings in order to meet the one of the minimum requirements to be eligible to be approved as a Mentored Technician.

7. Be sure to have the Candidate sign the worksheet verifying that you have discussed all concerns and recommendations with him/her.

8. The Instructor Mentor must also sign off on the BA Instructor Candidate Evaluation Worksheet. The Mentored Technician Candidate must be informed of their pass/fail/conditional status at the conclusion of the class.

9. The candidate should keep the original copy of all of their BA Instructor Candidate Evaluation Worksheets until submitted to the NC CPS Resource Center. A BA Instructor Candidate is not eligible for approval until he/she has been mentored as an instructor for the Basic Awareness curriculum by at least two different Nationally Certified Instructors for at least three classes total and has received satisfactory evaluations from each Nationally Certified Instructor for each of three classes.

   Completed Basic Awareness Instructor Candidate Evaluation Worksheets should be submitted to the NC CPS Resource Center along with any additional documentation required.

IT IS STRONGLY SUGGESTED THAT YOU MAKE COPIES OF THE MENTORED TECHNICIAN CANDIDATE EVALUATION WORKSHEETS AND OTHER DOCUMENTATION FOR YOUR FILES.

BASIC AWARENESS INSTRUCTOR CANDIDATE EVALUATION WORKSHEET

North Carolina Basic Awareness CPS Training Course

BA Instructor Candidate Name: _____

Course Location: _____ Course Date: ____ / ____ / _____

Evaluating Instructor Name and Cert. #: _____

Lead Instructor (if different from above): _____

Course Host/Sponsor: _____

Instructor and/or technical skills have been evaluated for the following topics taught or exercises coordinated:

Topic/ Exercise #	Topic Taught or Exercise Coordinated
1	_____
2	_____
3	_____
4	_____
5	_____

E = Excellent C = Conditionally Acceptable NA = Not Applicable
A = Acceptable U = Unacceptable

SKILLS EVALUATED:	***Interim Ratings: (Circle or mark as needed)***	***FINAL Ratings: (Circle)***
Instructor Skills		
1. Accurately presented assigned topic(s)	E A C U NA	E A C U NA
2. Knew curriculum content - did not "read" it	E A C U NA	E A C U NA
3. Presented concepts in an easy-to-understand manner	E A C U NA	E A C U NA
4. Used strong/positive tone of voice	E A C U NA	E A C U NA
5. Used anecdotal information or personal experiences appropriately and sparingly?	E A C U NA	E A C U NA
6. Provided constructive feedback to students	E A C U NA	E A C U NA
7. Encouraged and elicited student participation . . .	E A C U NA	E A C U NA
8. Helped all students, instead of sticking with one group or one student, during hands-on practice .	E A C U NA	E A C U NA
9. Effective use of teaching aids and equipment . . .	E A C U NA	E A C U NA
10. Maintained time frame allotted for assignments .	E A C U NA	E A C U NA
11. Maintained control of classroom	E A C U NA	E A C U NA

E = Excellent C = Conditionally Acceptable NA = Not Applicable
A = Acceptable U = Unacceptable

SKILLS EVALUATED:	***Interim Ratings: (Circle or mark as needed)***	***FINAL Ratings: (Circle)***
Technical & Hands-on Skills		
12. Demonstrated knowledge of a variety of child restraints (older and newer models)	E A C U NA	E A C U NA
13. Demonstrated knowledge of vehicle occupant protection systems (retractors, latchplates, airbags)	E A C U NA	E A C U NA
14. Able to clearly explain and demonstrate correct installation techniques	E A C U NA	E A C U NA
15. Able to recognize CR/vehicle incompatibilities and effectively communicate appropriate corrective action	E A C U NA	E A C U NA
16. Able to say "I don't know", if necessary	E A C U NA	E A C U NA
Interpersonal/Team Skills		
17. Was on time for all class start times	E A C U NA	E A C U NA
18. Helped set up or take down props/equipment . . .	E A C U NA	E A C U NA
19. Took the initiative to take on tasks, or offer to do so, without being asked	E A C U NA	E A C U NA
20. Showed high degree of patience and understanding dealing with "difficult" students . .	E A C U NA	E A C U NA
21. Showed positive attitude when interacting with fellow Instructors and students	E A C U NA	E A C U NA
22. Responded well to constructive criticism from other Instructors	E A C U NA	E A C U NA
23. Provided constructive feedback to other Instructors	E A C U NA	E A C U NA
24. Showed respect for fellow instructors during their presentation times	E A C U NA	E A C U NA
25. Worked and interacted well with other instructors	E A C U NA	E A C U NA

Final BA Instructor Candidate Evaluation

Overall evaluation of this candidate:

Excellent Acceptable Conditionally Acceptable* Unacceptable

*Conditions: _____

_____

_____

_____

Comments/Recommendations: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____ *(Continue on additional sheets as necessary)*

I have read and discussed above comments, concerns, and suggestions with the Instructor Mentor listed below.

Basic Awareness Instructor Candidate: _____

Candidate must secure at least **25 Final "Acceptable"** ratings in order to meet the minimum requirements and to be eligible to be approved as a Basic Awareness Instructor.

Instructor Mentor:

I have observed _____ (name of Candidate) in the course of teaching the NC Basic Awareness Curriculum and have and discussed my comments, concerns, and suggestions with this Basic Awareness Instructor Candidate.

Print Name: _____ Cert. # _____

Signature: _____ Date: ____ / ____ / ____

North Carolina CPS Lead Instructor Evaluation of Instructor Team

Lead Instructor Conducting Evaluation: _____

Instructor Being Evaluated: _____

Date: _____ Location: _____

Check One: ❒ NC Basic Awareness Curriculum ❒ National Standardized CPS Curriculum

---

For all items, explain any "No" answers

CLASSROOM AND LECTURE INSTRUCTIONAL SKILLS (Was the Instructor... / Did the Instructor...)

1. Prepared for his/her section?
   ❑ Yes ❑ No: _____
2. Used a strong understandable voice?
   ❑ Yes ❑ No: _____
3. Delivered information effectively?
   ❑ Yes ❑ No: _____
4. Responded to and accurately answered questions or referred questions to another instructor?
   ❑ Yes ❑ No: _____
5. Encouraged participation from the students?
   ❑ Yes ❑ No: _____
6. Taught within the allowable time frame?
   ❑ Yes ❑ No: _____
7. Used anecdotal information or personal experiences appropriately and sparingly?
   ❑ Yes ❑ No: _____
8. Operated A/V equipment well?
   ❑ Yes ❑ No: _____

HANDS-ON PRACTICE AND TESTING INSTRUCTIONAL SKILLS (During the hands-on practice and testing, did the Instructor...)

9. Help all students instead of sticking with one group or one student?
   ❑ Yes ❑ No: _____
10. Present accurate, up-to-date information?
    ❑ Yes ❑ No: _____
11. Demonstrate a knowledge of a variety of child restraints?
    ❑ Yes ❑ No: _____
12. Correct compatibility problems under curriculum guidelines?
    ❑ Yes ❑ No: _____
13. Help set up or take down the exercise props?
    ❑ Yes ❑ No: _____
14. Motivate students in a positive manner?
    ❑ Yes ❑ No: _____
15. Actively participate in the clinic without taking over?
    ❑ Yes ❑ No: _____

INTERPERSONAL AND TEAM SKILLS (Was the Instructor... / Did the Instructor...)

16. Was respectful of fellow instructors, during their presentation times?
    ❑ Yes ❑ No: _____
17. Was respectful of fellow instructors at all other times?
    ❑ Yes ❑ No: _____
18. Was the instructor on time for the pre-class meeting and all class start times?
    ❑ Yes ❑ No: _____
19. Did the instructor stay for the duration of the class?
    ❑ Yes ❑ No: _____
20. Did the instructor work well and interact with other instructors?
    ❑ Yes ❑ No: _____

Additional Comments: _____

_____

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_____ *(Continue on additional sheets as necessary)*

LEAD INSTRUCTOR: I have observed _____ in the course of teaching this class and have and discussed my comments, concerns, and suggestions with this Instructor.

Print Name: _____ Cert. # _____

Signature: _____ Date: ____ / ____ / ____

TECHNICIAN INSTRUCTOR: I have read and discussed the above comments, concerns, and suggestions with the Lead Instructor listed above.

Print Name: _____ Cert. # _____

Signature: _____ Date: ____ / ____ / ____

TRAINING EXERCISE 1: SELECTING THE APPROPRIATE CHILD RESTRAINT AND HARNESSING THE CHILD IN THE CR

Name:_____ Date:_____

All students or team will be given a "child" along with a description of the child's age, weight, and any significant physical tolerance issues. Each student/team must then:

1. Select the appropriate child restraint system based on the age, weight, and any noted physical tolerances of the child and elaborate on the reasons for their choice of child restraint.
2. Assess the chosen child restraint for safety based on recall status, age of the CRD, and other aspects of physical condition.
3. Adjust the CRD (recline mechanism, harness slots, etc.) as needed for the manner in which it will be installed, and
4. Harness the child correctly in the chosen restraint (to the degree possible with available dolls).

CHILD 1: Age_____ Weight_____ Other_____

1. RESTRAINT USED:

a) CRS Manufacturer: _____ ❑ Unknown

b) Model Name: _____ ❑ Unknown

c) Model #: _____ ❑ Unknown

d) Manufacture Date: _____ / _____ / _____ ❑ Unknown

e) Type:

❑ Rear-facing only ❑ Shield booster
❑ Convertible ❑ Belt position booster
❑ Front-facing only with harness/shield ❑ Other =_____
❑ Harness/Vest _____

f) Weight Range:
Rear-facing: _____ lbs to _____ lbs ❑NA Front-facing: _____ lbs to _____ lbs ❑NA

C = Correct I = Incorrect Unk/NA = Unknown or Not Applicable

2. GENERAL SAFETY ASSESSMENT:	**C**	**I**	**Unk/NA**
a) Is the CR on recall?	❑N	❑Y	❑Unk
b) Is the CR older than 10 years old?	❑N	❑Y	❑Unk
c) Are full instructions & labels with/affixed to CR?.	❑Y	❑N	❑Unk
d) Are all parts present & in good condition?	❑Y	❑N	❑Unk
e) Is the type of restraint best for age/size of child?	❑Y	❑N	
f) Is the type of harness/shield best for the age/size of the child?	❑Y	❑N	

3. RESTRAINT ADJUSTMENT

a) Adjust recline mechanism correctly for the age/weight of your child	❑Y	❑N	❑NA
b) Route the harness straps through the appropriate slots	❑Y	❑N	

4. HARNESS USE

a) Adjust the harness and/or shield for a snug fit on the child	❑Y	❑N	
b) Position the harness retainer clip at armpit level	❑Y	❑N	❑NA
c) Make sure the harness adjustment mechanism is locked	❑Y	❑N	

CHILD 2: Age_____ Weight_____ Other_____

1. RESTRAINT USED:

a) CRS Manufacturer: _____ ❑ Unknown

b) Model Name: _____ ❑ Unknown

c) Model #: _____ ❑ Unknown

d) Manufacture Date: _____ / _____ / _____ ❑ Unknown

e) Type:

❑ Rear-facing only
❑ Convertible
❑ Front-facing only with harness/shield
❑ Harness/Vest
❑ Shield booster
❑ Belt position booster
❑ Other =_____
_____

f) Weight Range:
Rear-facing: _____ lbs to _____ lbs ❑NA Front-facing: _____ lbs to _____ lbs ❑NA

C = Correct I = Incorrect Unk/NA = Unknown or Not Applicable

2. GENERAL SAFETY ASSESSMENT:	**C**	**I**	**Unk/NA**
a) Is the CR on recall?	❑N	❑Y	❑Unk
b) Is the CR older than 10 years old?	❑N	❑Y	❑Unk
c) Are full instructions & labels with/affixed to CR?.	❑Y	❑N	❑Unk
d) Are all parts present & in good condition?	❑Y	❑N	❑Unk
e) Is the type of restraint best for age/size of child?	❑Y	❑N	
f) Is the type of harness/shield best for the age/size of the child?	❑Y	❑N	

3. RESTRAINT ADJUSTMENT

a) Adjust recline mechanism correctly for the age/weight of your child	❑Y	❑N	❑NA
b) Route the harness straps through the appropriate slots	❑Y	❑N	

4. HARNESS USE

a) Adjust the harness and/or shield for a snug fit on the child	❑Y	❑N	
b) Position the harness retainer clip at armpit level	❑Y	❑N	❑NA
c) Make sure the harness adjustment mechanism is locked	❑Y	❑N	

TRAINING EXERCISE 2: VEHICLE OCCUPANT PROTECTION SYSTEMS IDENTIFICATION

Name:_____ Date:_____

INSTRUCTIONS: Inspect all of the designated seating positions in each of the vehicles identified as being a part of this exercise. Look for occupant restraint, comfort, and convenience features built into the vehicle for the right front passenger position, the center rear position, and either the left or right rear outboard positon. Look for and note:

- Does the restraint system consist of a lap belt only or is it a lap and shoulder belt combination?
- Is there a front and/or side air bag present at that position? Are there any air bag labels present?
- What type of latchplate does the seat belt at that position have?
- What type of retractor does the seat belt at that position have?
- Is the seating position equipped with LATCH anchors?
- Is the seating position equipped with a tether anchor?
- Are there any other features at each position that may have an effect on the fit of the seat belt on an occupant or the comfort of a passenger. Look for features such as:
  - Deep bucket seats or large humps
  - Depth of seat cushion from seat back to front edge of bottom cushion
  - Adjustable upper anchors for shoulder belts
  - Adjustable head restraints
  - Built in or fold down arm rests or consoles
  - Seat belts anchored behind the seat cushion or forward of the seat back

VEHICLE # _____	Front Seat: Passenger	Rear Seat: Center	Rear Seat: Outboard (Left or Right)
System:	❒ Lap only ❒ Lap & shoulder	❒ Lap only ❒ Lap & shoulder	❒ Lap only ❒ Lap & shoulder
Air Bag(s):	❒ Front ❒ None ❒ Side ❒ Labels	❒ Front ❒ None ❒ Side ❒ Labels	❒ Front ❒ None ❒ Side ❒ Labels
Latchplate:	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable
Retractor:	❒ None ❒ ELR ❒ ALR ❒ Switchable	❒ None ❒ ELR ❒ ALR ❒ Switchable	❒ None ❒ ELR ❒ ALR ❒ Switchable
LATCH Anchors:	❒ Yes ❒ No	❒ Yes ❒ No	❒ Yes ❒ No
Tether Anchor:	❒ Yes ❒ No ❒ Location provided	❒ Yes ❒ No ❒ Location provided	❒ Yes ❒ No ❒ Location provided
Other features at position:			

TRAINING EXERCISE 2: VEHICLE OCCUPANT PROTECTION SYSTEMS IDENTIFICATION

VEHICLE # _____	Front Seat: Passenger	Rear Seat: Center	Rear Seat: Outboard (Left or Right)
System:	❒ Lap only ❒ Lap & shoulder	❒ Lap only ❒ Lap & shoulder	❒ Lap only ❒ Lap & shoulder
Air Bag(s):	❒ Front ❒ None ❒ Side ❒ Labels	❒ Front ❒ None ❒ Side ❒ Labels	❒ Front ❒ None ❒ Side ❒ Labels
Latchplate:	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable
Retractor:	❒ None ❒ ELR ❒ ALR ❒ Switchable	❒ None ❒ ELR ❒ ALR ❒ Switchable	❒ None ❒ ELR ❒ ALR ❒ Switchable
LATCH Anchors:	❒ Yes ❒ No	❒ Yes ❒ No	❒ Yes ❒ No
Tether Anchor:	❒ Yes ❒ No ❒ Location provided	❒ Yes ❒ No ❒ Location provided	❒ Yes ❒ No ❒ Location provided
Other features at position:			

VEHICLE # _____	Front Seat: Passenger	Rear Seat: Center	Rear Seat: Outboard (Left or Right)
System:	❒ Lap only ❒ Lap & shoulder	❒ Lap only ❒ Lap & shoulder	❒ Lap only ❒ Lap & shoulder
Air Bag(s):	❒ Front ❒ None ❒ Side ❒ Labels	❒ Front ❒ None ❒ Side ❒ Labels	❒ Front ❒ None ❒ Side ❒ Labels
Latchplate:	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable
Retractor:	❒ None ❒ ELR ❒ ALR ❒ Switchable	❒ None ❒ ELR ❒ ALR ❒ Switchable	❒ None ❒ ELR ❒ ALR ❒ Switchable
LATCH Anchors:	❒ Yes ❒ No	❒ Yes ❒ No	❒ Yes ❒ No
Tether Anchor:	❒ Yes ❒ No ❒ Location provided	❒ Yes ❒ No ❒ Location provided	❒ Yes ❒ No ❒ Location provided
Other features at position:			

VEHICLE # _____	Front Seat: Passenger	Rear Seat: Center	Rear Seat: Outboard (Left or Right)
System:	❒ Lap only ❒ Lap & shoulder	❒ Lap only ❒ Lap & shoulder	❒ Lap only ❒ Lap & shoulder
Air Bag(s):	❒ Front ❒ None ❒ Side ❒ Labels	❒ Front ❒ None ❒ Side ❒ Labels	❒ Front ❒ None ❒ Side ❒ Labels
Latchplate:	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable
Retractor:	❒ None ❒ ELR ❒ ALR ❒ Switchable	❒ None ❒ ELR ❒ ALR ❒ Switchable	❒ None ❒ ELR ❒ ALR ❒ Switchable
LATCH Anchors:	❒ Yes ❒ No	❒ Yes ❒ No	❒ Yes ❒ No
Tether Anchor:	❒ Yes ❒ No ❒ Location provided	❒ Yes ❒ No ❒ Location provided	❒ Yes ❒ No ❒ Location provided
Other features at position:			

VEHICLE # _____	Front Seat: Passenger	Rear Seat: Center	Rear Seat: Outboard (Left or Right)
System:	❒ Lap only ❒ Lap & shoulder	❒ Lap only ❒ Lap & shoulder	❒ Lap only ❒ Lap & shoulder
Air Bag(s):	❒ Front ❒ None ❒ Side ❒ Labels	❒ Front ❒ None ❒ Side ❒ Labels	❒ Front ❒ None ❒ Side ❒ Labels
Latchplate:	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable
Retractor:	❒ None ❒ ELR ❒ ALR ❒ Switchable	❒ None ❒ ELR ❒ ALR ❒ Switchable	❒ None ❒ ELR ❒ ALR ❒ Switchable
LATCH Anchors:	❒ Yes ❒ No	❒ Yes ❒ No	❒ Yes ❒ No
Tether Anchor:	❒ Yes ❒ No ❒ Location provided	❒ Yes ❒ No ❒ Location provided	❒ Yes ❒ No ❒ Location provided
Other features at position:			

VEHICLE # _____	Front Seat: Passenger	Rear Seat: Center	Rear Seat: Outboard (Left or Right)
System:	❒ Lap only ❒ Lap & shoulder	❒ Lap only ❒ Lap & shoulder	❒ Lap only ❒ Lap & shoulder
Air Bag(s):	❒ Front ❒ None ❒ Side ❒ Labels	❒ Front ❒ None ❒ Side ❒ Labels	❒ Front ❒ None ❒ Side ❒ Labels
Latchplate:	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable
Retractor:	❒ None ❒ ELR ❒ ALR ❒ Switchable	❒ None ❒ ELR ❒ ALR ❒ Switchable	❒ None ❒ ELR ❒ ALR ❒ Switchable
LATCH Anchors:	❒ Yes ❒ No	❒ Yes ❒ No	❒ Yes ❒ No
Tether Anchor:	❒ Yes ❒ No ❒ Location provided	❒ Yes ❒ No ❒ Location provided	❒ Yes ❒ No ❒ Location provided
Other features at position:			

VEHICLE # _____	Front Seat: Passenger	Rear Seat: Center	Rear Seat: Outboard (Left or Right)
System:	❒ Lap only ❒ Lap & shoulder	❒ Lap only ❒ Lap & shoulder	❒ Lap only ❒ Lap & shoulder
Air Bag(s):	❒ Front ❒ None ❒ Side ❒ Labels	❒ Front ❒ None ❒ Side ❒ Labels	❒ Front ❒ None ❒ Side ❒ Labels
Latchplate:	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable	❒ Sewn-on ❒ Locking ❒ Sliding ❒ Lightweight Lock ❒ Switchable
Retractor:	❒ None ❒ ELR ❒ ALR ❒ Switchable	❒ None ❒ ELR ❒ ALR ❒ Switchable	❒ None ❒ ELR ❒ ALR ❒ Switchable
LATCH Anchors:	❒ Yes ❒ No	❒ Yes ❒ No	❒ Yes ❒ No
Tether Anchor:	❒ Yes ❒ No ❒ Location provided	❒ Yes ❒ No ❒ Location provided	❒ Yes ❒ No ❒ Location provided
Other features at position:			

TRAINING EXERCISE 3: INSTALLATION SKILLS

Name:_____ Date:_____

Instructions: Install each of the following types of child restraints and complete requested tasks in any of the available vehicles unless directed otherwise by the Instructors. Tasks and installations may be done in any order.

In order to fully benefit from this experience, you must use a variety of vehicles and belt systems and complete all installations and tasks. To keep track of what your successful installations, ask an Instructor to check your work and initial in the space provided.

Rear-Facing Only

_____ With a base - With seat belt

_____ Without a base - With seat belt

_____ With or without base - With LATCH

Convertible

_____ Rear-facing - With seat belt

_____ Rear-facing - With LATCH

_____ Front-facing - No tether - Seat Belt

_____ Front-facing - With tether - Seat Belt

_____ Front-facing - Full LATCH

Combination Restraint

_____ With harness

_____ As belt positioning booster

Booster

_____ Backless BPB

_____ Booster with a shield

_____ High-back BPB

Air Bags

_____ Find 3 ways to identify the presence of a driver or passenger airbag

_____ Identify the presence of side air bag

Tethers

_____ Identify tether location on child restraint

_____ Identify tether anchor point in vehicle and how to install anchor

_____ Identify tether anchor in vehicle

LATCH Anchors

_____ Identify lower anchor attachments on child restraint

_____ Identify lower anchors in vehicle

Locking Clip

_____ Install an infant or convertible child restraint using a regular clip

APPENDIX D: END-OF-CLASS ASSESSMENTS

Knowledge Assessment
Knowledge Assessment Answer Key
Student's Guide for End-of-Class Misuse Identification Skills Assessment
Instructors Guide for End-of-Class Misuse Identification Skills Assessment

North Carolina Child Passenger Safety Basic Awareness Training
Knowledge Assessment

Circle the most appropriate response

1. Which of the following practices may increase liability exposure?
   A) Take your training seriously and stay current.
   B) Know your limitations and say "I don't know".
   C) Document all training, inspection procedures, and materials distributed.
   D) Create your own promotional materials to fit your own needs.

2. The North Carolina Child Passenger Safety Law requires children less than age 8 and weighing less than 80 pounds to be properly secured in a weight appropriate restraint system.
   A) True
   B) False

3. In a motor vehicle crash, the force of impact a 30 pound child will experience while traveling 30 mph is
   A) 30 pounds of force.
   B) 60 pounds of force.
   C) 90 pounds of force.
   D) 900 pounds of force.

4. Which of the following is NOT a way restraint systems reduce injury to occupants?
   A) Spread crash forces over a wide area of the body
   B) Allow body to stop suddenly
   C) Load crash forces on the strongest parts of the body
   D) Protect head, neck and spinal column

5. Why are after market products not recommended?
   A) They don't always match the restraint upholstery.
   B) They are not regulated or tested under recommended procedures.
   C) They are not produced by the automobile manufacturer.
   D) They add additional weight to the child restraint.

6. Placement of harness straps for a rear-facing infant should be
   A) at or above the shoulders.
   B) at the top of the shoulders.
   C) at or below the shoulders.
   D) at the level that is comfortable for the child.

7. The primary reason that proper recline adjustment is maintained is
   A) to prevent the child from "ramping" up the back of the seat.
   B) to maintain a open airway.
   C) to provide maximum crash protection.
   D) to allow the child to sleep comfortably.

8. Harness straps should be tightened so that
   A) the straps are snug with no slack and are positioned properly.
   B) the parent can slide two fingers under the straps at the collarbone.
   C) the straps can be pinched together only 1 inch.
   D) the straps are tight and appear to place small indentations on the child's shoulders

9. An infant seat with a base arrives at a checkup event, tightly secured with a lap and shoulder belt in the right rear outboard position. The recline angle is correct, but the seat tilts to the left. The most likely explanation is
   A) the shoulder belt is routed around the back of the infant seat causing it to tilt sideways.
   B) the switchable retractor has been left in the ELR mode and the seat has tilted during normal driving conditions.
   C) the shoulder belt pulls on the seat when pulled tight through the lightweight locking latchplate.
   D) the shoulder belt has been switched to the ALR mode and the shoulder belt is pulling up on the side of the seat as the excess is fed back into the retractor.

10. If a child restraint is found to be under an issued recall,
   A) continue to use the seat if it has not failed a crash worthiness test.
   B) contact the manufacturer for replacement or repair kit.
   C) destroy the seat immediately.
   D) both a and b.

11. For a child to be correctly positioned on a vehicle seat, the child must sit upright with back against the vehicle seat, legs folding comfortably over the edge of the vehicle seat, and
   A) the lap belt fitting securely across the abdomen, and the shoulder belt fitting squarely across the center of the chest.
   B) the lap belt fitting securely across the abdomen and the shoulder belt fitting under the child's chin.
   C) the lap belt fitting snugly across the upper thighs and the shoulder belt fitting squarely across the center of the chest.
   D) the lap belt fitting snugly across the upper thighs and the shoulder belt behind the child's back.

12. A 4 year old child weighs 48 pounds. The parent's vehicle has lap/shoulder belts in all seating positions. What type of child restraint would you recommend?
   A) Convertible restraint
   B) Combination restraint with a harness
   C) Shield booster with no back
   D) Belt positioning booster

13. A child who weighs 12 pounds and is 3 months old should ride in which type of restraint?
   A) Modified vest
   B) Shield booster
   C) Rear-facing infant only
   D) Car bed

14. A child weighs 28 pounds and is 11 months old. Which restraint is the best choice for this child?
   A) Any rear-facing seat
   B) A rear-facing seat that has a weight limit to at least 30 pounds
   C) Any forward-facing seat
   D) A forward-facing convertible

15. A parent asks your recommendation for a new seat. Your best response is
    A) The seat that fits your child.
    B) The seat that fits your vehicle.
    C) The seat that you will use correctly every time.
    D) All of the above.

16. What is the best method to determine if a child restraint has been installed tightly enough?
    A) Check the vehicle owner's manual to verify correct installation.
    B) Check the child restraint's instruction manual to verify correct installation.
    C) Grasp the seat near the belt path and gently tug on the seat to determine movement.
    D) Harness the child in the restraint and attempt to lift the child while harnessed to determine movement.

17. The acceptable standard for movement of a properly installed child restraint is
    A) less than 2 inches along the belt from side to side and 2 inches forward from the vehicle seat back.
    B) less than 2 inches along the belt from side to side and 1 inch forward from the vehicle seat back.
    C) less than 1 inch along the belt from side to side and 2 inches forward from the vehicle seat back.
    D) less than 1 inch along the belt from side to side and 1 inch forward from the vehicle seat back.

18. The best way to evaluate the parent's ability to correctly install a child restraint is to
    A) ask the parent to explain how to install the seat.
    B) ask the parent to identify possible incompatibilities.
    C) help the parent install the seat.
    D) observe the parent installing the seat.

19. A locking clip is generally used for which type of belt system?
    A) Lap belt, sewn on latchplate, ALR
    B) Lap belt, locking latchplate, no retractor
    C) Lap/shoulder belt, sliding latchplate, ELR
    D) Lap/shoulder belt, locking latchplate, ELR

20. In a forward-facing convertible, the harness should be placed in
    A) the top slots, unless otherwise indicated by the mfg's directions.
    B) the top slot always.
    C) the slot at or below the child's shoulders.
    D) any slot that is comfortable for the child.

North Carolina Child Passenger Safety Basic Awareness Training
Knowledge Assessment

ANSWER KEY

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    B) Shield booster
    C) Rear-facing infant only
    D) Car bed

14. A child weighs 28 pounds and is 11 months old. Which restraint is the best choice for this child?
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    B) A rear-facing seat that has a weight limit to at least 30 pounds
    C) Any forward-facing seat
    D) A forward-facing convertible

15. A parent asks your recommendation for a new seat. Your best response is
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16. What is the best method to determine if a child restraint has been installed tightly enough?
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    C) less than 1 inch along the belt from side to side and 2 inches forward from the vehicle seat back.
    D) less than 1 inch along the belt from side to side and 1 inch forward from the vehicle seat back.

18. The best way to evaluate the parent's ability to correctly install a child restraint is to
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    C) Lap/shoulder belt, sliding latchplate, ELR
    D) Lap/shoulder belt, locking latchplate, ELR

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    A) the top slots, unless otherwise indicated by the mfg's directions.
    B) the top slot always.
    C) the slot at or below the child's shoulders.
    D) any slot that is comfortable for the child.

North Carolina Child Passenger Safety Basic Awareness Training

Student's Guide for End-of-Class Misuse Identification Skills Assessment

The end-of-class Misuse Identification Skills Assessment consists of multiple scenarios. The Instructors will set up the scenarios in different vehicles and the students must then try to diagnose any misuse that they observe.

Assessment Exercise Procedures

1. Selection and installation of each CR should reflect best practice recommendations given the scenario and vehicle circumstances.
2. Students should work individually and demonstrate misuse diagnosis skills without input from instructors or other students.
3. Instructors may indicate which part of the scenario (i.e. selection, harness adjustment, or installation) is incorrect, but should not offer suggestions of how to correct it
4. Students are encouraged to refer to any or all course resources, including the Participant Manual and CRS/vehicle manufacturers' instructions, in order to diagnose correct or incorrect use.
5. Students should base all decisions on the child's age and weight provided with the scenario rather than the size of dolls used to represent children. Height will not be considered unless it is specifically mentioned as a part of the scenario.
6. For each scenario, students will:
   - Diagnose and note on the assessment form whether or not best practice guidelines for **CRS selection** are being followed. If best practice guidelines are not being followed, the student must recommend the correct type of CRS that does.
   - Diagnose and note on the test form whether or not best practice guidelines for **CRS harnessing** are being followed. If best practice guidelines are not being followed, the student must recommend changes or corrections to make.
   - Diagnose and note on the test form whether or not best practice guidelines for **CRS installation** are being followed. If best practice guidelines are not being followed, the student must recommend changes or corrections to make.
   - **STUDENTS SHOULD NOT MAKE ANY CHANGES OR CORRECTIONS TO THE SCENARIOS FOR ANY REASON.**
     - Students are allowed to touch any of the scenario seats, harnesses, or seat belts in the course of the diagnoses. However, handling of the seats, harnesses, or seat belts should be as gentle as possible so as not to disturb or change the scenario.
     - CRS manufacturer, model name and number, and date of manufacture information will be posted along with the child age/weight information.
     - Notify a supervising instructor if you inadvertently disturb the set-up in any way.
     - Instructors will also check the scenarios as often as possible to be sure that the scenarios have not been disturbed or changed.
     - Students may ask an instructor to check the scenario for correct set-up before starting the diagnosis.

End-of-Class Misuse Identification Skills Assessment

Student Name: _____ Date:_____

REMEMBER: IN ALL SCENARIOS - BEST PRACTICE IS BEST CHOICE

Scenario 1 Vehicle: ____	Age of Child: _____ Weight of Child: _____ Restraint Used: _____	Correct Assessment?	
	Are the following correct? Provide reason and recommendation if "No":	Yes	No
	Selection: ❒Yes ❒No, because		
	Harness: ❒Yes ❒No, because		
	Installation: ❒Yes ❒No, because		

Scenario 2 Vehicle: ____	Age of Child: _____ Weight of Child: _____ Restraint Used: _____	Correct Assessment?	
	Are the following correct? Provide reason and recommendation if "No":	Yes	No
	Selection: ❒Yes ❒No, because		
	Harness: ❒Yes ❒No, because		
	Installation: ❒Yes ❒No, because		

Scenario 3 Vehicle: ____	Age of Child: _____ Weight of Child: _____ Restraint Used: _____	Correct Assessment?	
	Are the following correct? Provide reason and recommendation if "No":	Yes	No
	Selection: ❒Yes ❒No, because		
	Harness: ❒Yes ❒No, because		
	Installation: ❒Yes ❒No, because		

Scenario 4 Vehicle: ____	Age of Child: _____ Weight of Child: _____ Restraint Used: _____	Correct Assessment?	
	Are the following correct? Provide reason and recommendation if "No":	Yes	No
	Selection: ❒Yes ❒No, because		
	Harness: ❒Yes ❒No, because		
	Installation: ❒Yes ❒No, because		

End-of-Class Misuse Identification Skills Assessment

REMEMBER: IN ALL SCENARIOS - BEST PRACTICE IS BEST CHOICE

Scenario 5 Vehicle: ____	Age of Child: _____ Weight of Child: _____ Restraint Used: _____	Correct Assessment?	
	Are the following correct? Provide reason and recommendation if "No":	Yes	No
	Selection: ❒Yes ❒No, because		
	Harness: ❒Yes ❒No, because		
	Installation: ❒Yes ❒No, because		

Scenario 6 Vehicle: ____	Age of Child: _____ Weight of Child: _____ Restraint Used: _____	Correct Assessment?	
	Are the following correct? Provide reason and recommendation if "No":	Yes	No
	Selection: ❒Yes ❒No, because		
	Harness: ❒Yes ❒No, because		
	Installation: ❒Yes ❒No, because		

Scenario 7 Vehicle: ____	Age of Child: _____ Weight of Child: _____ Restraint Used: _____	Correct Assessment?	
	Are the following correct? Provide reason and recommendation if "No":	Yes	No
	Selection: ❒Yes ❒No, because		
	Harness: ❒Yes ❒No, because		
	Installation: ❒Yes ❒No, because		

Scenario 8 Vehicle: ____	Age of Child: _____ Weight of Child: _____ Restraint Used: _____	Correct Assessment?	
	Are the following correct? Provide reason and recommendation if "No":	Yes	No
	Selection: ❒Yes ❒No, because		
	Harness: ❒Yes ❒No, because		
	Installation: ❒Yes ❒No, because		

North Carolina Child Passenger Safety Basic Awareness Training

Instructors' Guide for End-of-Class Misuse Identification Skills Assessment

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Assessment Exercise Procedures Provided to Students

1. Selection and installation of each CR should reflect best practice recommendations given the scenario and vehicle circumstances.
2. Students should work individually and demonstrate misuse diagnosis skills without input from instructors or other students.
3. Instructors may indicate which part of the scenario (i.e. selection, harness adjustment, or installation) is incorrect, but should not offer suggestions of how to correct it
4. Students are encouraged to refer to any or all course resources, including the Participant Manual and CRS/vehicle manufacturers' instructions, in order to diagnose correct or incorrect use.
5. Students should base all decisions on the child's age and weight provided with the scenario rather than the size of dolls used to represent children. Height will not be considered unless it is specifically mentioned as a part of the scenario.
6. For each scenario, students will:
   - Diagnose and note on the assessment form whether or not best practice guidelines for **CRS selection** are being followed. If best practice guidelines are not being followed, the student must recommend the correct type of CRS that does.
   - Diagnose and note on the test form whether or not best practice guidelines for **CRS harnessing** are being followed. If best practice guidelines are not being followed, the student must recommend changes or corrections to make.
   - Diagnose and note on the test form whether or not best practice guidelines for **CRS installation** are being followed. If best practice guidelines are not being followed, the student must recommend changes or corrections to make.
   - **STUDENTS SHOULD NOT MAKE ANY CHANGES OR CORRECTIONS TO THE SCENARIOS FOR ANY REASON.**
     - Students are allowed to touch any of the scenario seats, harnesses, or seat belts in the course of the diagnoses. However, handling of the seats, harnesses, or seat belts should be as gentle as possible so as not to disturb or change the scenario.
     - CRS manufacturer, model name and number, and date of manufacture information will be posted along with the child age/weight information.
     - Notify a supervising instructor if you inadvertently disturb the set-up in any way.
     - Instructors will also check the scenarios as often as possible to be sure that the scenarios have not been disturbed or changed.
     - Students may ask an instructor to check the scenario for correct set-up before starting the diagnosis.

The selection and installation of each CRS should reflect best practice recommendations given the scenario and vehicle circumstances. (NOTE: As an instructional team, clearly define "best practice" parameters, e.g., best practice for 39 pound 6-year-old - BPB may be appropriate; not so for 2-year-old at 39 pounds, so there is consistent evaluation during the assessment procedure.

A time limit to complete assessments may be determined at the discretion of the Lead Instructor.

In order to complete any of the scenarios for diagnosis of misuse, the student must:

- Diagnose and note on the form whether or not best practice guidelines for **CRS selection** are being followed.
  - Determination should be made based on information provided to the student when they "meet" the parent and child (read the age and weight information posted with the scenario).
  - If best practice guidelines are not being followed, the student must recommend the correct type of CRS that does.
- Diagnose and note on the form whether or not best practice guidelines for **CRS harnessing** are being followed.
  - Determination should be made based on information provided to the student when they "meet" the parent and child (read the age and weight information posted with the scenario) and inspect the way the harness is being used.
  - If best practice guidelines are not being followed, the student must recommend changes or corrections to make.
- Diagnose and note on the test form whether or not best practice guidelines for **CRS installation** are being followed.
  - Determination should be made based on information provided to the student when they "meet" the parent and child (read the age and weight information posted with the scenario) and inspect the way the CRS is installed.
  - If best practice guidelines are not being followed, the student must recommend changes or corrections to make.

Instructor Team Preparation for End-of-Class Misuse Identification Scenarios:

1. Determine if the suggested scenarios can be set up based on the mix of models of CRS's, vehicles, and to a lesser extent dolls available. Substitutes should be selected if some cannot be set up.
2. Set up the scenarios in the selected vehicles. All instances of misuse should be set up to be as conspicuous as possible without being blatant. For instance, harnesses routed through the wrong slots should be in plain sight, not hidden.
3. Prepare large index cards or other signs noting the scenario number, vehicle number (Instructor assigned), and seating position in which the scenario can be found.
4. On the same large index cards or other signs (or separate signs) list the child's age, weight, and additional comments about the child's specified for the selected scenario. On the same card, list the CRS manufacturer, model name and number, and date of manufacture information so that the instructions and recalls can be looked up without having to disturb the scenario to find this information.
5. Students will be instructed that the scenario seats, harnesses, and belts can be touched, but that touches should be gentle so as not to disturb the scenario. Instructors should check the scenarios as often as possible to be sure that the scenarios have not been disturbed or changed.

RECOMMENDED SCENARIOS FOR DIAGNOSIS OF MISUSE BY STUDENTS	
Scenario 1	
Age/Weight	Two months old / 12 pounds
CRS	Infant seat Use a Cosco Arriva or Evenflo Joyride that have a
Belt Type	Any type of belt as long as in front seat in front of an air bag.
Selection Error	No error - Best selection
Harnessing Error . .	Do not re-thread slide harness buckle
Installation Error . . .	In front of active passenger side air bag.
Scenario 2	
Age/Weight	Seven months old / 18 pounds
CRS	Use any infant seat with a base.
Belt Type	Use a belt that does not lock or do not switch it over.
Selection Error	No error - Best selection
Harnessing Error . .	No error - Positioned & adjusted correctly
Installation Error . . .	Install at the correct angle, but use the belt path for the seat alone instead of the one with the base. Leave the handle up.
Scenario 3	
Age/Weight	Five years old / 52 pounds
CRS	Any belt positioning high-back booster
Belt Type	Lap-only belt in the back seat middle position
Selection Error . . .	Conditional error - Best selection for child but not for position - Higher weight harness preferred
Harnessing Error . .	Can not use a lap belt by itself with a non-shield booster
Installation Error . . .	BPB installed with a lap belt only rather than lap and shoulder belt
Scenario 4	
Age/Weight	Two years old / 28 pounds
CRS	Use any convertible forward-facing in upright position
Belt Type	Any lap and shoulder belt that does not need a locking clip
Selection Error	No error - Best selection
Harnessing Error . .	Thread the retainer clip backwards on one side and put the harnesses in one of the lower slots, seat not reinforced in the back.
Installation Error . . .	Use a locking clip on the wrong side on a belt that doesn't need one

RECOMMENDED SCENARIOS FOR DIAGNOSIS OF MISUSE BY STUDENTS	
Scenario 5	
Age/Weight	One month old / 9 pounds
CRS	Use a tray-shield convertible
Belt Type	Any suitable position with any type of belt
Selection Error	Tray-shield used for small infant
Harnessing Error . .	Choose a small doll so that the students can see the harnesses do not contact the child even though they are in the lower slot.
Installation Error . . .	Install too upright
Scenario 6	
Age/Weight	Four years old / 47 pounds
CRS	Combination with 40 pound limit for the harness.
Belt Type	A) Center of the back seat with a lap belt only with lap and shoulder position available on the side or B) Center of the back seat with a lap and shoulder belt
Selection Error	No error - Best selection
Harnessing Error . .	Using harness for child over the weight limit - should convert to BPB mode
Installation Error . . .	Installed correctly for using the harness - Should be installed as BPB
Scenario 7	
Age/Weight	One month old / 11 pounds
CRS	Any RF 5-point harness convertible
Belt Type	Any center-rear belt
Selection Error	No error - Best selection
Harnessing Error . .	Harness through upper slots.
Installation Error . . .	Recline angle significantly too upright. Correct installation otherwise.
Scenario 8	
Age/Weight	Four years old / 37 pounds
CRS	Any FF convertible
Belt Type	Any center-rear position with any belt type
Selection Error	No error. Best selection.
Harnessing Error . .	No error - Positioned & adjusted correctly
Installation Error . . .	No error - Installed correctly