

MODULE 10 • Children in Booster Seats & Seat Belts



Module Agenda: 35 Minutes

Topic	Suggested Timing
1. Introduction	2
2. How Booster Seats Protect Children <ul style="list-style-type: none"> • Video: Booster Seat vs. Lap Belt • Video: Booster Seat vs. Lap-and-Shoulder Belt 	5
3. Types of Booster Seats	5
4. Install a Booster Seat <ul style="list-style-type: none"> • Video: Install a Booster Seat • Practice Activity: Install a Booster Seat 	8
5. Best Practices on Booster Seats for Caregivers	2
6. Recommendations for Children in Seat Belts <ul style="list-style-type: none"> • Video: Beyond Booster Seats • Progress Check: Identify Seat Belt Errors and Consequences 	10
7. Progress Check and Summary	3
TOTAL	35 Minutes

Module Purpose

The purpose of this module is to prepare participants to assess whether belt-positioning booster seats and seat belts are being correctly used and teach caregivers about their proper use.

Module Objectives

- Identify how booster seats protect children.
- Differentiate between types of booster seats.
- Install a booster seat.
- Explain recommendations for children in seat belts.
- Explain best practices about booster seats and seat belts to caregivers.

Special Media, Materials, and Resources

- Booster seat to use inside the classroom
- Vehicle seat

Video Titles and Times

- Booster Seat vs. Lap Belt, :05 seconds (PPT 10-5)
- Booster Seat vs. Lap-and-Shoulder Belt, :05 seconds (PPT 10-6)
- Install a Booster Seat, 1:51 minutes (PPT 10-10)
- Beyond Booster Seats, 1:05 minutes (PPT 10-13)

Activities

- Practice Activity: Install a Booster Seat (may be done in the classroom)
- Progress Check: Identify Seat Belt Errors and Consequences
- Final Progress Check

Preparation

- Review the videos for this module.
- Become familiar with a variety of booster seats.
- Prepare to conduct the practice activity and progress checks.
- Determine if you will conduct the practice activity in the classroom or in vehicles.
- Collect large dolls to use as 8 to 10-year-old children for the activity.

1. Introduction

[INSTRUCTOR NOTE]

[This chapter has fewer Instructor notes than other modules. Booster seats do not require actual installation and normally require few adjustments when being placed in the vehicle. The most important aspect of installation is for the seat belt to fit the child properly.]



Display PPT 10-1.



Present module purpose.

The purpose of this module is to prepare you to assess whether belt-positioning booster seats and seat belts are being correctly used and teach caregivers about their proper use.



Display PPT 10-2.



Present module objectives.

As a result of this module, you will be able to:

- Identify how booster seats protect children.
- Differentiate between types of booster seats.
- Install a booster seat.
- Explain recommendations for children in seat belts.
- Explain best practices about booster seats and seat belts to caregivers.

2. How Booster Seats Protect Children



Reference TG page 10-1.



Display PPT 10-3.



Introduce belt-positioning booster seats.

We use the term belt-positioning booster seat when working with caregivers. This helps to emphasize how lap-and-shoulder belts keep the booster seats in place and keep children safe. In this module, we will shorten the term to booster seats.

Let's first address how booster seats work.

- Booster seats and seat belts continue to protect children in the back seat of vehicles. Children should be in the back seat when under age 13 because it is safer.

- Children should be in booster seats or until they are big enough to fit properly in a seat belt. This is the best practice, however, you will see children being moved into a seat belt at much younger ages because the caregivers believe the children are ready.
- Some booster seats are not tightly installed (locked in place) in the vehicle as with car seats.
- Booster seats are held in place by the child's weight and the vehicle's lap-and-shoulder belt.
 - These seats boost children up for correct seat belt fit.
 - Some new booster seats have lower anchor connectors to hold the seat in place when the child is not present.
- According to a Children's Hospital of Philadelphia study (CHOP, 2003), booster seats are more than twice as effective in reducing risk of injury when compared with seat belts alone.
- Skipping the booster seat step or "graduating" to a booster seat too early is common and unsafe.

[INSTRUCTOR NOTE]

[Children's Hospital of Philadelphia (CHOP) conducted a study entitled "Belt-Positioning Booster Seats and Reduction of Injury Risk Among Children in Vehicle Crashes" (Durbin, D.R., Elliott, M., et al. JAMA, June 4, 2003). This study found that belt-positioning booster seats are 59 percent more effective in reducing risk of injury when compared with seat belts alone.]



Ask questions and respond to comments.

Q. How do you think booster seats protect children?

Display PPT 10-4.



Review how booster seats protect children.

Booster seats protect children by increasing crash protection from injuries. Booster seats:

- Are a middle step between a car seat with a harness and a seat belt to protect children who are too large for a car seat and too small for just the seat belt.

- Raise and position a child so the vehicle's lap-and-shoulder belt fit properly over the stronger parts of a child's body.
- The booster seat keeps the lap belt from causing injury to a child's abdomen and keeps the shoulder belt in proper position to give the child upper body protection.

Children should be moved to a booster seat only when they have outgrown the height or weight limit of their forward-facing car seat. Many booster seats have weight ranges starting at 40 pounds and ending at much higher limits.



Display PPT 10-5.



Reference TG page 10-2.



Introduce Booster Seat vs. Lap Belt video (:05 seconds)

The Booster Seat vs. Lap Belt video demonstrates a 6-year-old restrained in a booster seat vs. being restrained by a lap-belt-only seat belt.

- Watch for the yellow line that traces the movement of the child's head during the crash.
- Note the exaggerated movement of the child's head when restrained by just a lap belt and how much further forward it moves than the child restrained in the booster seat.
- Take notes in your TG as you watch the video.



Play Booster Seat vs. Lap Belt video.

[INSTRUCTOR NOTE]

[Play the video a second time if needed for participants to see the differences between a crash with the child in a booster seat vs. being restrained by a lap-belt-only seat belt.]



Summarize the video.

This video demonstrates why booster seats should **NOT** be used with lap-belt-only seat belts. Serious head and/or internal injuries can result from excessive head movement and jackknifing over the lap belt.



Reference TG page 10-2.



Display PPT 10-6.



Introduce Booster Seat vs. Lap-and-Shoulder Belt video (:05 seconds)

This next video, Booster Seat vs. Lap-and-Shoulder Belt, demonstrates the 6-year-old restrained in a booster seat vs. being restrained by a lap-and-shoulder belt.

- Again, the yellow line traces the movement of the child's head during the crash.
- Note how much further forward the child's head moves when restrained by the lap-and-shoulder belt in comparison to the child restrained by the booster seat.
- Take notes in your TG as you watch the video.



Play Booster Seat vs. Lap-and-Shoulder Belt video.

[INSTRUCTOR NOTE]

[Play the video a second time if needed for participants to see the differences between a crash with the child in a booster seat vs. being restrained by a lap-and-shoulder seat belt.]



Summarize the video.

The booster seat keeps the lap belt from causing injury to a child's abdomen by keeping it low the upper hips and thighs. It also keeps the shoulder belt in proper position to give the child upper body protection.

Booster seats should only be used with lap-and-shoulder belts. Serious head or internal injuries can result from excessive head movement and jackknifing over the lap belt.

Booster seats:

- Must **NEVER** be used with just a lap belt.
- Are **NEVER** used on airplanes.
- May fit children up to 80 or 100+ pounds or more depending on specific models.

ALWAYS consult the booster seat owner's manual for the weight ranges and correct use of booster seats.

3. Types of Booster Seats



Reference TG page 10-3.



Introduce different types of booster seats.

We have talked about why booster seats are important and how they provide protection for children. Let's now review two types of booster seats: high-back and backless.

**Display PPT 10-7.**

Review high-back booster seats.

High-back booster seats are recommended for vehicles that have a low seat back or do not have a head restraint. A low seat back does not offer any support for a child's head.

- High-back booster seats provide head, neck, and back support for the child.
- When correctly positioned on a booster seat, vehicle seat belts fit over the shoulders and hips like an adult in a seat belt.
- Use only shoulder belt positioners provided with the booster seat.
- Some high-back booster seats can only be used with vehicle head restraints behind them.
- Some high-back booster seats can be used as backless booster seats by removing the back.

**Display PPT 10-8.**

Review how combination car seats are converted into high-back booster seats.

When a child has outgrown the height or weight limits of the internal harness of a combination car seat, the harness can be stored after removal and the seat can be used as a high-back booster.

Caregivers must carefully follow the manufacturer instructions for changing the combination car seat to a booster seat. Some seats have bases that also need to be removed to use as a booster seat.

**Display PPT 10-9.**

Review backless booster seats.

With a backless booster seat, the child uses the vehicle's seat back or built-in head restraint for head, neck, and back support.

- Use only with a lap-and-shoulder belt in a vehicle seating position with head restraints.
- Most backless booster seats come with a shoulder belt positioner to adjust the shoulder belt height on the child.

- The child's ears should **NOT** be above the back of the vehicle seat or top of head restraint.



Reference TG
page 10-4.



Review booster seats
in the front seat.

If a child in a booster seat must ride in the front seat:

- The child must be correctly restrained in a booster seat using the vehicle's lap-and-shoulder belt.
- The vehicle seat must be moved back as far as possible from the dashboard.



Ask question and
respond to comments.

Q. What questions do you have about the types of booster seats?

4. Install a Booster Seat



Reference TG
page 10-4.



Display PPT 10-10.



Introduce Install a
Booster Seat video
(1:51 minutes).

This next video, Install a Booster Seat, will take you through 5 steps for correct installation.

- Watch carefully for the installation steps.
- Take notes in your TG as you watch the video.



Play the Install a
Booster Seat video.



Conclude topic.

Even if the child is not present, booster seats should be secured in the vehicle at all times. When not buckled, the booster seat may become a projectile or object that can be tossed around the vehicle causing injury to vehicle occupants during a crash or sudden stop.

Some forward-facing combination seats may allow for connecting the child restraint to the vehicle using LATCH even when used as a booster seat. However, some high-back boosters can only be used with a seat belt.

Booster seat use may be a hard sell to the child, especially if child was prematurely to a seat belt too early.

[INSTRUCTOR NOTE]

[Provide a high-back and backless booster seat for each set of partners.]



Reference TG
page 10-5.



Conduct practice
activity and debrief.

Now that we have learned the steps to install a booster seat, each of you will practice installing a high-back and backless booster seat with a partner.

1. Read the manufacturer's instructions to see how lap-and-shoulder belts are supposed to be positioned over and around the child and booster seat.
2. Focus on these questions as you practice your installations.
 - Is the booster seat flat on the back seat of the vehicle?
 - Are there vehicle seat shoulder belt guides?
 - Might the vehicle head restraint need to be adjusted?
 - Is the booster seat height adjustable?

[INSTRUCTOR NOTE]

[Give 5 minutes for this practice activity. Walk around and provide feedback on their installations.]

5. Best Practices on Booster Seats for Caregivers



Reference TG
page 10-5.



Reinforce how to to
explain best practices
to caregivers.

There are key questions to answer related to booster seats.



Display PPT 10-11.

[INSTRUCTOR NOTE]

[Review the key questions.]

Let's now practice explaining how to install a booster seat to caregivers.

1. I will ask a question as though I am a caregiver.
2. Your task is to come up with the answer.
3. You can also build on each other's answers.

[INSTRUCTOR NOTE]

[Ensure that the following ideas are discussed. Have participants write down the correct responses in their TGs.]

1. Why is it important to use booster seats?

Answer:

- Increases crash protection from injuries.
- Protects children who are too large for a car seat and too small for a seat belt.
- Booster seats are more than twice as effective in reducing risk of injury when compared with seat belts alone.

2. When should a child move to a booster seat?

Answer: Children should move to a booster seat when they have reached the maximum weight or height limits of their forward-facing car seat.

3. Is there a weight and/or height requirement for a booster seat?

Answer: While there is not a specific weight (i.e., number of pounds) or height requirement, children should be moved to a belt-positioning booster seat only when they have outgrown the height or weight limit of their forward-facing car seat.

4. What is the proper placement of the lap-and-shoulder belt?

Answer: For a seat belt to fit, the lap belt must lie snugly across the upper thighs – **NOT** the stomach. The shoulder belt should lie snug across the shoulder and chest and **NOT** cross the neck or face.]



Ask question and respond to comments.

Q. What remaining questions do you have about booster seats and your role in explaining best practices to caregivers?

6. Recommendations for Children in Seat Belts



Reference TG
page 10-6.

**Display PPT 10-12.**

Review recommendations for children in seat belts.

Seat belts can be used when a child is:

- Tall enough to sit without slouching.
- Able to keep his or her back against the vehicle seat.
- Able to keep his or her knees naturally bent over the edge of the vehicle seat.
- Able to keep his or her feet flat on the floor.

The lap belt must lie snugly across the upper thighs – **NOT** the stomach. The shoulder belt should lie snug across the shoulder and chest and **NOT** cross the neck or face.

- Children must stay in position for the entire ride.
- Children should **NEVER** have the shoulder belt under their arm or behind their back. This can cause severe injuries in a crash. If the seat belt does not fit properly, the child should use a booster seat.
- Children under 13 should ride in the back seat. If a child is in the front seat, the vehicle seat must be moved back as far as possible from the dashboard.
- They should **NOT** lean or rest against air bags, including side air bags.

**Reference TG page 10-7.****Display PPT 10-13.**

Introduce Beyond Booster Seats video (1:05 minutes).

This next video, Beyond Booster Seats, demonstrates proper seat belt fit.

- Watch carefully for seat belt fit tips.
- Take notes in your TG as you watch the video.



Play the Beyond Booster Seats video.

**Display PPT 10-14.**

Conclude topic.

Adults are important role models for the safe behavior of children.

With carpools, emphasize to caregivers that they should make certain that booster seats and seat belts are used correctly every time children ride in a vehicle.

While lap belts are not ideal, they are better than no protection at all!



**Reference TG
page 10-8.**

[INSTRUCTOR NOTE]

[This progress check can be facilitated as a small group or pairs activity.]



Conduct a progress check.

Let's apply what you have learned about children and seat belts.

1. Examine each photograph to determine if the seat belt is fitted properly.
2. If not fitted properly, identify the errors along with the consequences for the child

[INSTRUCTOR NOTE]

[Give participants a couple minutes to identify the error in each photograph.

Display the photographs as you debrief the progress check. As you display each photograph, ask participants to identify the error and what they think the consequences might be for the child.

Make the following points if they do not come up in the discussion. Encourage participants to write down the correct answers in their TGs.]



Display PPT 10-15.



Debrief the progress check.

Photograph #1

Answer:

- Error: The child is too small and the lap belt is too high.
- Consequences: It may cause spinal and stomach injuries.



Display PPT 10-16.

Photograph #2**Answer:**

- Error: The belt is too loose because the child has a backpack on.
- Consequences: It increases forward movement and decreases belt effectiveness. Also allows child to slide out of the position that protects against crash forces.



Display PPT 10-17.

Photograph #3**Answer:**

- Error: The shoulder belt is under the child's arm.
- Consequences: It increases head and neck movement, applies force to the rib cage and can cause serious injury, and creates a habit that can continue in later life.



**Reference TG
page 10-9.**



Display PPT 10-18.

Photograph #4**Answer:**

- Error: The shoulder belt is behind the child's back.
- Consequences: This position prevents the shoulder-and-lap belt parts from working together well, affects the proper fit of the lap belt, and does **NOT** provide upper body protection.



Display PPT 10-19.

Photograph #5**Answer:**

- Error: The seat belt should **NOT** be shared.
- Consequences. Testing has not been done on shared belts and occupants will collide.



Display PPT 10-20.



Reference TG
page 10-9.



Describe seat belt
syndrome.

Seat Belt Syndrome (SBS) describes injuries that doctors see as a result of occupants wearing only a lap belt in collisions involving only the front of a vehicle. These injuries usually result when the occupant's body folds in half over the lap belt during a collision.

- When this happens, the lap belt applies extreme force along the occupant's pelvis to the mid-section.
- Securing only the waist without restraining the upper body can cause serious head and neck injuries after a head strike.

Injuries typically include:

- Severe stomach injuries.
- Fractures of the lumbar spine.
- Serious head and facial injuries.



Reference TG
page 10-10.



Reinforce how to to
explain best practices
to caregivers.

There are key questions to answer related to seat belts.



Display PPT 10-21
and 10-22.

[INSTRUCTOR NOTE]

[Review the key questions.]

Explain and demonstrate best practices to caregivers.

Follow these guidelines for a proper seat belt fit.

1. The lap belt must lie snugly across the upper thighs – **NOT** the stomach.
2. The shoulder belt should lie snug across the shoulder and chest and **NOT** cross the neck or face.

7. Progress Check and Summary



Reference TG
page 10-10.

[INSTRUCTOR NOTE]

[Conduct the following progress check as a large group activity.]

Ask for two volunteers to do a role play – one to play the caregiver and other the CPS Technician.



Conduct a progress check.

Give participant a couple of minutes for the role play.]
Let's practice responding to a scenario that you may encounter in the field.

The caregiver tells you the following:

My child has used a seat belt since he was 4 years old. What should I do now that he is 6 years old?

- What is the proper seat belt use for this situation?

While you listen to the role play, write down ideas for how to respond to the situation in your TGs.

[INSTRUCTOR NOTE]

[Make the following points if they do not come up in the role-play.]

1. What is the proper seat belt use for this situation?

Answer: Most children under 8 are not big enough to use an adult seat belt.

2. When can a child move to a seat belt?

Answer: Seat belts can be used when a child is:

- Tall enough to sit without slouching.
- Able to keep his or her back against the vehicle seat.
- Able to keep his or her knees naturally bent over the edge of the vehicle seat.
- Able to keep his or her feet flat on the floor.



Ask question and respond to comments.

Q. What remaining questions do you have about children in booster seats and seat belts and your role in explaining best practices to caregivers?



Conclude module.

The purpose of this module was to prepare you to assess whether booster seats and seat belts are properly installed and teach caregivers in their use. There is an additional topic to cover before we move on to more installation and communication activities – child passenger safety in other vehicles.

Skills Assessment #2: Select and Install Car Seats and Belt-Positioning Booster Seats

INTRODUCTION

Skills Assessment #2: Select and Install Car Seats and Belt-Positioning Booster Seats addresses knowledge and skills taught in Modules 7 to 10.

Objective

Technician candidates demonstrate their ability to select and adjust the harness on four car seats and correctly secure an additional five cars seats/booster seats.

Time for Completion

The recommended time limit for Skills Assessment #2 is 105 minutes.

PREPARATION

1. This assessment can be done in two parts, with the selection and harnessing inside and installation outside, depending on the availability of car seats and booster seats for use during assessments. Place car seats and booster seats for this assessment in a central location. Participants will select seats from this designated location and return them after each scenario.
2. Assign a seating position for each scenario allowing for using variety of belt systems.
3. One scenario **MUST** include using LATCH to secure a forward-facing seat. Do not use LATCH more than one time (except tether use with forward-facing car seat and seat belt).
4. One installation **MUST** include using a locking clip. This may be a separate installation in the classroom using a mock seat, with the approval of the Instructor team. If the mock seat option is used, write in “mock” for the Scenario # with the locking clip verification on the participant’s form. A lock-off may not be substituted for a locking clip.
5. Selection and installation of each car seat and booster seat should follow manufacturer guidelines and instructions. Tethers must be used for a forward-facing car seat if it is available on the car seat and if the tether anchor is available for the assigned seating position and manufacturer-approved.
6. Decisions about car seat selection and harness adjustment will be made based on the age and/or weight of children listed in the scenarios, not on size of dolls or stuffed animals that might be used to represent children in the scenarios. Use of dolls, dummies, or stuffed animals to represent children is optional.

ADMINISTRATION GUIDELINES

1. Review all instructions for Skills Assessment #2 with the class prior to conducting it (on next page).
2. No talking among participants is allowed during the assessment process.
3. Have participants complete all information lines on the forms before the assessment begins. Do not sign a form without a specific participant name filled in at the top.
4. Participants may refer to any or all of the course resources or vehicle owner’s manuals to complete this assessment. Strongly encourage participants to use the TG and checklist. Tell participants that finding the page numbers in owner’s manuals by looking in the index not only permissible, but also recommended.

Skills Assessment #2: Select and Install Car Seats and Belt-Positioning Booster Seats (continued)

5. Mark as failed if any of the answers are incorrect. Encourage participant to find the answers in their TG and practice (remediate) with an Instructor outside of the assessment environment.
6. Should a participant need attempt #3, direct him/her to stop and review the TG again. An Instructor who has not scored that person on that scenario will score the third attempt.
7. Any Instructor who places their ID# on a skills assessment form must provide a signature and Instructor number on the Skills Assessment Instructor Log form for that assessment.
8. Do not provide additional information to participants other than a clarification of instructions.
9. A time limit to complete repeated attempts may be determined at the discretion of the Lead Instructor.

PARTICIPANT INSTRUCTIONS

Complete Skills Assessment #2 individually. Correctly select and adjust the harness on car seats and correctly install them in vehicles.

1. Stand at least 10 feet away from a station while waiting your turn.
2. For scenarios 1 to 4, select and adjust the harness on the car seats based on the child's height and weight. Answer sections A to C per manufacturer instructions. Select a different car seat (no repeats) for each one. Be prepared to demonstrate tightening and loosening the harness for the Instructor and explain how to adjust the harness height.
3. For Scenarios 5 to 10, correctly secure the car seat or booster seat. Use the designated vehicles and seating positions. Each scenario except 10 requires a separate installation.
4. Answer **ALL** sections for each scenario correctly to pass. You **MUST** pass each scenario to pass the Skills Assessment #2.
 - You have up to three attempts to pass each scenario. Instructors will sign off on each attempt.
 - If you need a third attempt to pass, stop and review your TG. A third attempt to pass will be signed off on by an Instructor who has not already scored you for that scenario.
 - You **MUST** be able to tell the Instructor how you arrived at each selection after each scenario.
5. Although we promote best practice, you must follow manufacturer instructions to pass. For example, best practice is to keep a child rear-facing as long as possible. However, if scenarios are within the height and weight limits of the car seat, the scenario is correct.