



Child Passenger Safety Seat and Installations

Facilitator Guide

Tennessee Department of Children's Services | CHCB0020 | Ver. 23.02



Curriculum Information

- Training Credit: 2-hour course and 30-minute installations
- This curriculum was developed by the State of Tennessee Office of Training and Professional Development.
- Staff may receive T4T credit for this course by:
 - Attending the course T4T offering -- OR --
 - Attending an offering of the course taught by another trainer & debriefing with that trainer.

This curriculum was developed by the Tennessee Department of Children's Services with federal funds. It is available to use in part or in whole free of charge. Suggested citation:

OTPD. (2023). *Child Passenger Safety Seat and Installs*. Tennessee Department of Children's Services.

Competencies

- Participants will:
 - Learn Tennessee Child Passenger Safety Seat Laws
 - To achieve basic understanding of car seat systems
 - To learn to identify correct use and misuse
 - To be able to guide others in choosing and installing car seat systems
 - To be an advocate for child passenger safety laws and enforcement
 - To reduce personal liability
 - To be able to assemble Pack 'n' Play Safe Sleep furniture
 - To learn how to correctly install rear-facing, forward-facing, and booster seats using the seat belt and/ or LATCH

Materials Checklist

Materials needed for this curriculum

- Policy: 31:15 Guidelines for Transportation of Child/Youth by Regional Employees
- Video link: <https://www.youtube.com/watch?v=8g3hyDW-zpQ>
- Video link: https://www.youtube.com/watch?v=VzBac1F_qfs
- Video link:
<https://www.youtube.com/watch?v=TI4fQFoxNAI&feature=youtu.be>
- Video link:
https://www.youtube.com/watch?v=v_IAKCWXGi8&feature=youtu.be
- Video link:
<https://www.youtube.com/watch?v=O8ldLs4ht2Y&feature=youtu.be>

Class materials:

- Laptop & projector
- Child Passenger Safety Seat PowerPoint
- Pack 'n' Play
- Car Passenger Safety Seats- infant carrier, convertible, and booster seats
- Car Seat Check Form

Agenda

Unit 1	Child Passenger Safety	50 minutes
Unit 2	Types of Child Passenger Safety Seats	55 minutes
Unit 3	Conclusion	10 minutes
Unit 4	Pack 'n' Play Assembly	5 minutes
Unit 5	Child Passenger Safety Seat Installations	30 minutes

Unit 1: Child Passenger Safety

Unit Time: 50 minutes

Learning Objectives:

- Participants will:
 - Learn Tennessee Child Passenger Safety Seat Laws
 - To achieve basic understanding of car seat systems
 - To be an advocate for child passenger safety laws and enforcement
 - To reduce personal liability



Supporting Materials:

- Child Passenger Safety Seat PowerPoint
- Policy 31.15 Guidelines for Transportation of Child/Youth by Regional Employees
- Video: Understanding Seat Belt Systems (4:29 minutes). Link: <https://www.youtube.com/watch?v=8g3hyDW-zpQ>

Lesson 1.1: Introduction and Learning Objectives


Lesson Time: 10 minutes

Key Teaching Points / Instructions





- **WELCOME** participants to the class. **INTRODUCE** yourself to the group and share information about your previous experiences working with children and families from the child welfare system.
- **SHARE** Policy 31.15 Guidelines for Transportation of Child/Youth by Regional Employees states:

- Department of Children's Services (DCS)
Personnel who transport children/youth shall be trained to transport safely and securely and shall comply with applicable Federal and State laws, rules and regulations related to car seat, seat belt and secure hardware. Any DCS employee transporting children/youth shall maintain a valid driver's license and adequate automobile insurance coverage as required by law.

Introduction
<ul style="list-style-type: none"> • Policy 31.15 Statement • Department of Children's Services (DCS) Personnel who transport children/youth shall be trained to transport safely and securely and shall comply with applicable Federal and State laws, rules and regulations related to car seat, seat belt and secure hardware. Any DCS employee transporting children/youth shall maintain a valid driver's license and adequate automobile insurance coverage as required by law.



- **ASK** participants why Receive Child Passenger Safety Training. **ELICIT** answers from the group to include:

- To provide current information
- To educate the community
- To help people make informed decisions
- Reduce personal liability

Why Receive Child Passenger Safety Training?
<ul style="list-style-type: none"> • To provide current information • To educate the community • To help people make informed decisions • Reduce personal liability



- **REVIEW** training Objectives. **ASK** if there are any questions.


- Learn Tennessee Child Passenger Safety Seat Laws
- To achieve basic understanding of car seat systems
- To learn how to correctly install rear-facing, forward-facing, and booster seats using the seat belt and/ or LATCH
- To learn to identify correct use and misuse
- To be able to guide others in choosing and installing car seat systems
- To be an advocate for child passenger safety laws and enforcement

Learning Objectives
<ul style="list-style-type: none"> • Learn Tennessee Child Passenger Safety Seat Laws • To achieve basic understanding of car seat systems • To learn how to correctly install rear-facing, forward-facing, and booster seats using the seat belt and/ or LATCH • To learn to identify correct use and misuse • To be able to guide others in choosing and installing car seat systems • To be an advocate for child passenger safety laws and enforcement • To reduce personal liability


- To reduce personal liability
- **EXPRESS** Reducing Liability for staff is important:
 - Seek knowledge & take training SERIOUSLY
 - Be aware of TN State Law & DCS Policy
 - Stay current on law
 - Share ONLY current and up-to-date information with birth and foster parents
 - Say "I don't know" if necessary

Reducing Liability

- Seek knowledge & take training SERIOUSLY
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Lesson 1.2: TN Child Passenger Safety Law

Lesson Time: 10 minutes

Key Teaching Points / Instructions

- **TRANSITION** and **BEGIN** discussing the different types of Child Passenger Safety Seats.
- **SHARE** Rear-Facing Child Passenger Safety Seat
 - Children under one year old AND children weighing less than 20 pounds must be restrained in a rear-facing child passenger safety seat, in the rear seat if available.
- **STATE** the American Academy of Pediatrics Recommendations
 - It is best for children to ride rear-facing as long as possible to the highest weight and height allowed by the manufacturer of their convertible seat. When they have outgrown the seat rear-






Tennessee Child Passenger Safety Law

Rear-Facing Child Passenger Safety Seat

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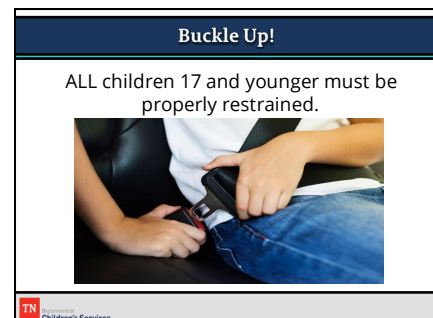
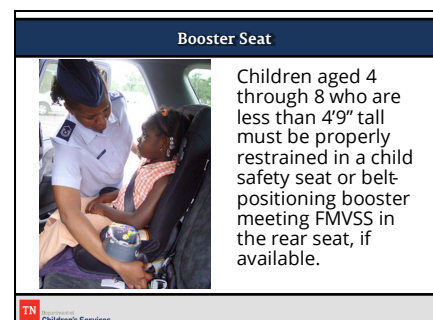
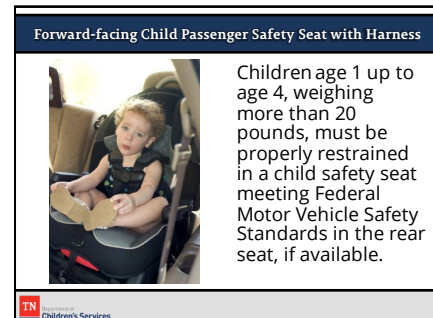
American Academy of Pediatrics Recommendations

It is best for children to ride rear-facing as long as possible to the highest weight and height allowed by the manufacturer of their convertible seat. When they have outgrown the seat rear-facing, they should use a forward-facing seat with a full harness as long as they fit.

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facing, they should use a forward-facing seat with a full harness as long as they fit.

- **SHARE** Forward-facing Child Passenger Safety Seat with Harness
 - Children age 1 up to age 4, weighing more than 20 pounds, must be properly restrained in a child safety seat meeting Federal Motor Vehicle Safety Standards in the rear seat, if available.
- **SHARE** Booster Seat are for:
 - Children aged 4 through 8 who are less than 4'9" tall must be properly restrained in a child safety seat or belt-positioning booster meeting FMVSS in the rear seat, if available.
- **LASTLY, EXPRESS** ALL children 17 and younger must be properly restrained. They must buckle up!
We are responsible for all youth in our care.



Lesson 1.3: Injury Prevention and Crash Dynamics

Lesson Time: 15 minutes

Key Teaching Points / Instructions

- **ASK** participants Why Are We Here? **ELICIT** answers from the group.
 - Traffic crashes are the leading cause of unintentional injuries & death.



- Many of these deaths and injuries could have been prevented with proper restraint use.
 - Because we care and together, we can make a difference.
- **SHARE** Child passenger restraints prevent serious injury and death
 - Motor vehicle crashes are the leading cause of death for children ages 1 to 13
 - Nationally, among children under age 4, an estimated 325 lives were saved by child passenger safety seat use in 2017
 - Additionally, an estimated 14,955 lives of those 5 years and older were saved by seat belt use
 - According to the National Highway Traffic Safety Administration, 59% of Car Seats and 20% of booster seats are misused in a way that could reduce effectiveness
 - **SHARE** Motor vehicle crashes are the #1 killer of teens
 - Motor vehicle crashes are the leading cause of death for U.S. teens
 - In 2016, 2433 teens ages 16-19 were killed in vehicle crashes and 292,742 were treated in the ER
 - Crashes involving teens ages 15-19 cost \$13.6 billion annually

Why Are We Here?

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Department of Transportation (DOT), National Highway Traffic Safety Administration (NHTSA), Traffic Safety Facts, March 2019


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Motor vehicle crashes are the #1 killer of teens


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- **STATE** Effectiveness of buckling up
 - Child Safety Seat use reduces the risk of injury 71-82% for children when compared to seat belt use alone.
 - Booster seats reduce the risk of serious injuries by 45% for children ages 4-8 years when compared to seat belt use alone.
 - Seat belt use reduces the risk of death and serious injury by half for older children and adults.


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Center for Disease Control


- **ASK** participants what they recall about Newton’s First Law of Motion. **ALLOW** for answers. **SHARE** “An object in motion tends to remain in motion at its original speed unless it is acted upon by an outside force.”

Newton's First Law Of Motion
<p>“An object in motion tends to remain in motion at its original speed unless it is acted upon by an outside force.”</p> <ul style="list-style-type: none"> • “Outside force”= the steering wheel, instrument panel, etc. • Unsecured items in the vehicle also remain in motion until stopped by an outside force which can cause injury.


- **EXPLAIN** an “Outside force” could be the steering wheel, instrument panel, etc. **STATE** all unsecured items in the vehicle also remain in motion until stopped by an outside force which can cause injury.


- **SHARE** when thinking about crash forces we must think about restraining force = weight x speed. For example: 50-pound child at 40 MPH=2000 pounds.

Crash Forces
<p>Something to Think about:</p> <p>Weight X Speed = Restraining Force</p>
<p>50 pound child at 40 MPH = 2000 Pounds</p>


- **INFORM** How Seat Belts Prevent Injuries and Save Lives?

- **Wearing Seat Belts Helps Keep the Occupants Inside the Vehicle and Prevents Injuries**


- The law of inertia happens when your vehicle gets hit and stopped by any external force, but your body's moving speed continues in

5 Ways Restraints Prevent Injury:
<ol style="list-style-type: none"> 1) Prevent ejection 2) Contact the strongest parts of the body 3) Spread force over a wide area of the body 4) Help the body to “ride down” the crash 5) Protect the head and spinal cord


its own path due to inertia hence, without seat belts the occupant's body inside the car experiences the law of inertia and gets thrown out from the car's front glass and experiencing head injury or spinal injury. But fastening seat belts might save your life by preventing that force to expel you out of the vehicle.

- **Seat Belt Holds the Strongest Parts of Body Firmly and Prevents Injuries and Saves Lives**
 - Seat belts are the life savers and so are the air bags present in your vehicle that appear on car collision. Seat belts hold the strongest part of your body firmly to prevent injury in crucial parts of the body such as head, shoulders, spinal cord, hips, and limbs.
- **Seat Belts Spreads Out the Force of Impact**
 - In many vehicles seat belts are designed for locking shoulder and lap with belts and they are the crucial reason behind millions of saved lives. When a sudden impact is experienced by your vehicle, the lap and shoulder belts equally distribute the force of impact over a broad area of your body by preventing a concentrated stress on any one part or area to avoid worse injury. These belts are designed in such a way that they keep your head and spinal cord maximum stretched to slow down your body but still avoid from getting hit by the dashboard or any interior part of the vehicle.
- **Seat Belts Helps to Slow Down Your Body Motion in a Vehicle Collision and Prevents Injury**

- Every moving object has momentum and when an object moves at its own speed and direction, unless an outside external force applied on an object, the object will continue moving at its previous same direction and speed which is the law of inertia and Newton's First Law of Motion. Seat belts are designed in a style to avoid or prevent maximum injuries and save lives. When an impact hits your vehicle or your vehicle collides and accident occurs and then a sudden quick change in speed can be seen in which your seat belts extend the time to take for your motion or speed to slow down in a hit to avoid maximum hit or injury.
- **Seat Belts Can Protect Your From Head and Spinal Cord Injury**
 - Seat belts are provided in all vehicles to protect your head, spinal cord and entire upper body which are the most critical and important parts of your body which might get severely injury if not prevented smartly. Head injuries and spinal cord damages are common in car accidents and fastening seat belts save million lives by keeping the head and spinal cord restrained to the seat to avoid hitting the dashboard, steering, front glass or any interior of the vehicle.
- **STATE** we all know there are some unsurvivable crashes considering:
 - Restraint systems are designed to protect from crash forces most likely to occur.
 - Many factors determine injury outcome (size, weight, and speed).
 - Seat belts and airbags or car seat systems = best chance of survival.

Unsurvivable Crashes
<ul style="list-style-type: none">• Restraint systems are designed to protect from crash forces most likely to occur.• Many factors determine injury outcome (size, weight and speed).• Seat belts and airbags or car seat systems = best chance of survival.


Lesson 1.4: Vehicle and Child Passenger Safety Seat Parts

Lesson Time: 15 minutes

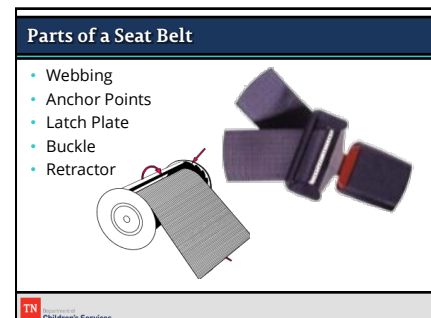
Key Teaching Points / Instructions

- **EXPLAIN** there are two types of Occupant Protection including:
 - **Passive Protection**
 - features built into the vehicle
 - protects without any action by the occupant
 - Ex: air bags
 - **Active Protection**
 - require action by the occupant
 - Ex: Lap belts; Lap/shoulder belts; car seat systems
- **SHARE** there are several parts of a Seat Belt including:
 - Webbing
 - Anchor Points
 - Latch Plate
 - Buckle
 - Retractor
- **INFORM** vehicles have different latch plates including:
 - Locking: This latch plate on the seat belt can be found in older vehicles and in the center of some newer vehicles.



Types of Occupant Protection	
1. Passive Protection	<ul style="list-style-type: none"> - features built into the vehicle - protects without any action by the occupant - Ex: air bags
2. Active Protection	<ul style="list-style-type: none"> - require action by the occupant - Ex: Lap belts; Lap/shoulder belts; car seat systems


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Types of Latch Plates	
1. Locking:	This latch plate on the seat belt can be found in older vehicles and in the center of some newer vehicles.
2. Sliding:	No locking feature.
3. Sewn-on:	No locking feature.
4. Switchable:	Some vehicles have a switchable latch plate that uses a button to move from the unlocked position for adults to the locked position for car seats (children).
5. Dynamic locking:	These are currently located in the front seat of some vehicles and lock the lap-and-shoulder belt when loaded by an occupant during a crash. This latch plate is NOT intended to lock the seat belt for a car seat.



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- Sliding: No locking feature.
 - Sewn-on: No locking feature.
 - Switchable: Some vehicles have a switchable latch plate that uses a button to move from the unlocked position for adults to the locked position for car seats (children).
 - Dynamic locking: These are currently located in the front seat of some vehicles and lock the lap-and-shoulder belt when loaded by an occupant during a crash. This latch plate is **NOT** intended to lock the seat belt for a car seat.
- **ADDITIONALLY**, vehicles have different types of retractors including:
 - Automatic Locking (ALR)- Allows belt to be pulled in one motion until fastened. Then operates as a ratchet, winding in slack, preventing further extension (until completely rewound).
 - Emergency Locking (ELR)- Only locks when force is applied.
 - Switchable- Manually adjusted from ELR to ALR. Most pull all webbing out for switch to ALR.
 - **SHOW** video: Understanding Seat Belt Systems (4:29 minutes). Link: <https://www.youtube.com/watch?v=8g3hyDW-zpQ>
 - **ASK** participants if they have any questions.
 - **EXPLAIN** some vehicles may require a locking clip.

Types of Retractors
<ul style="list-style-type: none"> Automatic Locking (ALR)- Allows belt to be pulled in one motion until fastened. Then operates as a ratchet, winding in slack, preventing further extension (until completely rewound). Emergency Locking (ELR)- Only locks when force is applied. Switchable- Manually adjusted from ELR to ALR. Most pull all webbing out for switch to ALR.


Video: Understanding Seat Belt Systems



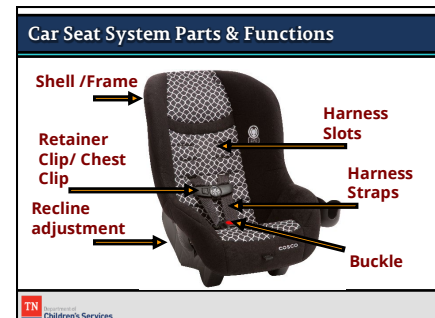
Install a Locking Clip	
<p>If the vehicle does not have a locking latch plate or a switchable/automatic locking retractor, a locking clip will need to be installed to secure the child passenger safety seat.</p>	
	<p>Some child passenger safety seats are being manufactured with locking mechanisms included.</p>
	

- If the vehicle does not have a locking latch plate or a switchable/ automatic locking retractor, a locking clip will need to be installed to secure the child passenger safety seat.
- Some child passenger safety seats are being manufactured with locking mechanisms included.

- **INSTRUCT** Car Seat System Parts and Functions

and point out on the slide:

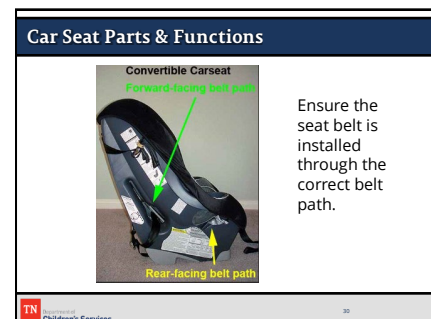
- Shell/Frame
- Retainer Clip/Chest Clip
- Recline adjustment
- Harness Slots
- Harness Straps
- Buckle



- **Note:** Some seats have an adjustable recline bar that should be placed in the correct position prior to installing. Others just have a sloped back to adjust when installing. To adjust the harness straps, remove them from the harness slots and re-route them through the slot needed according to the child's height and seat position. Some seats have adjustable crotch straps based on the seat direction.

- **SHOW** participants Car Seat Parts & Functions slide and **STATE** the seat belt is installed through the correct belt path.

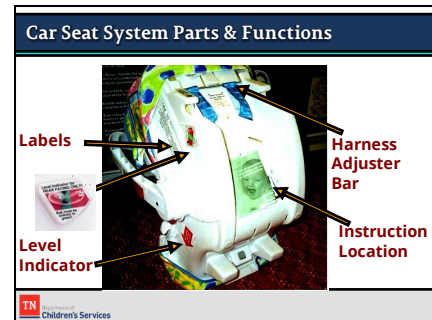
- The correct belt bath is always the belt path closest to the seat.



- **SHOW** participants Car Seat System Parts & Functions slide to include:

- Labels

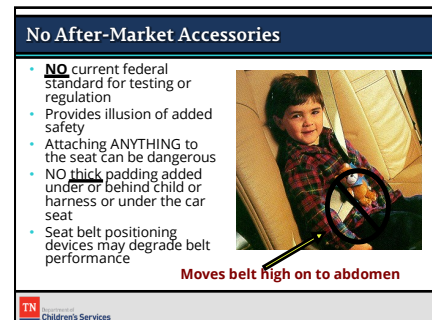
- Level Indicator
- Harness Adjuster Bar
- Instruction Location
- Note: Some harness adjusters are straps at the front of the child passenger safety seat in front of the crotch strap. There is a button you push to release it.



- **EXPLAIN** to participants No After-Market

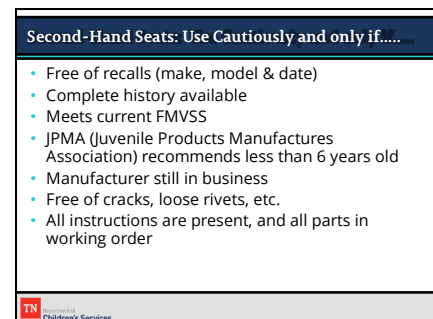
Accessories are recommended:

- **NO** current federal standard for testing or regulation
- Provides illusion of added safety
- Attaching ANYTHING to the seat can be dangerous
- NO thick padding added under or behind child or harness or under the car seat
- Seat belt positioning devices may degrade belt performance



- **STRESS** Second-Hand Seats: Use Cautiously and only if.....

- Free of recalls (make, model & date)
- Complete history available
- Meets current FMVSS
- JPMA (Juvenile Products Manufactures Association) recommends less than 6 years old
- Manufacturer still in business
- Free of cracks, loose rivets, etc.
- All instructions are present, and all parts in working order



- Note: All child passenger safety seats have an expiration date. Typically, it is 6 years; however, check the manufacture instructions to determine the expiration date. Some seats are good 6 to 10 years.
- Child passenger safety seats that have been in car accidents should not be used.
- **ADDITIONALLY**, Child Passenger Safety Seats that come out of a house where there was a meth lab or a vehicle with a rolling meth lab are contaminated and should not be used.

Meth Contact
Child Passenger Safety Seats that come out of a house where there was a meth lab or a vehicle with a rolling meth lab are contaminated and should not be used.

Unit 2: Types of Child Passenger Safety Seats

Unit Time: 55 minutes

Learning Objectives:

- Participants will
 - To learn to identify correct use and misuse
 - To be able to guide others in choosing and installing car seat systems

Supporting Materials:

- Child Passenger Safety PowerPoint
- Videos:
 - Understanding Seat Belt Systems:
 - <https://www.youtube.com/watch?v=8g3hyDW-zpQ>
 - Rear Facing Car Seat:
 - https://www.youtube.com/watch?v=VzBac1F_qfs
 - Forward Facing/Combination:
 - <https://www.youtube.com/watch?v=TI4fQFoxNAI&feature=youtu.be>
 - Booster:
 - https://www.youtube.com/watch?v=v_IAKCWXGi8&feature=youtu.be
 - Forward Facing with Lower Anchors and Tether:
 - <https://www.youtube.com/watch?v=O8ldLs4ht2Y&feature=youtu.be>

Lesson 2.1: Rear-Facing Car Seat Systems

Lesson Time: 15 minutes

Key Teaching Points / Instructions




- **TRANSITION** by stating we are now going to look at the different types of car seat installs. Each install depends on the child and -their age and needs.

- **BEGIN** with Rear-Facing Car Seat Systems:

- Rear Facing ONLY
 - Supports entire head, neck & back, reducing stress to neck and spine in crash
 - 5-point harness
 - Most have a detachable base
 - Move child to convertible rear-facing when head is within 1" of top of shell or when the child's weight exceeds the manufacture's limits.
- Convertible - Rear Facing
 - Rear-facing until over 20 pounds and at least one year old
 - Use in reclined position according to manufacture requirements.

Rear Facing ONLY



- Supports entire head, neck & back, reducing stress to neck and spine in crash
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Rear Facing ONLY

Move child to convertible rear-facing when head is within 1" of top of shell or when the child's weight exceeds the manufacture's limits



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Convertible - Rear Facing

- Rear-facing until over 20 pounds and at least one year old
- Use in reclined position according to manufacture requirements.



5 Point Harness

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- **SHOW** overview slide for 5 Steps for Rear-Facing

Car Seat Use

- Selection
- Direction
- Location
- Installation
- Harnessing

5 Steps for Rear-Facing Car Seat Use

- Selection
- Direction
- Location
- Installation
- Harnessing



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- **SHARE** and **EXPLAIN** Selection: Choose the Right Car Seat

- Select the one that is right for the child's height, weight, developmental levels, **AND** that a caregiver can use correctly.
- Select a car seat with an adjustable harness height to offer options for a rapidly growing infant.
- Some seats have multiple positions for crotch straps for better fit as a child grows. Caregivers should refer to the manufacturer instructions for proper placement.

Selection: Choose the Right Car Seat

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- **SHARE** and **EXPLAIN** Direction: Face the Car Seat the Right Way

- An infant under the age of 1 should **ALWAYS** ride in a rear-facing car seat.
- A child should remain in a rear-facing car seat **AS LONG AS POSSIBLE**. The child should remain in a rear-facing car seat until he or she reaches the top height or weight limit allowed by the car seat manufacturer. Once a child outgrows a rear-facing only seat, they can transfer to a rear-facing convertible until they reach the maximum height or weight for that seat.

Direction: Face the Car Seat the Right Way

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- **SHARE** and **EXPLAIN** Location: Install the Car Seat in the Right Spot in the Vehicle

- Although there may be many seating positions in a vehicle, not all may be suitable for installing a car seat. The car seat manufacturer instructions and/or the vehicle owner's manual


Location: Install the Car Seat in the Right Spot in the Vehicle


- Although there may be many seating positions in a vehicle, not all may be suitable for installing a car seat. The car seat manufacturer instructions and/or the vehicle owner's manual may not allow the use of the center rear seating position, especially when installing with LATCH.
- **NEVER** place a rear-facing car seat in the front vehicle seat if the passenger frontal air bag is turned on in the vehicle. If it is necessary to place a forward-facing child in the front seat, be sure the air bag is turned off.

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may not allow the use of the center rear seating position, especially when installing with LATCH.

- **NEVER** place a rear-facing car seat in the front vehicle seat if the passenger frontal air bag is turned on in the vehicle. If it is necessary to place a forward-facing child in the front seat, be sure the air bag is turned off.
- **SHARE** and **EXPLAIN** Installation: Secure the Car Seat to the Vehicle in the Right Way
 - The rear-facing car seat spreads crash forces along the entire head, neck, and back. The correct angle helps keep the airway open. If the car seat is installed too upright, the child's head may flop forward and cut off his/her air supply.
 - Know the car seat recline angle, use the recline indicator and adjuster, and adjust to accommodate the seat and vehicle slope.
- **SHARE** and **EXPLAIN** Harnessing: Place the Child Correctly in the Car Seat
 - Place the child all the way back in the car seat.
 - Place the harness straps **at or below** the child's shoulders, according to manufacturer's instructions, and buckle at the crotch.
 - Tighten harness straps snugly. One should not be able to pinch excess webbing at the shoulder or hips once the harness is buckled. This is called the pinch test. "It should not press on the child's flesh or push the child's body into an unnatural position.
 - Place the harness retainer clip at armpit level.

Installation: Secure the Car Seat to the Vehicle in the Right Way
<ul style="list-style-type: none"> • The rear-facing car seat spreads crash forces along the entire head, neck, and back. The correct angle helps keep the airway open. If the car seat is installed too upright, the child's head may flop forward and cut off his/her air supply. • Know the car seat recline angle, use the recline indicator and adjuster, and adjust to accommodate the seat and vehicle slope.


Harnessing: Place the Child Correctly in the Car Seat
<ol style="list-style-type: none"> 1. Place the child all the way back in the car seat. 2. Place the harness straps at or below the child's shoulders, according to manufacturer's instructions, and buckle at the crotch. 3. Tighten harness straps snugly. One should not be able to pinch excess webbing at the shoulder or hips once the harness is buckled. This is called the pinch test. "It should not press on the child's flesh or push the child's body into an unnatural position. 4. Place the harness retainer clip at armpit level.


- **DISCUSS** the Rear-Facing Back Angle:
 - Back is primary restraint
 - Balance with comfort and keeping airway open
 - Range - 30° to 45°
 - Newborns more reclined
 - More upright as child grows
 - Car bed option for special needs

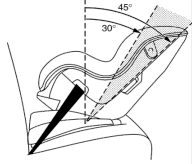
- **EXPLAIN** there are General Methods to Obtain a Tight Installation including:
 - Child seat system facing proper direction
 - Correct belt path
 - Compress vehicle seat cushion
 - Buckle, tighten, lock the belt
 - No more than 1" of movement at the belt path

- **STRESS** Elements of Correct Installation include:
 - Tightly securing the child seat system
 - Install as tightly as possible
 - Pull car seat at belt path
 - Car seat system should not move side to side (at belt path) or forward more than 1"

- **REMIND** participants when Installing the Seat to keep in mind the Air Bags
 - All children should ride in back seat
 - **Never** place rear-facing seat in front of active air bag

Rear-Facing Back Angle

- Back is primary restraint
- Balance with comfort and keeping airway open
- Range - 30° to 45°
- Newborns more reclined
- More upright as child grows
- Car bed option for special needs



Courtesy of Kathleen Weber, Child Passenger Protection Research Program
University of Michigan Medical School

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General Methods to Obtain a Tight Installation

- Child seat system facing proper direction
- Correct belt path
- Compress vehicle seat cushion
- Buckle, tighten, lock the belt
- No more than 1" of movement at the belt path




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Elements of Correct Installation

Tightly securing the child seat system

- Install as tightly as possible
- Pull car seat at belt path
- Car seat system should not move side to side (at belt path) or forward more than 1"




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Installing the Seat

Air Bags

- All children should ride in back seat
- **Never** place rear-facing seat in front of active air bag



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- **SHOW** Install a Rear-Facing Car Seat Video (1:54).

Link:

https://www.youtube.com/watch?v=VzBac1F_qfs

- **ASK** participants if they have any questions.



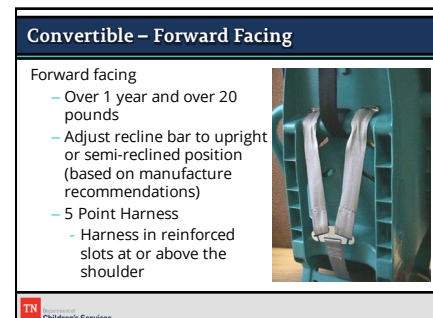
Lesson 2.2: Forward-Facing Car Seat Systems

Lesson Time: 15 minutes

Key Teaching Points / Instructions





- **SHARE** there are two types of forward-facing child passenger seats including Convertible – Forward Facing and Combination child seat/booster.
- **STATE** the Convertible – Forward Facing:
 - Over 1 year and over 20 pounds
 - Adjust recline bar to upright or semi-reclined position (based on manufacture recommendations)
 - 5 Point Harness
 - Harness in reinforced slots at or above the shoulder
- **EXPLAIN** Forward – Facing ONLY seats Combination child seat/booster:
 - Most with 40–50-pound weight limit using internal harness
 - Over 40-50 pounds, remove harness straps and use with lap/shoulder belt as Belt Positioning Booster
- **REMIND** steps for car seat use including:




- Selection
- Direction
- Location
- Installation
- Harnessing
- **SHARE** and **EXPLAIN** Selection: Choose the Right Car Seat
 - Select the one that is right for the child's height, weight, developmental levels, **AND** that a caregiver can use correctly.
- **SHARE** and **EXPLAIN** Direction: Face the Car Seat the Right Way
 - A child should be kept in a forward-facing car seat with a harness until reaching the top height or weight limit allowed by the manufacturer. This is generally between the ages of 4 to 7.
- **SHARE** and **EXPLAIN** Location: Install the Car Seat in the Right Spot in the Vehicle
 - As with rear-facing car seats, while there may be many seating positions in a vehicle, not all may be suitable for installing a car seat.
 - As long as the car seat fits, the center-rear seating position may be safer because it is furthest from impact and intrusion from any direction. However, some center-rear positions are not usable and many families transport more than one child.


5 Steps for Rear-Facing Car Seat Use	
<ul style="list-style-type: none"> • Selection • Direction • Location • Installation • Harnessing 	
	


Selection: Choose the Right Car Seat
<p>Select the one that is right for the child's height, weight, developmental levels, AND that a caregiver can use correctly.</p>


Direction: Face the Car Seat the Right Way
<p>A child should be kept in a forward-facing car seat with a harness until reaching the top height or weight limit allowed by the manufacturer. This is generally between the ages of 4 to 7.</p>


Location: Install the Car Seat in the Right Spot in the Vehicle
<ul style="list-style-type: none"> • As with rear-facing car seats, while there may be many seating positions in a vehicle, not all may be suitable for installing a car seat. • As long as the car seat fits, the center-rear seating position may be safer because it is furthest from impact and intrusion from any direction. However, some center-rear positions are not usable and many families transport more than one child. • Weight limits on lower and tether anchors can affect the seating position choice. Each vehicle manufacturer sets these weight limits. Check the vehicle owner's manual for limits and seat positions where LATCH can be used.


- Weight limits on lower and tether anchors can affect the seating position choice. Each vehicle manufacturer sets these weight limits. Check the vehicle owner's manual for limits and seat positions where LATCH can be used.
- **SHARE** and **EXPLAIN** Installation: Secure the Car Seat to the Vehicle in the Right Way
 - Consider seating positions with seat belts that can be locked (locking latch plate, switchable, or automatic locking retractors) or approved lower anchor positions for car seat use.
 - A tether increases safety by limiting forward movement and rotation of the car seat. Using the tether strap can stabilize a car seat and limit head movement.
 - **NEVER** place pool noodles or towels behind or under a forward-facing car seat unless allowed by the manufacturer.
- **SHARE** and **EXPLAIN** Harnessing: Place the Child Correctly in the Car Seat
 - Place the child all the way back in the car seat.
 - Put the harness straps **at or above** the shoulders and buckle at the crotch. The harness holds the child back against the car seat so he or she does not slide out in a crash. The crotch strap keeps the child from moving forward.
 - Tighten the harness straps snugly. You should **NOT** be able to pinch excess webbing at the shoulders once the harness is buckled.
 - Secure and place the harness retainer clip at armpit level.

Installation: Secure the Car Seat to the Vehicle in the Right Way
<ul style="list-style-type: none"> • Consider seating positions with seat belts that can be locked (locking latchplate, switchable, or automatic locking retractors) or approved lower anchor positions for car seat use. • A tether increases safety by limiting forward movement and rotation of the car seat. Using the tether strap can stabilize a car seat and limit head movement. • NEVER place pool noodles or towels behind or under a forward-facing car seat unless allowed by the manufacturer.



Harnessing: Place the Child Correctly in the Car Seat
<ol style="list-style-type: none"> 1. Place the child all the way back in the car seat. 2. Put the harness straps at or above the shoulders and buckle at the crotch. The harness holds the child back against the car seat so he or she does not slide out in a crash. The crotch strap keeps the child from moving forward. 3. Tighten the harness straps snugly. You should NOT be able to pinch excess webbing at the shoulders once the harness is buckled. 4. Secure and place the harness retainer clip at armpit level.


- **EXPLAIN** there are General Methods to Obtain a Tight Installation including:
 - Child seat system facing proper direction
 - Correct belt path
 - Compress vehicle seat cushion
 - Buckle, tighten, lock the belt
 - No more than 1" of movement at the belt path
- **STRESS** Elements of Correct Installation include:
 - Tightly securing the child seat system
 - Install as tightly as possible
 - Pull car seat at belt path
 - Car seat system should not move side to side (at belt path) or forward more than 1"
- **SHOW** Forward Facing with seat belt installation Video (2:02). Link:

<https://www.youtube.com/watch?v=TI4fQF0xNAI&feature=youtu.be>

General methods to obtain a tight installation

- Car seat system facing proper direction
- Correct belt path
- Compress vehicle seat cushion
- Buckle, tighten, lock the belt
- No more than 1" of movement at the belt path




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Elements of Correct Installation

Tightly securing the car seat system


- Install as tightly as possible
- Pull car seat at belt path
- Car seat system should not move side to side or forward more than 1"



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Forward Facing with seat belt installation Video

Combination Car Seat Used Forward-Facing with seat belt and tether



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Lesson 2.3: Booster Seats and Seat Belts

Lesson Time: 10 minutes

Key Teaching Points / Instructions

- **SEQUE** in discussing Booster seats:
 - Provides transition from car seat system with harness to vehicle lap/shoulder belts
 - Minimum weight ranges 30-40 lbs
 - Maximum weight ranges 60-100+ lbs

MTSA
People Serving People

TN

Booster Seats and Seat Belts

Booster Seats

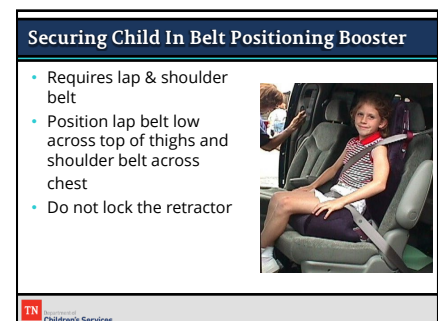
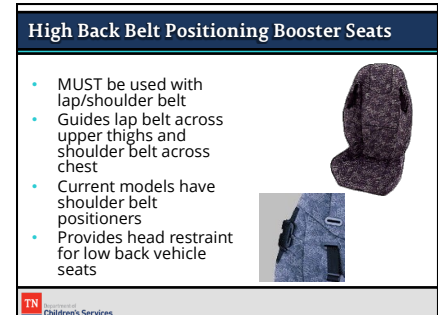
- Provides transition from car seat system with harness to vehicle lap/shoulder belts
- Minimum weight ranges 30-40 lbs
- Maximum weight ranges 60-100+ lbs
- Maximum height limits vary



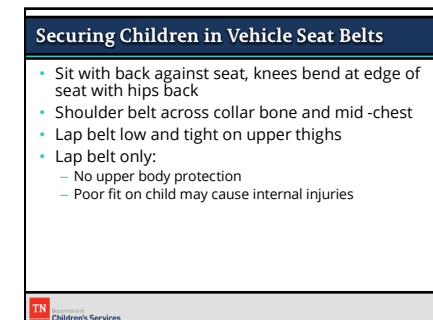
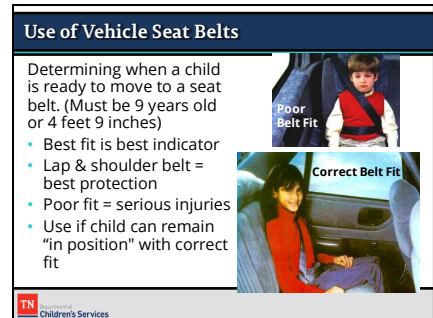
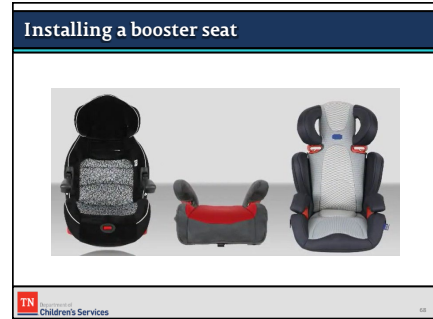
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- Maximum height limits vary
- **STATE** there are two types of booster seats including:
 - High Back Booster
 - Belt Positioning Boosters
- **EXPLAIN** the High Back Belt Positioning Booster Seats
 - MUST be used with lap/shoulder belt
 - Guides lap belt across upper thighs and shoulder belt across chest
 - Current models have shoulder belt positioners
 - Provides head restraint for low back vehicle seats
- **EXPLAIN** the Backless Belt Positioning Booster Seats
 - MUST be used with lap/shoulder belt
 - Vehicle seat must have a headrest
 - Guides lap belt across upper thighs and shoulder belt across chest
 - Some models have shoulder belt positioners
- **SHARE** Securing a Child In Belt Positioning Booster
 - Requires lap & shoulder belt
 - Position lap belt low across top of thighs and shoulder belt across chest
 - Do not lock the retractor
- **SHOW** Installing a booster seat Video (1:34). Link:

https://www.youtube.com/watch?v=v_IAKCWXGi8&feature=youtu.be



- **INFORM** participants when determining when a child is ready to move to a seat belt. (Must be 9 years old or 4 feet 9 inches)
 - Best fit is best indicator
 - Lap & shoulder belt = best protection
 - Poor fit = serious injuries
 - Use if child can remain "in position" with correct fit
- **DISCUSS** when Securing Children in Vehicle Seat Belts
 - Sit with back against seat, knees bend at edge of seat with hips back
 - Shoulder belt across collar bone and mid-chest
 - Lap belt low and tight on upper thighs
 - Lap belt only:
 - No upper body protection
 - Poor fit on child may cause internal injuries



Lesson 2.4: LATCH: Lower Anchors and Tethers for Children

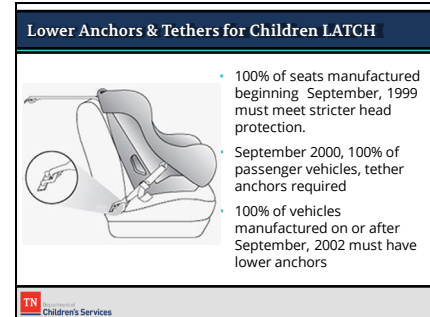
Lesson Time: 15 minutes

Key Teaching Points / Instructions

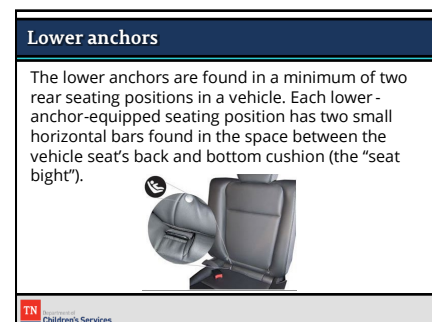
- **ADDRESS** Lower Anchors and Tethers for Children
 - also know as LATCH:



- 100% of seats manufactured beginning September 1999 must meet stricter head protection.
- September 2000, 100% of passenger vehicles, tether anchors required
- 100% of vehicles manufactured on or after September 2002 must have lower anchors



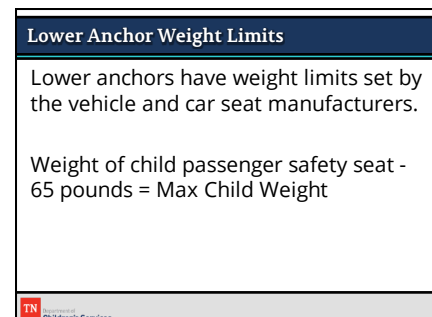
- **EXPLAIN** the lower anchors are found in a minimum of two rear seating positions in a vehicle. Each lower-anchor-equipped seating position has two small horizontal bars found in the space between the vehicle seat's back and bottom cushion (the "seat bight").



- **Note:** Child passenger safety seats should not be installed with both the seat belt and LATCH system unless both the vehicle manufacture and the vehicle manufacture allow it.

- **STATE** there are Lower Anchor Weight Limits

- Lower anchors have weight limits set by the vehicle and car seat manufacturers.
- Weight of child passenger safety seat - 65 pounds = Max Child Weight
- You can determine the lower anchor weight

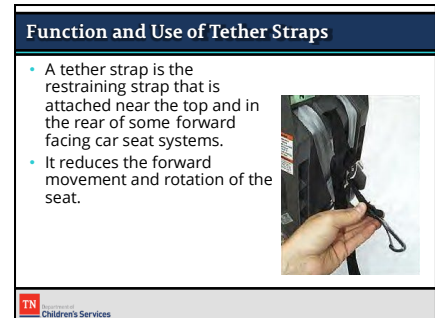


limit by checking the warning label or installation diagrams located on the side of the car seat. If your car seat does not have a label, you can determine the maximum allowable child weight for lower anchor use by subtracting the

weight of the car seat (usually available in the car seat's instruction manual) from 65 pounds.

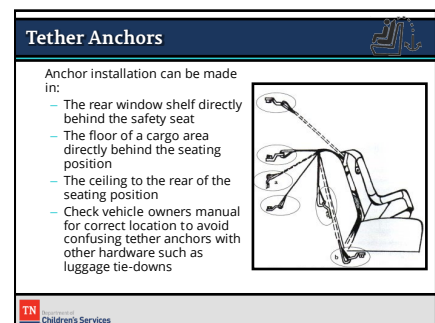
- **DISCUSS** the Function and Use of Tether Straps

- A tether strap is the restraining strap that is attached near the top and in the rear of some forward facing car seat systems.
- It reduces the forward movement and rotation of the seat.
- Note: Tether straps can be used with lower anchors or the seat belt to secure the seat from forward movement.



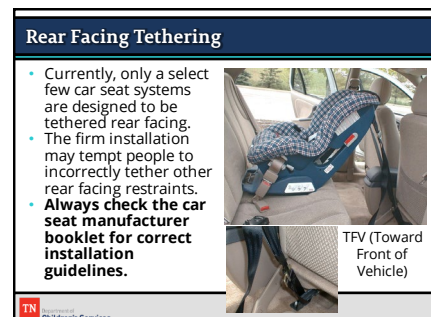
- **SHARE** Tether Anchors

- Anchor installation can be made in:
 - The rear window shelf directly behind the safety seat
 - The floor of a cargo area directly behind the seating position
 - The ceiling to the rear of the seating position
 - Check vehicle owners manual for correct location to avoid confusing tether anchors with other hardware such as luggage tie-downs
 - **Note:** A common mistake is securing the tether anchor to a cargo hook, etc. Point out the symbol in the top right corner and note that many tether points are noted with this symbol.

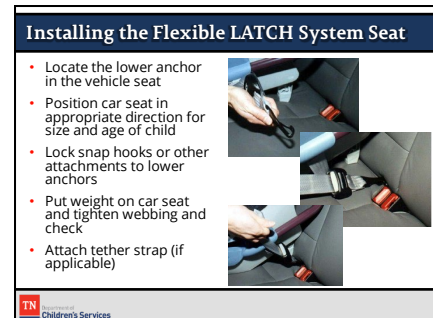


- **EXPLAIN** Rear Facing Tethering

- Currently, only a select few car seat systems are designed to be tethered rear facing.



- The firm installation may tempt people to incorrectly tether other rear facing restraints.
- **Always check the car seat manufacturer booklet for correct installation guidelines.**
- **DISCUSS** Installing the Flexible LATCH System Seat
 - Locate the lower anchor in the vehicle seat
 - Position car seat in appropriate direction for size and age of child
 - Lock snap hooks or other attachments to lower anchors
 - Put weight on car seat and tighten webbing and check
 - Attach tether strap (if applicable)
- **SHOW** Forward-Facing with LATCH Installation Video (1:57). Link: <https://www.youtube.com/watch?v=O8ldLs4ht2Y&feature=youtu.be>



Unit 3: Conclusion

Unit Time: 10 minutes

Supporting Materials:

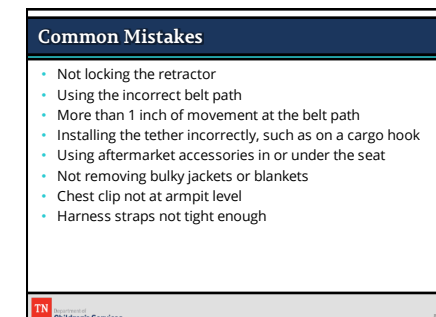
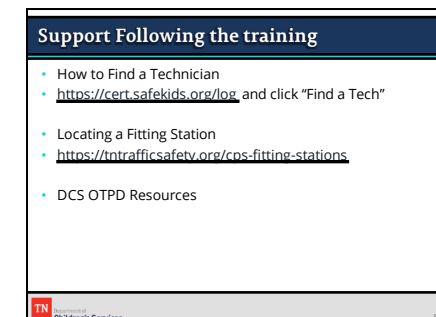
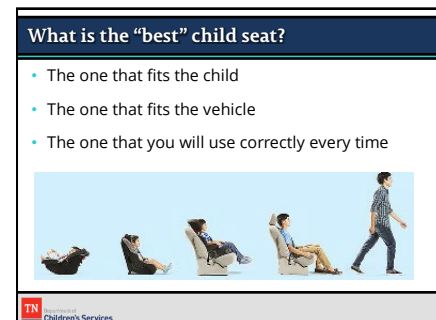
- Child Passenger Safety PowerPoint

Lesson 3.1: Conclusion

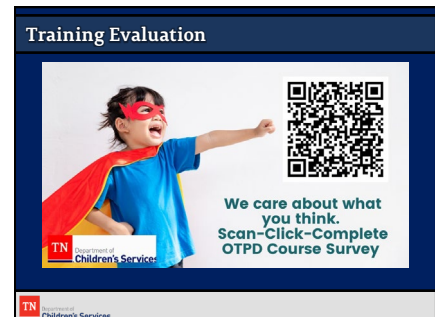
Lesson Time: 10 minutes

Key Teaching Points / Instructions

- In conclusion **ASK** participants What is the “best” child seat?
 - The one that fits the child
 - The one that fits the vehicle
 - The one that you will use correctly every time
- **ACKNOWLEDGE** installing child passenger safety seats can be challenging. **STATE** there is Support Following the training
 - How to Find a Technician
 - <https://cert.safekids.org/log> and click “Find a Tech”
 - Locating a Fitting Station
 - <https://tntrafficsafety.org/cps-fitting-stations>
 - DCS OTPD Resources
- **SHARE** there are some Common Mistakes we often encounter when completing child passenger safety checks as a technician including:



- Not locking the retractor
- Using the incorrect belt path
- More than 1 inch of movement at the belt path
- Installing the tether incorrectly, such as on a cargo hook
- Using aftermarket accessories in or under the seat
- Not removing bulky jackets or blankets
- Chest clip not at armpit level
- Harness straps not tight enough
- **CONCLUDE** the training by asking participants if they have any questions or concerns about using the information received in the training in their work with children and families.
- **THANK** participants for their participation and explain how they can complete the training evaluation.
- **ARRANGE** for car seat installation checks with each participant and **DISMISS** class to begin installations.



Unit 4: Pack 'n' Play Assembly

Unit Time: 5 minutes

Learning Objectives:

- Participants will be able to assemble Pack 'n' Play Safe Sleep furniture.

Supporting Materials:

- Pack' N' Play

Lesson 4.1: Pack 'n' Play assembly

Lesson Time: 5 minutes

Key Teaching Points / Instructions

- **REMIND** participants of the Pack 'n' Play Safe Sleep protocol and **ENCOURAGE** participants to assemble the safe sleep environment while waiting their turn on Child Passenger Safety Seat Installations. the following scaling questions:
- **ASK** if they have any additional questions or concerns.

Unit 5: Child Passenger Safety Seat Installations

Unit Time: 30 minutes

Learning Objectives:

- Participants will learn how to correctly install rear-facing, forward-facing, and booster seats using the seat belt and/ or LATCH

Supporting Materials:

- Car Passenger Safety Seats- infant carrier, convertible, and booster seats
- Car Seat Check Form

Lesson 5.1: Child Passenger Safety Seat Installation Checks

Lesson Time: 30 minutes

Key Teaching Points / Instructions

- **EXPLAIN** each participant will complete the following installations and be checked off by Car Seat Technician.
 - Infant seat (with or without the base) with seat belt
 - Convertible seat rear-facing with the seat belt
 - Any forward-facing seat with seat belt and tether
 - LATCH
 - Booster seat
- **UPON** completion of the Child Passenger Safety Seat Installations participants are free to go.

References

NTSHA

- <https://www.nhtsa.gov/equipment/car-seats-and-booster-seats>

Tennessee Highway Safety Office

- <https://tntrafficsafety.org/>

Center for Disease Control

- <https://www.cdc.gov/features/passengersafety/index.html>

Graco (2013, November 11). How to Set Up a Pack 'N Play. Retrieved from

<https://www.youtube.com/watch?v=liBWGHIUKNw>

Understanding Seat Belt Systems:

- <https://www.youtube.com/watch?v=8g3hyDW-zpQ>

Rear Facing Car Seat:

- https://www.youtube.com/watch?v=VzBac1F_qfs

Forward Facing/Combination:

- <https://www.youtube.com/watch?v=TI4fQFoxNAI&feature=youtu.be>

Booster:

- https://www.youtube.com/watch?v=v_IAKCWXGi8&feature=youtu.be

Forward Facing with Lower Anchors and Tether:

- <https://www.youtube.com/watch?v=O8ldLs4ht2Y&feature=youtu.be>