





## **Vehicle Seat Belts**

Lap belts:

- Attach to the vehicle at two points
- Protect the body at two points – at both hips.
- Provide lower body protection

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- There are two types of seat belt systems found in vehicles: (1) lap belts and (2) lap-and-shoulder belts.

Lap belt:

- A lap belt offers two-point protection because it connects with the body in two places — at each hip.
- The lap belt should rest low across the hips/upper thigh area — not across the stomach.
- Lap belts do not provide upper body protection. As a result, head, spine, and/or neck injuries can occur. With no restraint above the waist, the upper body moves forward until it is stopped by something. Many times, it is the head that contacts the dashboard, front seats, consoles, door frames, floor, or even the individual's knees.

## **Vehicle Safety Belts**

Lap-and-shoulder belts

- Attach to the vehicle at three points
- Protect the body at three points—at both hips and one shoulder.
- Provide lower and upper body protection
- Offer the best overall protection

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## CLASSROOM NOTES:

Three-point seat belt: A seat belt with both a lap and a shoulder portion, having three attachment points (one at the shoulder, two at the hips).

- A lap/shoulder belt offers three-point protection because it connects with the body in three places — at each hip and at the shoulder.
- The lap belt should fit snugly, placed low over the hips/upper thighs. If it rides up on the stomach, it could cause serious injuries in a crash.
- Shoulder belt should rest securely across the chest and shoulder, not the neck or face. It should never be placed under the arm or behind the back, as this can cause serious injury.
- Lap-and-shoulder belts are a better choice because they provide upper body protection.

### ***Seat Belts Can Be Used When Children Can:***

- Sit with their back and hips against the vehicle seat back and sit without slouching
- Bend their knees easily over the front edge of the seat and feet stay flat on the floor
- Safely wear the seat belt
  - Lap belt low and snug across the hips
  - Shoulder belt across mid-chest and shoulder
- Use properly adjusted vehicle head restraint
- Stay in position for the entire ride

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To be able to fit a seat belt, a child must:

- Be tall enough to sit without slouching
- Keep the back against the vehicle seat back
- Keep the knees completely bent over the edge of the seat
- Keep the feet flat on the floor
- Be able to stay comfortably seated this way
- Keep the lap belt low and snug across the upper thighs/lower hips

**Never** put the shoulder belt under the child's arm or behind the child's back. This can cause severe injuries in a crash. **If the seat belt does not fit properly, the child should use a belt-positioning booster (BPB) seat.**

CLASSROOM NOTES:

### ***Air Bags and Seat Belts***

- NHTSA recommends that children under 13 ride in the rear seat
- If a child younger than 13 must ride in front seat:
  - The child must be correctly restrained by the vehicle's lap-and-shoulder belt
  - The vehicle seat must be moved back as far as possible from the dashboard

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- NHTSA recommends that children under 13 ride properly restrained in a back seat.
- NHTSA recommends that children not lean or rest against air bags
- NHTSA recommends consulting the owner's manual.
- For more information on air bags, see Appendix or: <http://www.safercar.gov/airbags/pages/SABFAQs.htm>.

### ***Seat Belt Use***

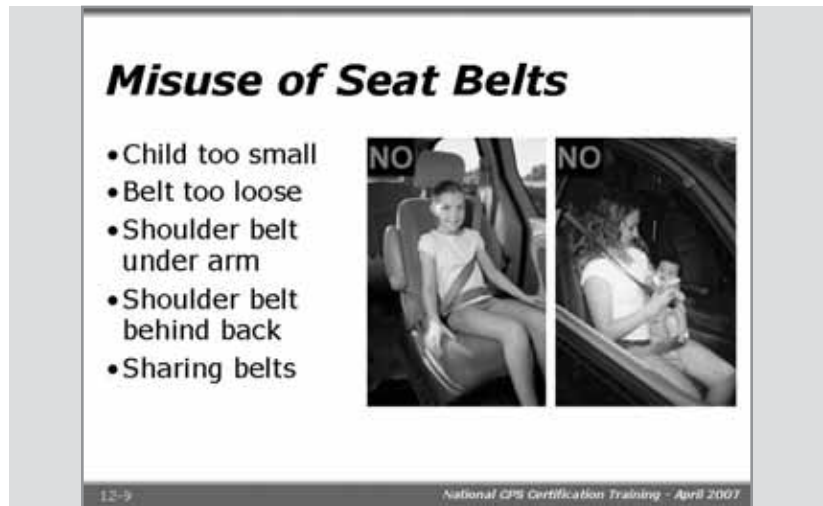
- Everyone should be buckled up
  - Every time
  - On every trip
- Adults are role models
- Car pools should be safe too

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## CLASSROOM NOTES:

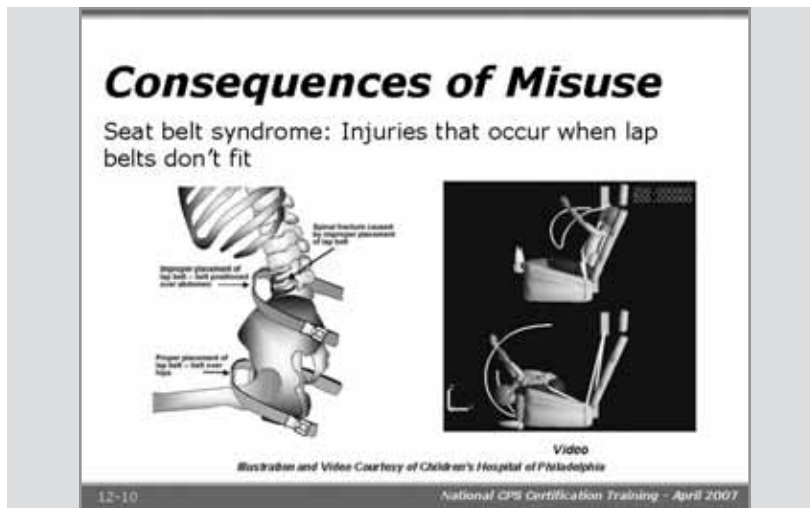
- Adults are important role models for children's safety behavior.
- While lap belts are not ideal, they are better than no protection at all!
- The purpose of seat belts is to keep occupants from being thrown outside or around the inside of the vehicle.
- With car pools, always make certain that CRs and seat belts are used correctly every time children ride in a vehicle, whether yours or someone else's.
- There should be a seat belt for each passenger and the proper restraint device for children.



- Child too small/lap belt too high
  - Lap belt sits too high, may cause spinal and stomach injuries.
- Belt too loose
  - Decreases effectiveness
  - Increases forward movement
  - Allows child to slide out of position that protects against crash forces
- Shoulder belt under arm
  - Applies forces to rib cage and can cause serious injuries

- Increases head and neck movement
- Creates a bad habit that continues in later life
- Shoulder belt behind back
  - Prevents shoulder-and-lap belt parts from working together well
  - Does not provide upper body protection
  - Affects proper fit of lap belt
- Sharing Belts
  - Not tested this way
  - Occupants will collide

**CLASSROOM NOTES:**



- Seat belt syndrome (SBS) describes injuries that doctors see as a result of occupants' wearing a lap belt in collisions involving only the front of a vehicle. These injuries typically include:
  - Severe stomach injuries
  - Fractures of the lumbar spine
  - Serious head and facial injuries
- 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 the waist without restraining the upper body can cause serious head and neck injuries after a head strike.

