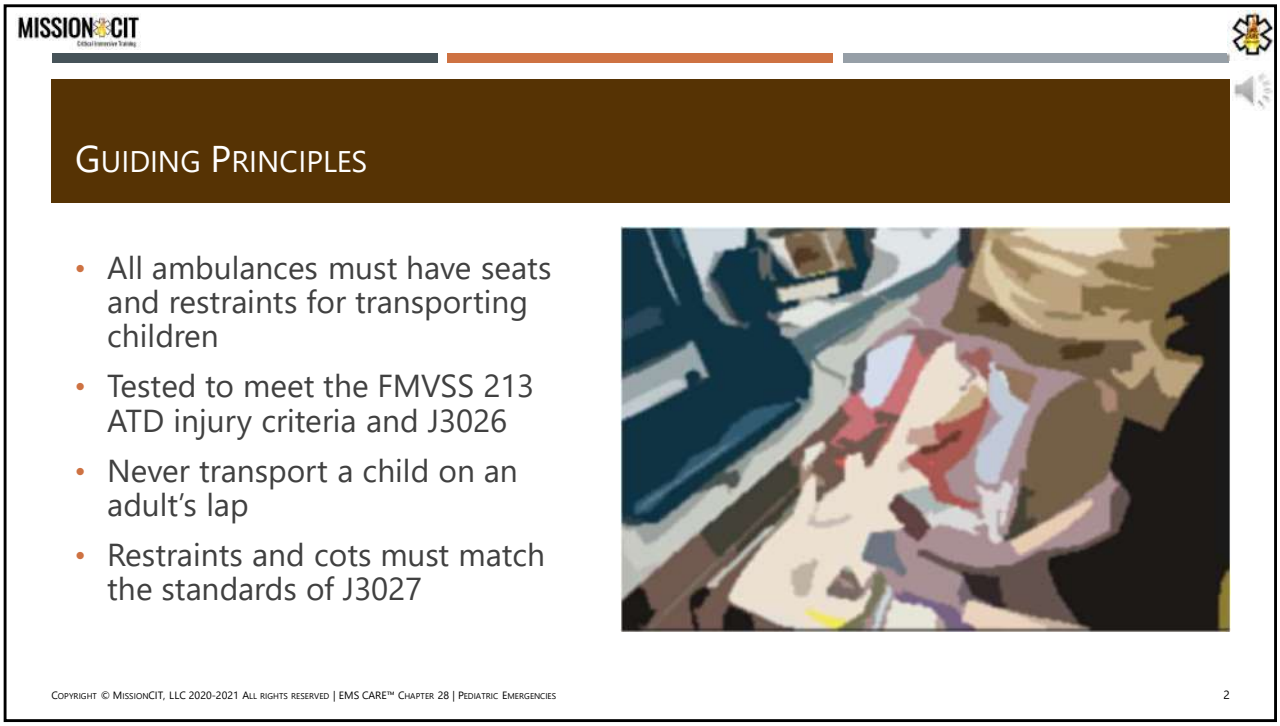


Thank you, Justin!

We have now come to the last lesson on this topic, and an important one, where we talk about the safety measures you must take while transporting pediatric patients.

Good studying.



Here are six guiding principles that can help you to safely transport pediatric patients in an ambulance. They are:

1. All ambulances should have seats and restraints appropriate for securing children from newborn on
2. All seats and restraints should be tested to meet the FMVSS 213 ATD injury criteria using the J3026 standard
3. Child seats and restraints should only be attached to cots, cot mounts, and restraints that have been tested and comply with the standards of J3027
4. Child passengers should never be transported on an adult's lap
5. A child passenger, especially a newborn, must never be transported on an adult's lap, and
6. It is NOT appropriate to transport children, even in a child restraint system, on the multi-occupant

squad bench located in the patient compartment of ground ambulances.

Following these guidelines can help you to safely transport pediatric patients of all ages to the hospital. If interested, you can download the NHTSA TP-213-10 document in the attachment section of this lesson. Also, J3026 and J3027 are S A E standards found on S A E dot org.

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NHTSA Recommendations

- Transport a healthy child separately if possible and not with an ill patient
- Use an appropriate child restraint system that complies with FMVSS No.213
- Installed appropriately in the front seat
- Airbags in off position
- Forward-facing EMS provider seat or captain's chair with child resistant system

Safe Pediatric Transports

Guideline #1

Use restraint systems designed for pediatric ambulance transport, or if not available, use convertible child safety seats designed for automotive transport for children weighing up to 40 pounds. ***(Note: NC EMS and Trauma Rules for 2009 require availability of a pediatric transport restraint device for children up to 40 lbs. revised from 20 lbs.)***

Guideline #1A

If using a convertible child safety seat:

For children weighing less than 40 lbs., install seat rear facing on the gurney with the backrest raised to a 45 degree angle. (Follow manufacturer's guidelines for rear-facing weight limit.) The child safety seat must be secured to the gurney with straps routed through two (2) belt paths as illustrated below.



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3

The NHTSA provides pediatric transport recommendations that are good to know and follow. Let's take a detailed look at different situations.

If a healthy child is accompanying an injured or ill patient, make sure to transport the child in a vehicle other than an emergency ground ambulance. When other transportation is not available, transport in a size-appropriate child restraint system in a location per local protocol.

Another option is to leave the well-child under

appropriate adult supervision on the scene.

Situation	Description	Primary Transport	Alternative Transport	Other Options or additional info
1	A well child accompanying an injured or ill patient	Transport the child in a vehicle other than an emergency ground ambulance	Transport in EMS Vehicle properly restrained	Leave uninjured child on scene with appropriate adult supervision
2	A child who is ill or injured and whose condition **does not** require continuous or intensive medical monitoring or interventions	Appropriately secure and transport the child on the cot in a size-appropriate child restraint system that complies with the injury criteria	n/a	n/a
3	For a child whose condition requires continuous or intensive medical monitoring or interventions	Same transport as Situation 2; but call for ALS intercept or support	n/a	n/a
4	For a child whose condition requires spinal immobilization or lying flat	Secure the child to a size appropriate spine board	n/a	Secure the spine board to the cot 1.Head first, with a tether at the foot (if possible) to prevent forwardmovement 2.Use three horizontal restraints across the torso (chest, waist, andknees) 3.Use a vertical restraint across each shoulder
5	For a child or children who require transport as part of a multiple patient transport (newborn with mother, multiple children, etc.)	Call for additional transport. When possible, transport each child as a single patient to the same hospital, according to the guidance shown for Situations 1 through 4.	Transport in EMS Vehicle properly restrained	For mother and newborn, transport the newborn in an approved size-appropriate child restraint system

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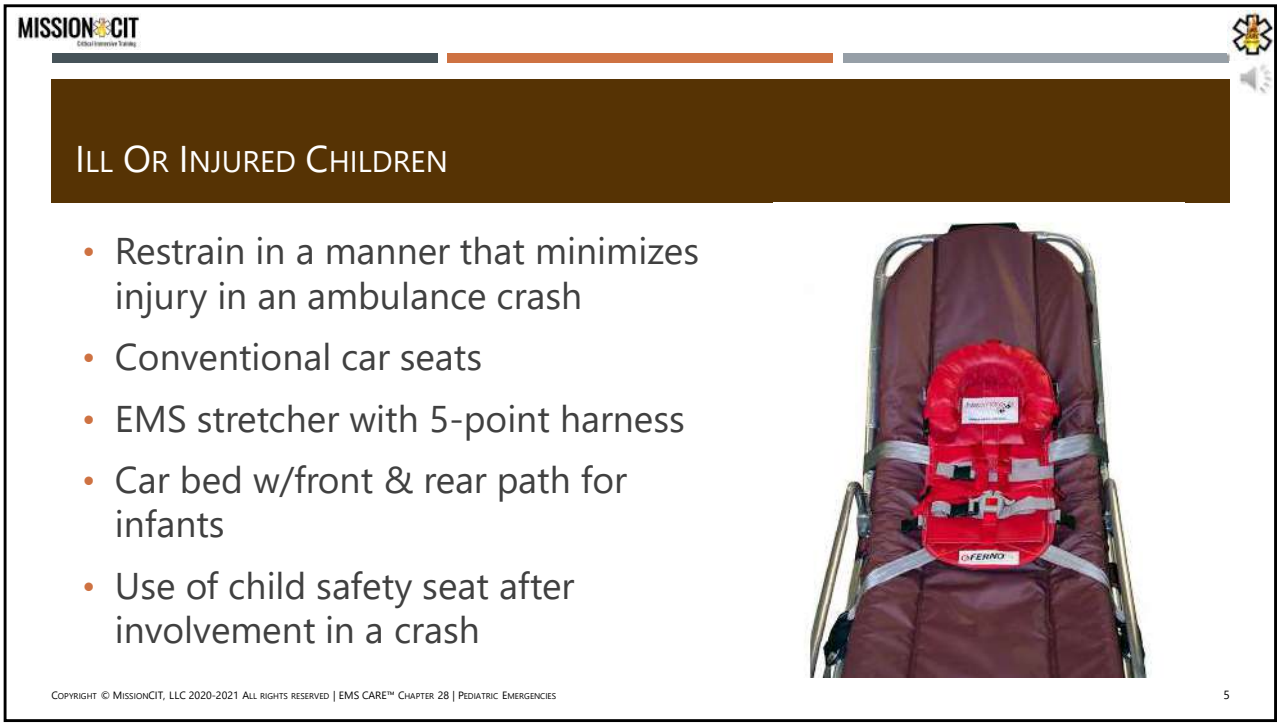
The table illustrates the five NCCP defined situations. Note that all transport options follow the S A E and NHTSA guidelines already discussed. The five situations are:

1. A child who is well, accompanying an injured or ill patient.
2. A child who is ill or injured and whose condition does not require continuous or intensive medical monitoring or interventions.
3. For a child whose condition requires continuous or intensive medical monitoring or interventions. Call

for ALS support or intercept and transport according to situation two.

4. For a child whose condition requires spinal immobilization, or lying flat, and
5. For a child or children who require transport as part of multiple patient transport, such as a newborn with the mother. This is similar to situation one. Be sure to call for additional transport and try to send everyone to the same hospital.

The next slides discuss these situations further.



An ill or injured child must be restrained in a manner that minimizes injury in an ambulance crash. The best location for transporting a pediatric patient is on the ambulance cot. The method of restraint will be determined by various circumstances including the child's medical condition and weight.

You can use Conventional Car seats or an EMS stretcher attachment device with a 5 point harness. Conventional car seats may be a convertible car seat with two belt paths (front and back). Four points for belt attachment

to the cot are considered best practices for pediatric patients who can tolerate a semi-upright position.

Note that for infants who cannot tolerate a semi-upright position or who must lie flat, you can use a car bed with both a front and rear belt path.

Also, you may use a patient's child passenger safety seat after involvement in a minor motor vehicle crash if the following conditions apply:

1. It is a convertible seat with both front and rear belt paths.
2. Visual inspection, including under movable seat padding, does not reveal cracks or deformation.
3. The vehicle in which the safety seat was installed was capable of being driven from the scene of the crash.
4. The vehicle door nearest the child safety seat was undamaged, and
5. The airbags (if any) did not deploy.

Spinal Immobilization

- Secure the child to a size-appropriate spine board
- Secure the spine board to the cot
- Keep the child headfirst with a tether at the foot
- Use three horizontal restraints across the chest, waist, and knees
- Use vertical restraint across each shoulder



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If a child requires spinal immobilization or must be laid flat,

- Secure the child to a size appropriate spine board.
- Secure the spine board to the cot.
- Keep the child headfirst, with a tether at the foot if possible, to prevent forward movement.
- Use three horizontal restraints across the torso, that is, the chest, waist, and knees. And finally
- Use a vertical restraint across each shoulder.

Multiple Patient Transport

- Transport each patient individually if possible
- Call for additional transport
- Use a size-appropriate child restraint system
- Non-patient transport



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When you have to transport a child along with multiple patients, here are guidelines to consider.

First, call for additional transport resources and try to send everyone to the same hospital.

When possible, transport each as a single patient, according to the guidelines explained earlier.

For transporting a mother and a newborn child, transport the newborn in the rear-facing EMS provider seat, which prevents both lateral and forward movement

As already discussed, the best practice for non-patient

transport is to transport well children in a vehicle other than the ambulance.

If no other vehicle is available and circumstances dictate that the ambulance must transport a well-child, use the following two locations:

1. The Captain’s chair in the patient compartment using a size appropriate integrated seat or a convertible safety seat, or
2. The driver’s compartment's passenger seat if a child is large enough to ride forward-facing in a child safety or booster seat. Note that the Airbag should be turned off.

If the airbag can be deactivated, an infant, restrained in a rear-facing infant seat, may be placed in the driver’s compartment's passenger seat.

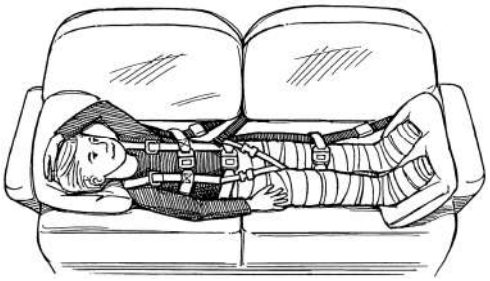
However, before using the front driver’s compartment for pediatric patient transport and before attempting to deactivate any equipment or settings on the ambulance, especially that of an airbag, please check your department’s standard operating procedure regarding these measures.

Some companies or departments may have specific policies regarding placing pediatric patients in the front cab. And may deem an employee changing any

ambulance setting as tampering, which could lead to termination. Always follow your department’s S O Ps and ask a supervisor for clarification when in doubt.

Ongoing Initiatives

- Current limitations in pediatric transport
- NASEMSO is leading the Safe Transport of Child Committee
- Recommend criteria for proper restraint
- Recommend criteria adopted by accredited standard setting organizations
- Develop a strategy and resources for EMS providers
- Encouraging research in the development of child restraint systems



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So, as we look forward to improving pediatric transport, we acknowledge three limitations of the current recommendations.

1. The available research on child restraint systems only rates the safety in normal use, but not in ambulances.
2. Not enough evidence from research on simulated ambulance crashes involve child restraint systems to recommend improvements.
3. All child restraint systems are only as effective as how they are secured in an ambulance

Fortunately, there are many ongoing initiatives to improve the safety of pediatric transport. The National Association of State EMS Officials is leading the Safe Transport of Child Committee with the following three goals.

1. To recommend the criteria or specifications for the proper restraint of children in ambulances.
2. To have the recommended criteria adopted by one or more accredited standard-setting organizations.
3. To develop enhanced strategies and resources for educating EMS providers on safely transporting children in ground ambulances.

With this, we come to the end of this lesson on Pediatric Transport. Justin will recap all the chapters for you next.

Good Studying