



# Child Passenger Safety: Parental Assessment and Education in General Pediatrics Clinic and Neonatal Intensive Care Unit

Mulligan KH<sup>1</sup>, Sanii YE<sup>1</sup>, Moore R<sup>2</sup>

<sup>1</sup>Department of Pediatrics, Brody School of Medicine at East Carolina University, Greenville, North Carolina

<sup>2</sup>Neonatal Intensive Care Unit, Vidant Medical Center, Greenville, North Carolina

## INTRODUCTION

Motor Vehicle injuries are a leading cause of death and disability among children.

- Car seat use reduces the risk for injury in a crash by 71-82% for children.<sup>1</sup>
- 70-90% of parents misusing care seats.<sup>2</sup>

## METHODS

**Participants:** Parents of children 0-30 months

**Setting:** Well child visits (ECU Pediatrics Outpatient Clinic) and existing NICU discharge classes at Vidant Medical Center.

### Pre-Intervention Data Collection

6 question pre-test on Child Passenger Safety that was previously used by Eastern Carolina Injury Prevention Program to assess theoretical knowledge was completed.

### Intervention 1: Theoretical Education

5-10 minute verbal education on Car Seat selection, location, direction, installation, and harnessing was provided.

### Intervention 2: Practical Education

With patient car seat or educational car seats, parents were instructed to harness child as they typically would and hands on education was completed

### Post-Intervention Data Collection

Misuses were counted during practical education for each parent and the post test was completed. Parents were called within one month to complete a post-post survey to measure retention of knowledge.

Although parents scored well on a pre-test assessing knowledge of child passenger safety topics, **89.7%** of parents demonstrated **1 or more car seat misuses**. This data suggests that while parents may have strong theoretical knowledge of these topics, there may be **benefit from incorporating hands-on practical education.**

**Pediatric Passenger Safety Survey**

1. Is it safe to hold your child on your lap when driving short distances?
  - a. No, I'm not strong enough to restrain my child if there is a crash
  - b. Only if we are traveling less than 3 miles
  - c. Only if I am sitting in the back seat
  - d. B and C are correct
2. Where is the safest location in the vehicle for a child?
  - a. Any place
  - b. In the back seat
  - c. In the front seat as long as he/she is buckled up
  - d. None of the above
3. When can children sit in the front seat of a car?
  - a. When they learn to behave themselves
  - b. When they are 13 years old
  - c. When they are tall enough to see out the window
  - d. Whenever they want
4. How long should you keep your children rear facing?
  - a. Until the baby outgrows the car seat
  - b. Until the baby can sit up straight and hold up his/her head
  - c. Until at least 2 years old
  - d. Until she/he no longer sleeps when traveling
5. Why isn't it safe for a child or small adult to ride in front of an air bag?
  - a. The air bag opens faster than the blink of an eye at a speed of 200 mph
  - b. The force of an air bag can seriously injure or kill a child or small adult
  - c. With or without an airbag, research shows that the back seat is much safer for children
  - d. All of the above
6. What can you do to keep your family and friends safe while riding in a vehicle?
  - a. Insist that everyone buckles up
  - b. Be a role model and buckle up first
  - c. Use the "stop the car" method. Explain the car will not go until every one is buckled.
  - d. Obey the law
  - e. All of the above

## RESULTS AND CONCLUSIONS

**Preliminary data shows:**

- 88.8% of parents scored at least 5/6 questions correctly on the pre-test survey, indicating good theoretical knowledge before intervention
- 89.7% of parents had at least 1 car seat misuse that could make the car seat less effective.
- On average, there were 1.9 misuses per participant.

## ACKNOWLEDGEMENTS

The authors would like to thank the ECU Pediatrics Clinic, the Vidant Neonatal Intensive Care Unit, and the Eastern Carolina Injury Prevention Program at Vidant Medical Center.



### COMMON MISUSES

1. Excess/unapproved car seat accessories
2. Loose harness straps
3. Low retainer clip

1. [Web-based Injury Statistics Query and Reporting System](#) [online]. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (producer). [2019 Aug 19].  
 2. National Highway Traffic Safety Administration. Traffic safety facts, 2017 data: occupant protection. Washington, DC: US Department of Transportation, National Highway Traffic Safety Administration; 2019.