2015 MOC Part II Self-Assessment: Injury Prevention Adolescent

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CME Disclosure

I have no relevant financial relationship to disclose. No off-label products will be discussed in my presentation.
Objectives

• Identify leading injury mechanisms and injury trends in the adolescent population

• Identify effective injury prevention strategies in the adolescent population

• Earn Part 2 MOC
## 10 Leading Causes of Death by Age Group, United States - 2013

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**Data Source:** National Vital Statistics System, National Center for Health Statistics, CDC.
Produced by: National Center for Injury Prevention and Control, CDC using WISQARS™.
The Teenage Brain
The Teen Driver

Committee on Injury, Violence, and Poison Prevention
Committee on Adolescence

Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of All Children
Magnitude of the problem

• MVC is leading cause of death in 16-20 yo
• 2/3 of teenagers who die in MVCs are male
• Crash rate for 16 year olds is 9 X that of the general population
• 12 mil adol drivers represent 6% of the population but 14% of all fatal crashes
Adolescent Risk Factors

- Inexperience
- Risk taking
- Teenaged Passengers
- Nighttime driving
- Alcohol, Marijuana and Medications
- Seat belts
- Distractions
Proposed Interventions

- Graduated Drivers License
- Nighttime and Passenger Restrictions
- Drivers Education?
- Alcohol Related Measures
  - Zero tolerance
  - Minimum drinking age laws
- Improved Safety Belt Laws
  - Primary vs secondary
Parental Interventions

• Give permission for teenager to obtain a license
• Control access to vehicle
• Set family restrictions and punishments
• Influence selection of the vehicle
• Be a driving instructor and supervisor
• Role model for safe driving
• Contract?
Parent-Teen Driving Agreement

1. Will drive carefully and cautiously and
   will not cause any damage to other drivers, pedestrians, or property at all time.

I promise that I will obey all the rules of the road:
   a. Always wear a seat belt and make all my passengers buckle up.
   b. Give all traffic lights, stop signs, yield signs, and pedestrian signals
   c. Drive within the legal limit and drive safely
   d. Never use the car to take or try to buy/carry drugs
   e. Never drive distracted by cell phones or other electronic devices

I promise that I will make sure every step toward driving:
   a. Driver with both hands firmly on the wheel
   b. Never ride in the back seat or sit on my lap while I drive
   c. Only when I am alert and sober and can control
   d. Call my parents if I am impaired in any way that
      interferes with my ability to drive safely
   e. Never use alcohol or drugs or drink or use controlled
      substances while driving

I promise that I will respect laws about drugs and alcohol:
   a. Drunk-driving and drug-driving free
   b. Never drive when I am under the influence of alcohol or illegal drugs
   c. As a passenger only in vehicles where alcohol and drugs

I promise that I will not be a passenger:
   a. Only when I am sober and under the influence of alcohol or drugs
   b. Eine suspension of my driver’s license for one year in any
   c. Never drive a vehicle while there is a passenger in the car who
   d. As a passenger only in vehicles where alcohol and drugs

Signed:

Visit www.fwsd.org/parentteenkey to get your key.

American Academy of Pediatrics
Dedicated to the Health of All Children

Parent Chapter
Questions 1-4
The Impact of Social Media on Children, Adolescents and Families

Pediatrics 2011
Get Connected

• 22% of teens log into their favorite social media site > 10 times a day
• > 50% of teens log on to a social media site more than once a day
• 75% of teens have their own cell phone
Benefits of Social Media

• Make new friends, connect with family
• Opportunities for community engagement
• Enhancement of creativity
• Growth of ideas
• Expansion of online connections
Benefits of Social Media

• Enhanced learning opportunities
  – Connecting on homework or group projects
  – Blogs as teaching tools

• Accessing health information
  – Easy and anonymous access
  – Support networks
  – Increased medication adherence
  – Better disease understanding
  – Fewer missed appointments
Cyberbullying

• Deliberately using digital media to communicate false, embarrassing or hostile information about another person

• Most common online risk for all teens

• Significant psychosocial outcomes: depression, anxiety, severe isolation, suicide
Sexting

20%
Role of Pediatricians

- Talk
- Educate
- Family online plan
- Supervision by ACTIVE participation & communication
Questions 5-9
• Injury deaths in kids 15-19, 1 in 4 were firearm related

• Include homicide, suicide and unintentional injury

• Firearms were the leading cause of death in black males ages 15-34
Injury intent: US 2009 firearm-related deaths in children from birth through 19 years of age (n = 2966).
Homicide

- 84.5% of homicides in 2009 were firearm-related
- 68.5% of those were with a handgun
- Most homicides occur during interpersonal conflicts
Suicide

• In 2009 suicide was the 3rd leading cause of death in children 15-19
• Firearms are the most common method used in this age group
• 90% mortality rate
Suicide

• Handguns most often, but long guns used in a high percentage of rural suicides
• Laws reducing access by safe gun storage have been shown to reduce adolescent suicide rates
Gun Ownership

• 38% of all households in the US
• 26% of all adults
• 8.3% store gun loaded and unlocked
• Guns in the home associated with threefold increase in the risk of homicide and fivefold increase in risk of suicide
Questions 10-13
Identification of children at very low risk of clinically-important brain injuries after head trauma: a prospective cohort study

Lancet, 2009
• TBI is a leading cause of death in children worldwide

• 50% of children assessed in North American EDs for head trauma undergo CT

• Between 1995 and 2005 CT use doubled
Risk of CT scans

• Rate of lethal malignancies from CT is between 1:1000-1:5000
• Risk of malignancy increases with decreasing age
Clinically Important TBI

- Death
- Neurosurgery
- Intubation for more than 24 hours for TBI
- Hospital admission for $\geq 2$ nights for TBI
Prediction Rules < 2 years

• Altered mental status
• Scalp hematoma
• Loss of consciousness
• Mechanism of injury
• Palpable or unclear skull fracture
• Acting normally per parent
Prediction Rules for ≥ 2 years

- Altered mental status
- Loss of consciousness
- History of vomiting
- Clinical signs of basilar skull fracture
- Mechanism of injury
- Severe headache
Suggested CT algorithm for children younger than 2 years older with GCS scores of 14–15 after head trauma.

- **GCS=14 or other signs of altered mental status†, or palpable skull fracture**
  - Yes: CT recommended
    - 13.9% of population
    - 4.4% risk of ciTBI
  - No
    - Occipital or parietal or temporal scalp haematoma, or history of LOC ≥5 s, or severe mechanism of injury‡, or not acting normally per parent
      - Yes: Observation versus CT on the basis of other clinical factors including:
        - Physician experience
        - Multiple versus isolated§ findings
        - Worsening symptoms or signs after emergency department observation
        - Age <3 months
        - Parental preference
      - No: 53.5% of population
        - <0.02% risk of ciTBI
      - CT not recommended¶
Suggested CT algorithm for children aged 2 years and older with GCS scores of 14–15 after head trauma

B

GCS=14 or other signs of altered mental status†, or signs of basilar skull fracture

Yes

CT recommended

14.0% of population
4.3% risk of ciTBI

No

History of LOC, or history of vomiting, or severe mechanism of injury†, or severe headache

Yes

Observation versus CT on the basis of other clinical factors including:
- Physician experience
- Multiple versus isolated§ findings
- Worsening symptoms or signs after emergency department observation
- Parental preference

58.3% of population
0.9% risk of ciTBI

No

CT not recommended††

<0.05% risk of ciTBI
Conclusions

• Those enrolled with none of the 6 variables in the rules, in whom CT scans should be avoided, accounted for 25% of CTs in kids younger than 2 (0.02% risk) and 21% of CTs in kids ≥2 (0.05% risk)

• Many children can be managed with close observation
Conclusions

• CT scan should be considered if the child has multiple findings, worsening signs or symptoms, infants < 3 months
Questions 14-16
Low life jacket use among adult recreational boaters: A qualitative study of risk perception and behavior factors

Accident Analysis and Prevention, 2013
Introduction

• In 2012, 459 drowning deaths in boating incidents
• Only 15% of those who died were wearing life jackets
• Observed life jacket use in adults is 5.3%
• Life jacket use in adults is highly predictive of life jacket use in children & adolescents
Focus Groups

• Agreed that children should wear life vests
• “expect the unexpected”
• Many had “close call” experiences
• Belief that those who wear life jackets are “inexperienced”
• Disliked the appearance or fit of life jackets
Inflatable Life Jacket

- Exposure to water
- Pulling the cord
- Orally inflate
Approaches to increased life jacket use

• Make them look “cool”
• Educate kids
• Share life jacket information at boat shows
• Legislation as the only truly effective way to get boaters to wear life jackets
Hypothermia

• Believed that a life jacket would save their life if they went overboard

• Other studies belief that the risk of hypothermia is greater than the risk of drowning

• When controlling for water temperature, life jackets reduce the risk of drowning by 49%
Questions 17-19
Background

• Initial suicide = risk of a subsequent suicide attempt
• Drug overdoses - majority of attempts in adolescents
• Firearms - majority of fatal suicides in adolescents
Means Restriction

- Attempts to prevent suicide by limiting access to guns, drugs and other common means of suicide
- Strategy for injury prevention education
- CDC suggests that it may be a potentially important strategy in reducing suicide rates
- No evaluation has been done
Study design

- ED counseling
- Review of charts
- Follow up phone call
Results

• 96% took place at home
• 84% by ingestion, 71% by ingestion of OTC meds
• 75% of ingestions, the medication belonged to a relative
Means Present

• 94% of households had at least 1 means of suicide present at the time of attempt
  – 75% prescription meds
  – 86% OTC meds
  – 25% firearms
Follow up phone call

- Suicide addressed with 42% of family members
- No caretaker recalled being counseled that firearms in the home increased the risk of suicide
- Only 9% received information on restricting access to OTC medications
- Of those who received education, 86% had restricted access to means of suicide
Questions 20-25
References

- COIVPP. Policy Statement - Firearm-Related Injuries Affecting the Pediatric Population. Pediatrics 2012;130;e1416; originally published online October 18, 2012; DOI: 10.1542/peds.2012-2481