Improving Firearms Safety:
What can you do as a Pediatrician?

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Emergency Medicine
Adolescent Medicine
General and Community Pediatrics

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CNHN Future of Pediatrics Conference
S.A.F.E.R.

Safer through Advocacy for Firearm Education and Research
Disclosure of Financial Relationships

• We have nothing to disclose.
Objectives

1) **Describe** the burden of firearm violence

2) **Identify** practical ways to address firearm safety during patient care encounters

3) **Choose** one way in which you will advocate for firearm safety
Poll time: Go to kahoot.it and enter 9378485 to start poll
Reflect

• Have you ever taken care of a patient(s) with a firearm-related injury?
• Have you ever talked with patients/families about firearm safety?
• Are you currently involved in any research or advocacy efforts around firearm safety?
Background → CASE 1 → CASE 2 → Advocacy
Background:
The Scope of the Problem
Epidemiology of pediatric firearm-related injuries and fatalities

• Compared to other high-income countries:
  – Children <15 years old in the US are nearly 11 times as likely to die from gun violence
  – 15-24 year olds in the US are 49 times more likely to die from gun violence

• Rate of firearm related injuries is stable in the US since 1990s while it has declined in other countries

• ~4500 deaths/year from firearm violence in children and young adults < 21 years

• 3rd leading cause of death for all children 1-17 years of age

## Causes of Injury Deaths by Age Group

<table>
<thead>
<tr>
<th>Rank</th>
<th>1-4 years</th>
<th>5-9 years</th>
<th>10-14 years</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tr>
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<td>Homicide</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>Suffocation</td>
<td>Firearm</td>
</tr>
<tr>
<td>3</td>
<td>Homicide, Unspecified</td>
<td>Fire/Burn</td>
<td>Suicide</td>
<td>Poisoning</td>
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<td></td>
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<td>Firearm</td>
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</tr>
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<td>Homicide</td>
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Source: National Center for Health Statistics (NCHS), National Vital Statistics System (United States, 2014)
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Healthcare Utilization

- 20,000 ED visits/year
- 16-20 Hospitalizations/day
- 50% of children hospitalized for a firearm-related injury leave the hospital with a disability

Cost

• Total cost of gun violence = $229 Billion

• Cost to society = Years of productivity lost due to gun violence >>> cancer + heart disease + diabetes

• Emotional toll - Immeasurable
The numbers...

### everyone (all ages)

<table>
<thead>
<tr>
<th>Fatalities</th>
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<tr>
<td>35,141 people die from gun violence</td>
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<td>12,246 murdered</td>
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### children and teens (ages 0-19)

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<td>1,606 murdered</td>
<td>11,321 injured in an attack</td>
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<td>958 die from suicide</td>
<td>232 survive a suicide attempt</td>
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<td>110 killed unintentionally</td>
<td>2,747 shot unintentionally</td>
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In 2015, 4,528 children died from firearm-related injuries. Eighty-seven percent were male; 44 percent were non-Latino black; their mean age was 18.

< 100 flu
< 1,000 drowning
< 1,800 cancer
< 3,000 MVAs
The numbers…

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The Brady Center averaged the most recent five years of complete data from death certificates (2012-2016) available via CDC’s National Center for Injury Prevention and Control’s Web-based Injury Statistics Query and Reporting System, [www.cdc.gov/injury/wisqars/index.html](http://www.cdc.gov/injury/wisqars/index.html). Data retrieved 1.22.18 and 4.24.17 respectively. For each column total, the sum is based on rounding of CDC averages for each category of fatality and/or gun injury.
US vs Other Developed Countries*

- Similar Crime
- Similar Violence
- Similar Bullying rates
- Similar Depression rates among school children
- Similar Aggression rates among school children
- Similar Rates of car theft, burglary, robbery, sexual assault, physical assault

*Australia, Belgium, Canada, Spain, Denmark, England, Finland, France, Japan, Netherlands, Ireland, Poland, Scotland, Sweden, Switzerland 2011 data.
GUN MURDERS PER 100,000 RESIDENTS

United States: 3.7
Italy: 0.59
Luxembourg: 0.57
Finland: 0.50
Canada: 0.41
Sweden: 0.36
Austria: 0.36
Netherlands: 0.23
Germany: 0.19
Spain: 0.13
Australia: 0.07
United Kingdom: 0.05
France: 0.04
Norway: 0.01
Japan: 0.01
Iceland: 0.00

Source: Eg Richardson and D. Hemenway. "Homicide, Suicide, and Unintentional Firearm Fatality: Comparing the United States with Other High-Income Countries." Journal of Trauma 70, no. 1 (January 2011)
Gun laws and firearms

• 3 laws strongly associated with reduced deaths from firearms
  1. Universal background checks before the purchase of guns
  2. Universal background checks before the purchase of ammunition
  3. Firearm identification (microstamping or ballistic fingerprinting) requirements

• States with more restrictive state firearm laws had lower rates of unintentional, pediatric, suicide, and overall firearm fatality rate

State based legislation data

• 2017 systematic review 5 categories—laws that:
  1. curb gun trafficking
  2. strengthen background checks
  3. improve child safety
  4. ban military-style assault weapons
  5. restrict firearms in public places

- Laws *strengthening background checks* and *requiring a permit to purchase* _decreased_ firearm homicide rates across all ages
- Specific laws to improve child safety (Child Access Protection-CAP laws) *not associated* with _decreases_ in firearm homicide rate

State based legislation data

- Using 2006 and 2009 KID inpatient databases
  - Significant association between strength of CAP laws (strong vs weak as compared to none) and children hospitalized for pediatric firearm injuries

Firearm-related Injuries Affecting the Pediatric Population
AAP Policy Statement, 2012

All pediatricians should...

1. ADVOCATE for improved legislation and regulation of firearms AND for consumer product regulation regarding child access to guns
2. PROVIDE Health information for parents
3. EDUCATE the next generation of pediatricians
4. RESEARCH related to prevention of firearm injury
How can you promote firearm safety in your daily clinical practice?

Turn to the person next to you to discuss the following cases.
Case #1

- Lisa is a 7 year old girl presenting for a well child visit
- 10 year old brother
- Mom is in government service and caries a firearm for work which she stores at home
Case #1 (2-3 minutes)

Discuss the following with your neighbor:

1) How would you go about counseling this family?
2) What approaches have worked well for you? Have not worked for you?
3) How would your approach change if you did not know they had a firearm at home?
4) What if your child was going over to play at Lisa’s home for the first time?
Poll the Audience

• What percentage of children under 10 years old who live in homes with a gun(s) know where the gun(s) are stored in their home?
  A. 20
  B. 50
  C. 70
  D. 90
Poll the Audience

• Correct Answer:
  – 70% of children who live in a home with a gun know where the gun is located

Poll the Audience

• Every year, how many children are killed in unintentional shootings in the United States?
  A. 20
  B. 50
  C. 100
  D. 200
Poll the Audience

• Correct Answer:
  – Each year nearly 100 children are killed in unintentional shootings in the United States
Access to firearms

- Children are naturally curious, even when instructed not to, children will touch a firearm, and many will pull the trigger when they do.
- Grossman et al found safe storage is effective in reducing death rates.

When to screen and what to screen

Universal screening to determine if there are firearms are present in the home.

- 57 million Americans own firearms
- 5.2% (DC) – 62.8% (Wyoming) of households have firearms

When to screen and what to screen

Ask about storage

– 22% store a gun loaded
– 32% stored a gun unlocked
  • In households with adolescents guns are left unlocked 42%
  • In households with children <13 guns are left unlocked 29%
– 8% stored a gun unlocked and loaded

Age Appropriate Anticipatory Guidance

• Birth to toddlerhood

• Toddlers and Young Children

• School Age Children

• Adolescents
How to have the conversation...

• Build the therapeutic alliance

• Normalize, don’t exceptionalize
  • Include with other safety topics

• Information without judgement

• Statistics, stories, handouts
ASK

“A SK campaign encourages caregivers to ask family and friends if there is a gun where their child plays and, if a gun is present, to ensure that it is locked with the ammunition separately.”
19 MILLION parents are asking!

Are you?

**“Is there a gun where my child plays?”**

40% of homes with children in America have guns, many unlocked or loaded. Every year thousands of children are killed or seriously injured as a result. Ask if there are guns in the homes where your children play.

If the answer is **NO**

that’s one less thing you have to worry about.

If the answer is **YES**

make sure all guns are stored unloaded and locked, ideally in a gun safe, with ammunition locked separately.

If there are any doubts about the safety of another home, invite the kids to your house instead. Hiding guns is not enough. Just talking to kids is not enough. Kids are curious and if they find guns they’re likely to play with them.

Here are some ideas to start the conversation:

- “We all know how curious kids can be…”
- “Do you remember that tragic story about the kids who found a gun…”
- “I hope you don’t mind me asking a few questions about the kids’ safety…”
- “I want you to know that I’ve spoken with my kids about not playing with guns…”
- “I’m not judging anything. I just want to make sure my child is safe…”
- “All of us in the PTA have committed to making sure our kids are safe…”
- “I heard the most surprising fact from my pediatrician…”
- “Remember what we found in our house when we were kids!”

For more tips on asking go to AskingSavesKids.org

Created in collaboration with American Academy of Pediatrics

Supported by American Medical Association

Endorsed by

American Public Health Association
Children’s Defense Fund
Emergency Nurses Association
National Association of Childcare Providers and Related Institutions
National Association of School Psychologists
National Education Association
National Head Start Association
Police Foundation
Safe Kids Worldwide
BeSMART

S  Secure guns

M  Model responsible behavior around guns

A  Ask

R  Recognize risk of teen suicide

T  Tell your peers to be smart
Case #2

- Asad is a 13 year old boy.
- He has had a drop in grades at school.
- He has been isolating himself more at home.
Case #2 (2-3 minutes)

Discuss the following with your neighbor:

1) What are some safety concerns to consider?
2) What is the role of depression/anxiety in safety concerns?
3) What counseling would you offer the family to reduce risk of injury or self-harm?
4) How do bullying or interpersonal violence factor into your practice?
Strong evidence suggests that the presence of firearms in the home increases the risk of suicide among adolescents.

- Expand mental health screening and access
- Screen for depression and mental illness
- Recognize effects of toxic stress
- Make appropriate and timely referrals
- Give general and specific counseling!

Impact of Firearm-Related Injuries

- All children at risk of psychological injury (Anxiety, PTSD)
- Higher concern when prolonged emotional response or accompanied by functional impairment
- Children are resilient given adequate support and counseling

http://www.aap.org/en-us/my-aap/advocacy/workingwiththemedia/Pages/Coping-with-theAftermath-of-a-Community-or-School-Shooting
Counseling after a firearm-related injury: Pediatrician

• Guide parents to make necessary accommodations
• Make appropriate and timely referrals
• Reaction is age dependent
  – 6-year-old may react by refusing to separate from parents to attend school
  – Adolescent may attempt to hide concern, start to argue more with parents, decline in school

Counseling after a firearm-related injury: Parents and Teachers

- Reassurance of safety, support, and love
- Strengthen child’s communication and coping skills
- Allow child to express feelings
- Mobilize resources around child
- Returning to the routine can be helpful, kids thrive on structure
Bullying

- 10,000 Students, aged 12-18 years
- 2011 and 2013 School Crime Supplement to the National Crime Victimization Survey
- Experience with bullying, particularly those who report both traditional and cyberbullying, are more likely to report access to a loaded gun without adult permission

Gun Locks or Trigger Locks

• Cheap, easy and effective to use
• Small plastic or metal device that fits over and through a gun’s trigger guard, impeding one’s ability to shoot.
• Like a padlock, an external trigger lock can only be removed with a key or the proper combination
• **NOT** to be used on loaded guns—will **NOT** prevent **unintentional discharges**
When to screen and what to screen

Toddlers and young children:
Risk: unintentional/accidental injury; likely within the home
– Incorporate in routine screening of safety in home and environment

Older children and adolescents:
Risk: intentional injury; homicide or suicide
– Screen for high risk behaviors, violence, bullying, substance abuse, gang participation, mental health screen

Storage:
Risk: unsafe gun storage is associated with higher risk of firearm injury
– Limit access at home and outside the home
– Safe storage: locked, unloaded and ammunition locked separately

Advice to Parents

• For parents who choose to keep firearms in the home:
  – Always keep the gun unloaded and locked up
  – Bullets locked and stored separately
  – Hide keys
  – Never tell child the lock/safe’s code
  – Discuss repercussions

Source: healthychildren.org
KNOW THE FACTS

– Rates of morbidity and mortality

– Age based variation regarding cause of harm

– Federal and local laws

– Prevalence in your region and community resources

DISPEL THE MYTHS

– Most gun deaths are NOT caused by mass shooters or mentally ill

– Guns DO NOT make households safer

– Children KNOW where guns are and WILL touch/explore
Findings from a recent study...

Asad Bandealy
Lethal Means Restriction Counseling

- Survey of CNHN pediatric providers

Table 3: Odds Ratio of Firearm Screening by Years in Practice

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<thead>
<tr>
<th>Years in Practice</th>
<th>Adjusted Odds Ratio (95% CI)</th>
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<tr>
<td>4 years or less</td>
<td>Reference</td>
</tr>
<tr>
<td>5 years or more</td>
<td>4.56 (1.30 - 16.06)</td>
</tr>
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Table 4: Odds Ratio of LMR Screening by Age, Firearm Screening, and LMR Training

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adjusted Odds Ratio (95% CI)</th>
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<tbody>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>&lt; 35 years</td>
<td>Reference</td>
</tr>
<tr>
<td>35-44 years old</td>
<td>2.44 (0.11 - 50.82)</td>
</tr>
<tr>
<td>45-54 years old</td>
<td>13.29 (0.63 - 281.66)</td>
</tr>
<tr>
<td>&gt; 55 years old</td>
<td>8.24 (0.37 - 186.01)</td>
</tr>
<tr>
<td>Firearm Screening Scaled</td>
<td></td>
</tr>
<tr>
<td>Sub-optimal (1-4)</td>
<td>Reference</td>
</tr>
<tr>
<td>Optimal (5-7)</td>
<td>39.75 (10.09 - 156.66)</td>
</tr>
<tr>
<td>LMR Training</td>
<td></td>
</tr>
<tr>
<td>None/Little</td>
<td>Reference</td>
</tr>
<tr>
<td>Some/Extensive</td>
<td>8.33 (1.80 - 38.42)</td>
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- One lucky provider got 2 tickets to Hamilton!
Call to action: New AAP research initiative aims to protect children from firearm injuries

Death by Gun Violence—A Public Health Crisis
Howard Bauchner, MD; Frederick P. Rivara, MD, MPH; Robert O. Bonow, MD, MS; Neil M. Bressler, MD; Mary L. (Nora) Disis, MD; Stephan Heckers, MD; S. Andrew Josephson, MD; Melina R. Kibbe, MD; Jay F. Piccirillo, MD; Rita F. Redberg, MD, MSc; John S. Rhee, MD, MPH; June K. Robinson, MD

Firearm-Related Injury and Death — A U.S. Health Care Crisis in Need of Health Care Professionals
Darren B. Taichman, M.D., Ph.D., Howard Bauchner, M.D., Jeffrey M. Drazen, M.D., Christine Laine, M.D., M.P.H., and Larry Peiperl, M.D.
Connect to a grassroots group.
Write, submit, get rejected.
Repeat 1,000 times.
Get published.

CHANGE POLICY!!!
The OpEd Project's mission is to increase the range of voices and quality of ideas we hear in the world.
Engage in citizen activism (even if nobody knows you’re a doctor).
Find your Representative!

• Option 1: Google!
• Option 2: [https://www.govtrack.us/congress/members](https://www.govtrack.us/congress/members)
AND PUT IT IN YOUR PHONE!

• Why call your congressperson?
  – Daily tallies of calls given to Congressperson.
  – Call before they take a public stance.

• What if the line is busy or you are sent to voicemail?
  – Call Local office instead.
  – Voicemails get tallied daily too!
  – Make sure to leave your full address and zip code to confirm you are a constituent.
A.S.K. when your kids go on playdates.

BE S.M.A.R.T. if you own firearms
Join
S.A.F.E.R.

Safer through Advocacy for Firearm Education and Research
Quick Facts

- A child is killed or injured by a firearm every 30 minutes
- Number of kids killed by guns in 1 year could fill 134 classrooms
- Number of kids killed by guns = 5 x the # of soldiers killed in Iraq and Afghanistan
- Teens = most @ risk
  - 86% of deaths and 89% of injuries from firearms happen in 15-19 year olds

• 7.4 people per day are killed unintentionally by a gun¹

• 33% of U.S. homes contain a gun; half don’t lock it up²

• A firearm is 22x more likely to be used in the setting of suicide, criminal assault, homicide or accidental death than in self defense³

• 270 million guns in America (90 guns for every 100 people)

• Risk of suicide is 5x greater if a gun is kept in the home³

¹ Injury Mortality Reports, National Center for Injury Prevention and Control, CDC, 2010; 2011