

Improving Firearms Safety:

What can you do as a Pediatrician?



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Adolescent Medicine

General and Community Pediatrics

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S.A.F.E.R.

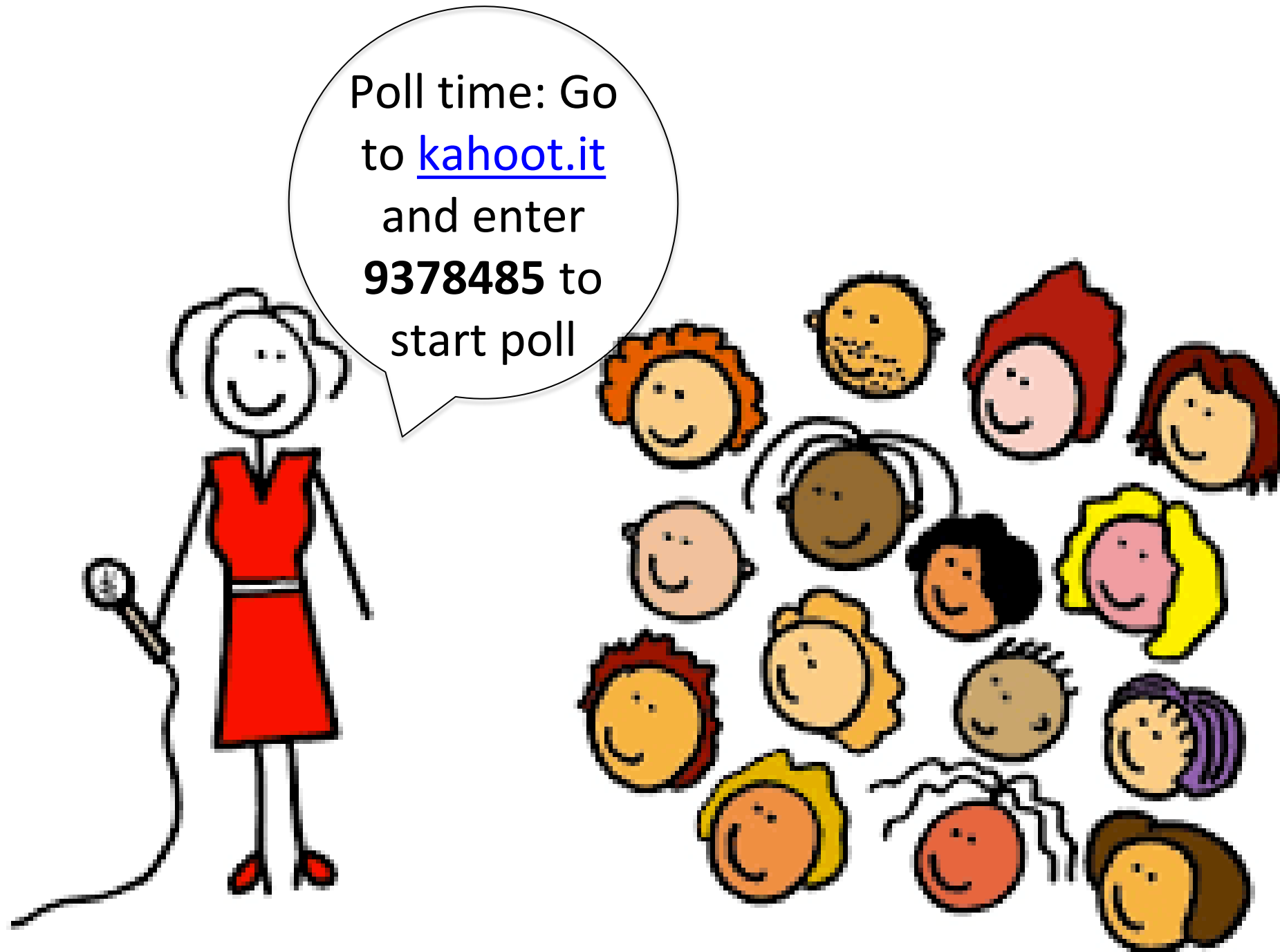
Safer through Advocacy for Firearm Education
and Research

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



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?



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graph LR; A[Background] --> B[CASE 1]; B --> C[CASE 2]; C --> D[Advocacy]
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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

Rank	1-4 years	5-9 years	10-14 years	15-24 years
1	Drowning	Motor Vehicle Accident	Motor Vehicle Accident	Motor Vehicle Accident
2	Motor Vehicle Accident	Drowning	Suicide Suffocation	Homicide Firearm
3	Homicide, Unspecified	Fire/Burn	Suicide Firearm	Poisoning
4	Suffocation	Homicide Firearm	Homicide Firearm	Suicide Firearm

Source: National Center for Health Statistics (NCHS), National Vital Statistics System (United States, 2014)

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Source: National Center for Health Statistics (NCHS), National Vital Statistics System (United States, 2014)

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)

116,255

people are shot every year

Fatalities

35,141
people die from
gun violence

12,246
murdered

21,637
die from suicide

500
killed
unintentionally

479
killed by legal
intervention

279
die but intent
was unknown

Gun Injuries

81,114
people survive
gun injuries

60,041
injured
in an attack

3,700
survive a
suicide attempt

16,428
shot
unintentionally

945
shot by legal
intervention

children and teens (ages 0-19)

17,102

children and teens are shot every year

Fatalities

2,737
kids & teens die
from gun violence

1,606
murdered

958
die from suicide

110
killed
unintentionally

26
killed by legal
intervention

36
die but intent
was unknown

Gun Injuries

14,365
kids and teens
survive gun injuries

11,321
injured
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232
survive a
suicide attempt

2,747
shot
unintentionally

65
shot by legal
intervention

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

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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.



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

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graph LR; A[Background] --> B[CASE 1]; B --> C[CASE 2]; C --> D[Advocacy]
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Background

CASE 1

CASE 2

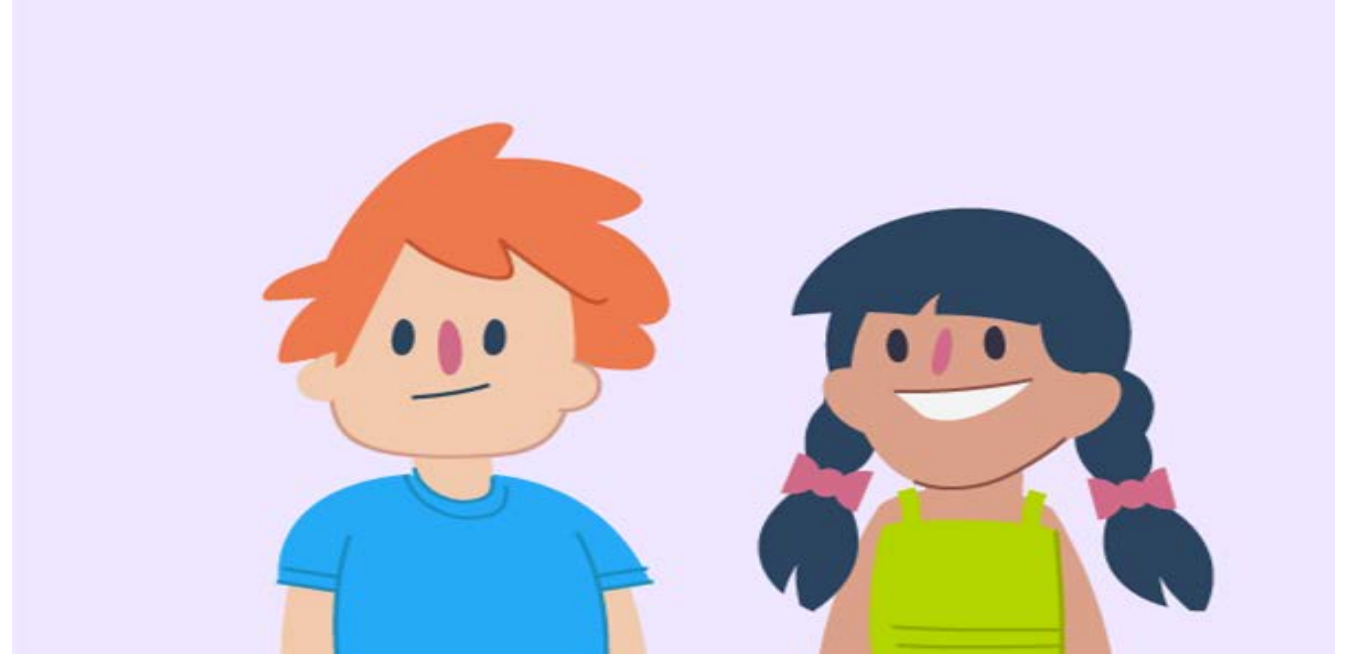
Advocacy

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 carries 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



Grossman DC, Mueller BA et al. *JAMA*, 2005.

Hardy MS, Armstrong FD et al. *Dev Behav Pediatr*, 1996.

Jackman GA, Farah MM et al. *Pediatrics*, 2001.

Simckes MS, Simonetti JA et al. *J Adol Health*, 2017.

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

Okoro CA, et al. Prevalence of household firearms and firearm storage practices in the 50 states and District of Columbia: findings from the Behavioral Risk Factor Surveillance System, 2002. Pediatrics. 2005; 116(3).

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

Johnson RM, et al. Are household firearms stored less safely in homes with adolescents? Analysis of a national random sample of parents. Arch Pediatr Adolesc Med. 2006; 160(8): 788-792.

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

BE
SMART

A conversation about kids, guns, and safety

MOMS
DEMAND
ACTION

BeSMARTforKids.org

Program made possible with funds from Everytown for Gun Safety Support Fund

ASK

A Asking

S Saves

K Kids

“The ASK 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.”

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**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...”

“I heard the most
surprising fact from my
pediatrician...”

“All of us
in the PTA have
committed to making
sure our kids
are safe...”

“Remember
what we found in
our houses when
we were kids!”

For more tips on asking go to AskingSavesKids.org



Real Solutions to Gun Violence
www.paxusa.org



AskingSavesKids.org

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National Association of Children's Hospitals and Related Institutions
National Association of Pediatric Nurse Practitioners
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



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graph LR; A[Background] --> B[CASE 1]; B --> C[CASE 2]; C --> D[Advocacy];
```

Background

CASE 1

CASE 2

Advocacy

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?

Firearms and Mental Health

- Strong evidence suggests that the presence of firearms in the home increases the risk of suicide among adolescents¹
- 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



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 gun- 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

Grossman DC, et al. Gun storage practices and risk of youth suicide and unintentional firearm injury. JAMA. 2005; 293 (6): 707-714.

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



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

Years in Practice	Adjusted Odds Ratio (95% CI)
4 years or less	Reference
5 years or more	4.56 (1.30 - 16.06)

Table 4: Odds Ratio of LMR Screening by Age, Firearm Screening, and LMR Training

Variable	Adjusted Odds Ratio (95% CI)
Age	
< 35 years	Reference
35-44 years old	2.44 (0.11 - 50.82)
45-54 years old	13.29 (0.63 - 281.66)
> 55 years old	8.24 (0.37 - 186.01)
Firearm Screening Scaled	
Sub-optimal (1-4)	Reference
Optimal (5-7)	39.75 (10.09 - 156.66)
LMR Training	
None/Little	Reference
Some/Extensive	8.33 (1.80 - 38.42)

- One lucky provider got 2 tickets to Hamilton!



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graph LR; A[Background] --> B[CASE 1]; B --> C[CASE 2]; C --> D[Advocacy];
```

Background

CASE 1

CASE 2

Advocacy



- AAP

AAP News

March 16, 2018

Call to action: New AAP research initiative aims to protect children from firearm injuries

- JAMA

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

- NEJM

EDITORIAL

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.



MOMS



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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 **A**dvocacy for **F**irearm **E**ducation
and **R**esearch



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
2. Johnson, R. "Firearm Ownership and Storage Practices, U.S. Households, 1992 Systematic Review." *Am J of Prev Med* 27.2 (2004): 173-82.
3. Kellermann et. al. "Injuries and Deaths Due to Firearms in the Home." *The Journal of Trauma: Injury, Infection, and Critical Care* 45.2 (1998): 263-67.