Unintentional Pediatric Firearm Injuries: Implications for Pediatric Surgical Nurses

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• none
All images are from

Objectives

- Describe the difference between powder and non-powder firearms
- Describe the epidemiology of firearm injuries in the pediatric population
- Discuss strategies for firearm injury prevention for the pediatric surgical nurse

Which is the powder firearm?

Image A

Image B
Powder vs Non-Powder Firearms

- **Powder**
  - Use powder to generate energy
  - Examples:
    - Handguns
    - Rifles
    - Shotguns
    - Auto/semi-automatic

- **Non-Powder**
  - Use compressed air (CO2) to generate energy
  - Examples:
    - BB gun
    - Pellet guns
    - Paintball guns
    - Airsoft gun

(Fowler et al., 2017)
(Apelt et al., 2019)

Bullet vs BB/Pellet

Epidemiology of Pediatric Firearm Injuries

- Unintentional/accidental, homicide, suicide
- 84.2% male
- 35% unintentional
- >700 hospitalizations annually
- 65% require surgery
- Financial burden passed down to public payers

(Sakran et al., 2020; de Jager et al., 2020)
**Case Study—First Hospitalization**

- 16-year old, Hispanic male
- Shot, accidentally w/BB gun 24-hours prior
- Initial pain subsided, hence care delayed

**Imaging:**
- CT
  - free air
  - foreign object

**Dx, Tx and outcome:**
- Perforated bowel and foreign object
- Emergent surgery...hemi colectomy, colostomy
- 7 day LOS

**Labs:**
- WBCs 18.06

**Vital Signs:**
- T-37.8 C

**Second Hospitalization**

- Presentation:
  - Abdominal pain, N/V, no colostomy output

- Diagnostics:
  - abdominal xray SBO

- Treatment:
  - IVF, NPO, bowel rest x 3 days
  - Surgical intervention x 2: lysis of adhesions/wound hematoma
  - LOS 15 days!

**Third Hospitalization**

- 8 weeks from initial injury
- Scheduled colostomy takedown
- Discharged home, stable, pain controlled
- Consider mental health needs post-discharge
- LOS of 9 days

(Richmond & Foman, 2019)
**Poll Question**

What is the average cost of a 2-day length of hospital stay (LOS) due to firearm injury?

- A. $18,000
- B. $23,000
- C. $12,000
- D. $20,000

(Apelt et al., 2020)

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**Missed Opportunities for (Prevention) Education**

- Routine health visits
- Emergency visits
- Schools/educators
- Firearm retailers
- Firearm associations/organizations

(Beidas et al., 2020)

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**Minimal Safety Required**

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Firearm Injury Prevention (FIP) Strategies

- Nurses can educate
- Unbiased/non-judgmental approach
- Respect US constitutional rights
- Recognize reasons for firearm ownership (Beidas et al., 2020)

FIP Strategies cont.

- Partner with multiple/various stakeholders
  - Ie: New Hampshire Gunshot Project
- Child Access Prevention (CAP) Laws
  - State specific
  - Correlate with reduced firearm injuries

  (Beidas et al., 2021)
  (deJager et al., 2020)

SUMMARY

- Education
- Multi-Stakeholder collaboration
- Firearm Legislation

Respectful & Unbiased approach
Prevention of pediatric firearm injuries
Questions and Answers