

The background of the slide is a blurred laboratory scene. On the left, a glass test tube is tilted, with a small droplet of liquid hanging from its tip. Below it, several other test tubes are visible, some containing liquids. On the right, a portion of a microscope is visible, showing a lens and a scale with the number '10'. The entire image has a blue color cast. Overlaid on the image are several white dashed lines, including concentric circles on the left and wavy lines at the bottom right. A solid orange line also curves across the bottom right corner.

A Model for Establishing Board Certification for Forensic Medical Examiners

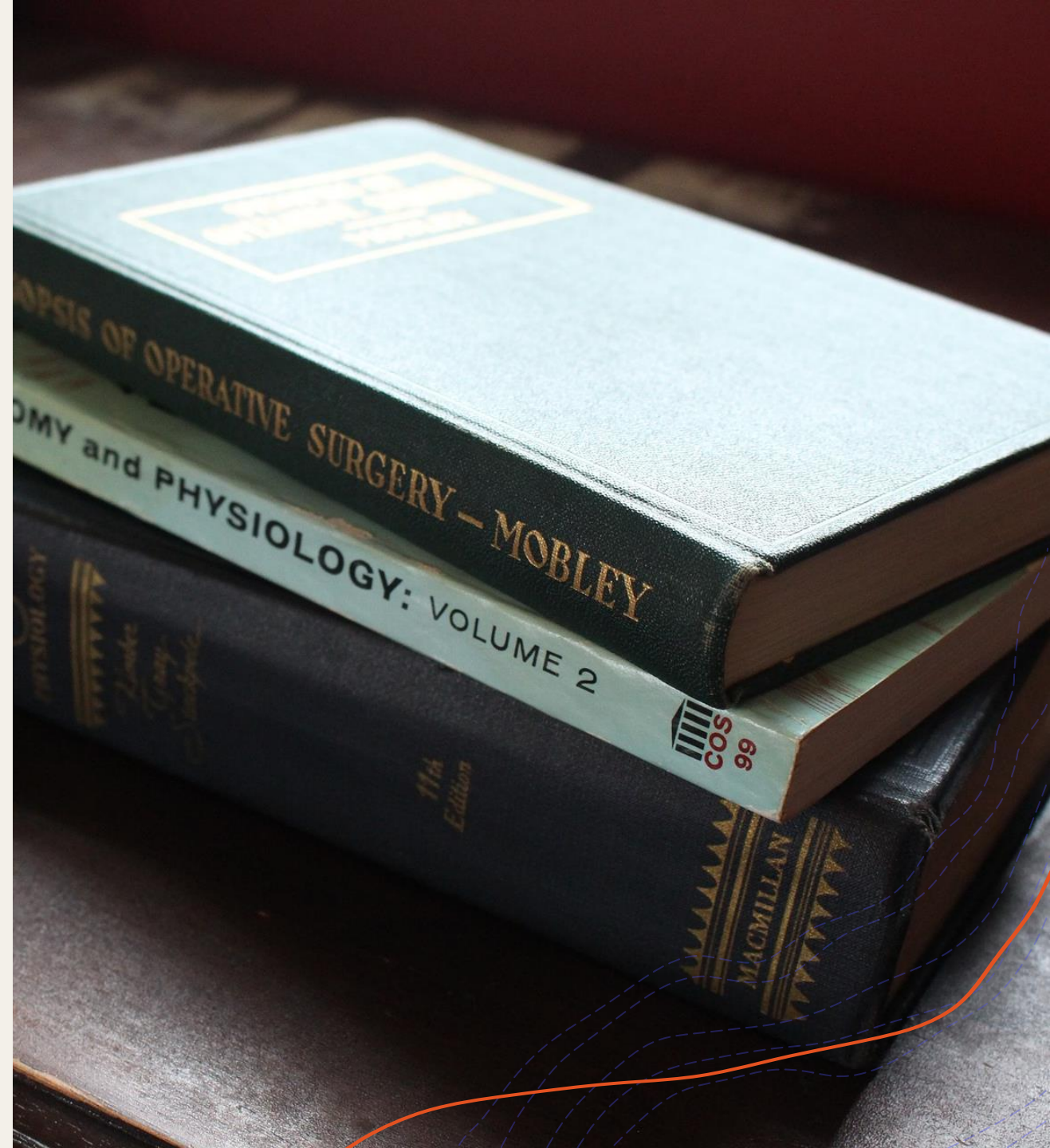
+ Roger A. Mitchell Jr. MD
Chief Medical Examiner
Washington DC – USA

LEARNING OBJECTIVES

- + By the end of the presentation, participants will be able to:
 - + Discuss the importance of board certification for forensic medical examiners
 - + Establish the need for board certification
 - + Identify the parameters to develop a board certification program in your country.

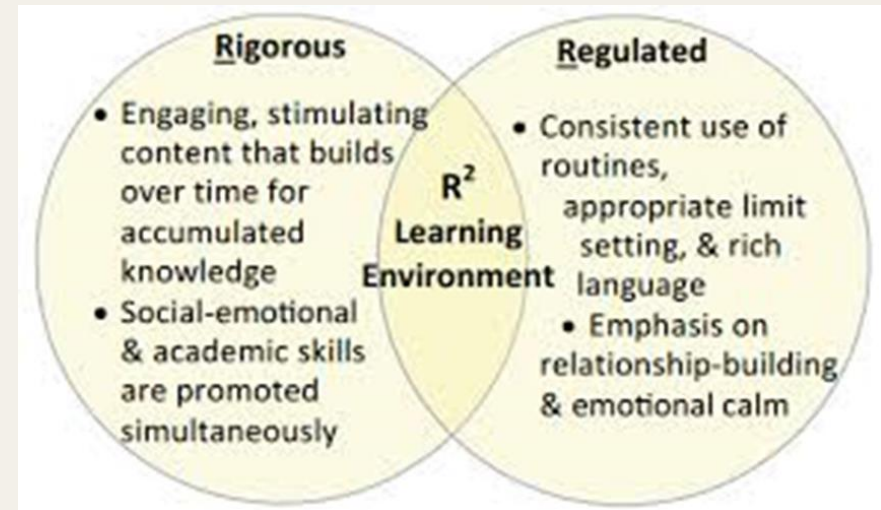
Board Certification

- + Primary Specialty
- + Sub-Specialty
- + Certification Criterion
- + Education Requirement
- + Training Requirement
- + Examination Requirement
- + Uniformity of Practice



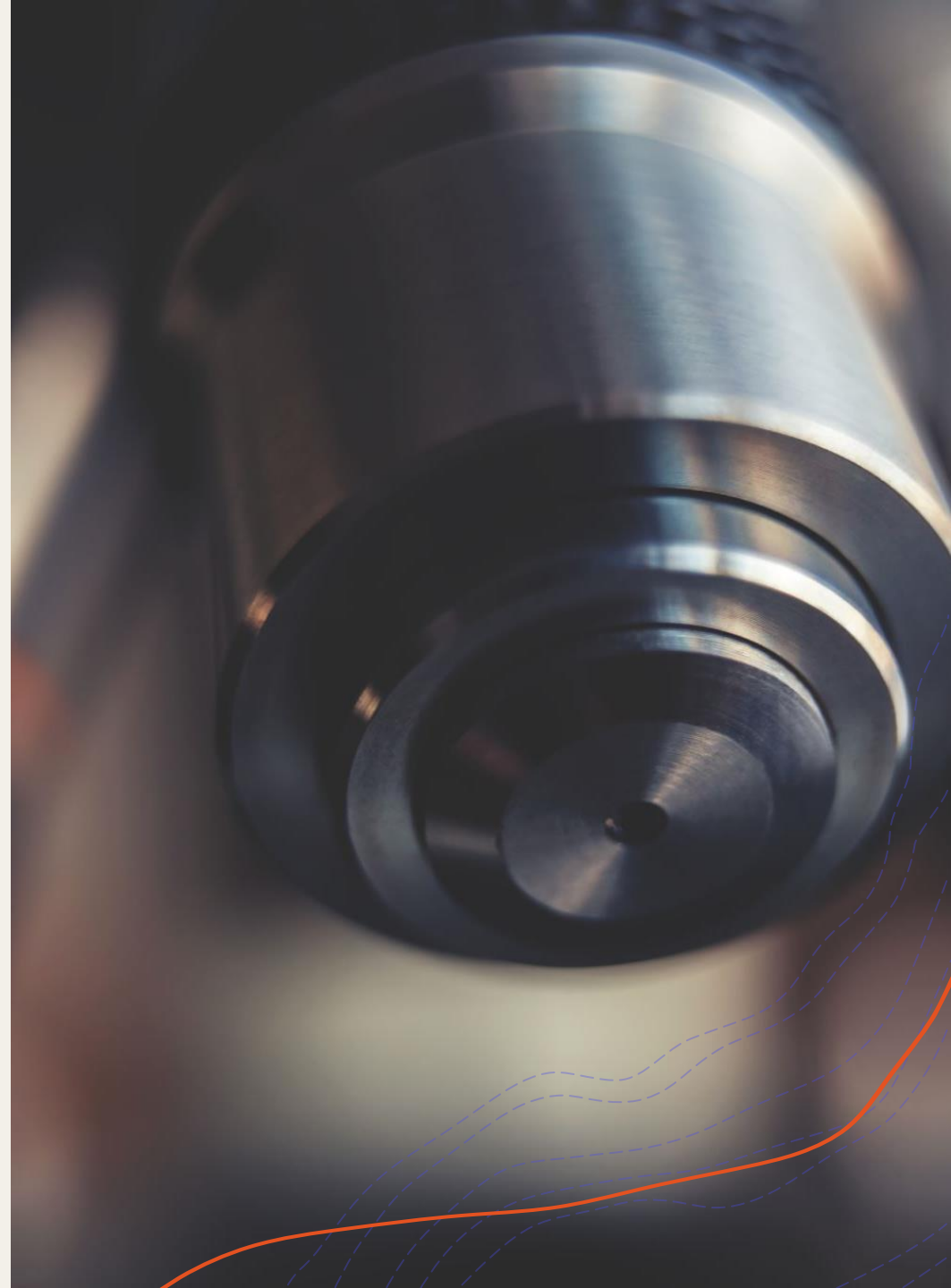
Rigorous

Rigor = Quality



Certification Criteria/Education

- + Undergraduate Education
- + Medical Education
- + Graduate Medical Education –
Specialty Education
 - + Pathology
- + Sub-Specialty
 - + Forensic Pathology



Medical Examiner

- +4 years of College
- +4 years of Medical School
- +4 years Pathology Residency
 - +Anatomic and/or Clinical Pathology
 - + Board Certified by the American Board of Pathology (preferred)
- +1 year Forensic Pathology Fellowship
 - + Board Certified by the American Board of Pathology (preferred)

Board Composition

- +Members of Primary Specialties
- +Members of Sub-Specialties
- +Leverage Local and International Partnerships





Examination Requirement

- + Step Examinations for Undergraduate and Medical Education
- + Anatomical and/or Clinical Pathology Examination
- + Forensic Pathology Examination



Continuing Medical Education (CME)

- + Establish CE Credit Criteria
- + Hourly Credit Requirement
- + Medical School/Academic Requirement
- + Specialty vs. Sub-Specialty Emphasis
- + Leverage Partnerships

A close-up photograph of a silver and black semi-automatic handgun resting on a draped American flag. The flag's red and white stripes and blue field with white stars are clearly visible. The handgun is positioned diagonally across the frame. The text "Gun Violence" is overlaid in a white, sans-serif font on the right side of the image.

Gun Violence

Current Practices in US

Coroner/JP

- + Elected official
- + No training or MD degree



Medical Examiner

- + Appointed
- + MD degree



Deaths Reported for Investigation

- + violent death, whether apparently homicidal, suicidal or accidental, including deaths due to
- + thermal, chemical, electrical or radiation injury and deaths due to criminal abortion;
- + deaths that are sudden, unexpected or unexplained;
- + deaths that occur under suspicious circumstances;
- + deaths of persons whose bodies are to be cremated, dissected or buried at sea:
- + deaths at the workplace or resulting from work activity;

DC Law (DC Code §5-1405)

Deaths Reported for Investigation

- + deaths that are due to diseases that may constitute a threat to public health;
- + deaths of persons who are wards of the District government;
- + deaths related to medical or surgical intervention;
- + deaths that occur while persons are in the legal custody of the District;
- + fetal deaths related to maternal trauma or maternal drug use;

DC Law (DC Code §5-1405)

Deaths Reported for Investigation

- + deaths for which the Metropolitan Police Department (MPD), or other law enforcement agency, or the United States Attorney's Office requests, or a court order investigation; and
- + dead bodies brought within the District without proper medical certification.



DC Law (DC Code §5-1405)

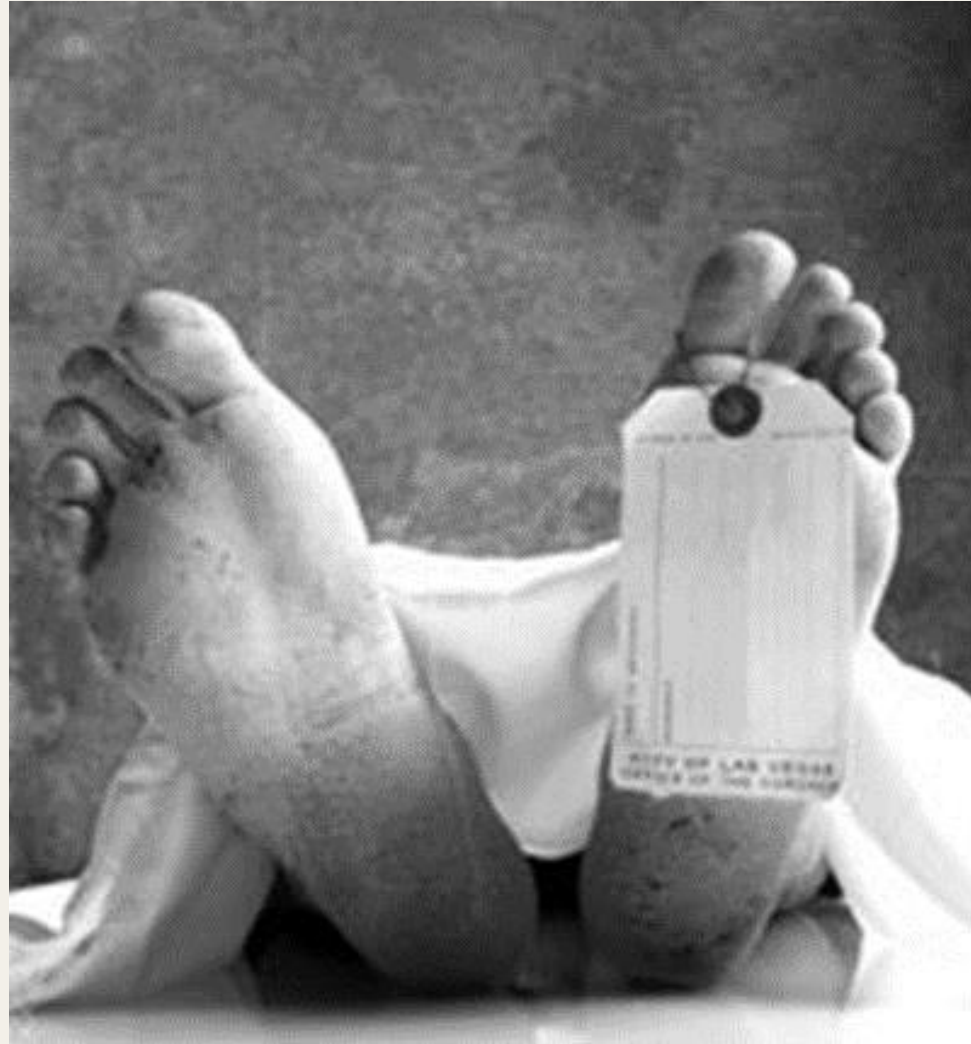
Cause of Death

The disease, injury, or combination responsible for the fatality.



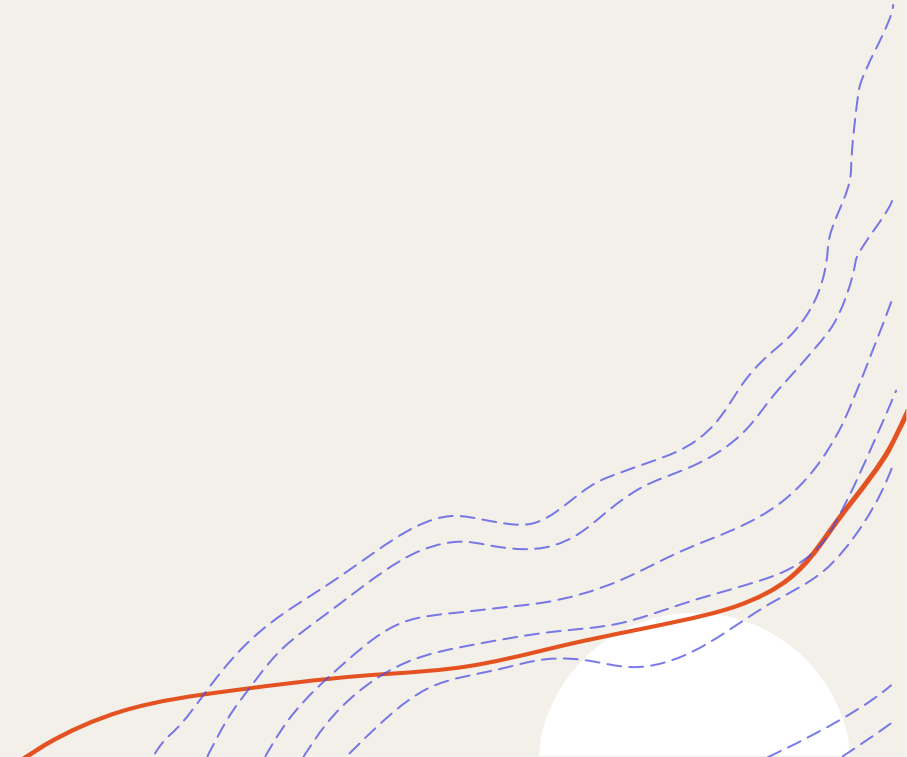
MANNER OF DEATH

- + Explanation of how the cause arose
 - + Natural vs. Non-natural.
 - + Natural is 100% caused by disease.
 - + Classifications:
 - + **Natural**
 - + **Accident**
 - + **Homicide**
 - + **Suicide**
 - + **Undetermined**





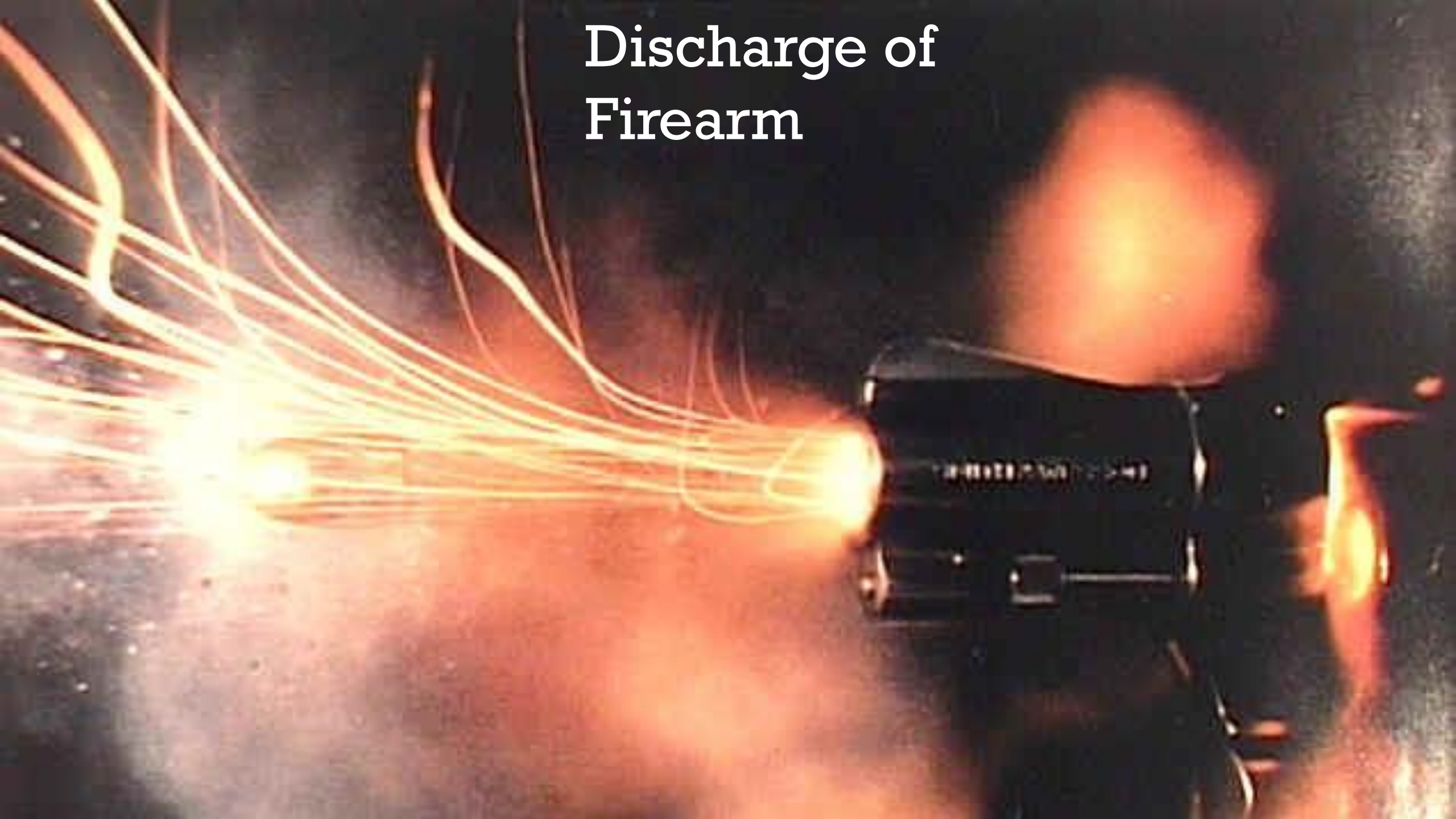
Discharge of Firearm



What Occurs When a Firearm is Discharged

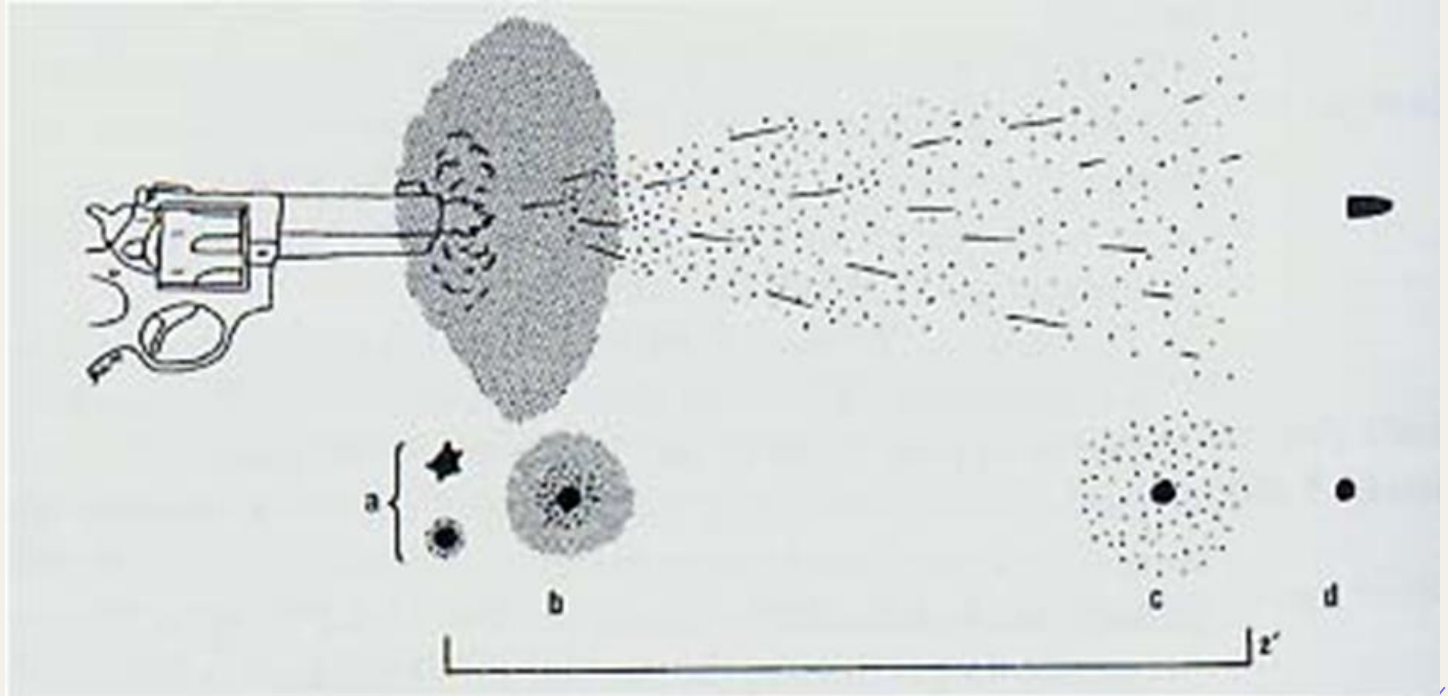
- + Fire or flame is emitted from the barrel.
- + This is followed by smoke.
- + The bullet emerges from the barrel.
- + Additional smoke and grains of both burned and unburned gunpowder follow the bullet out of the barrel.

Discharge of Firearm

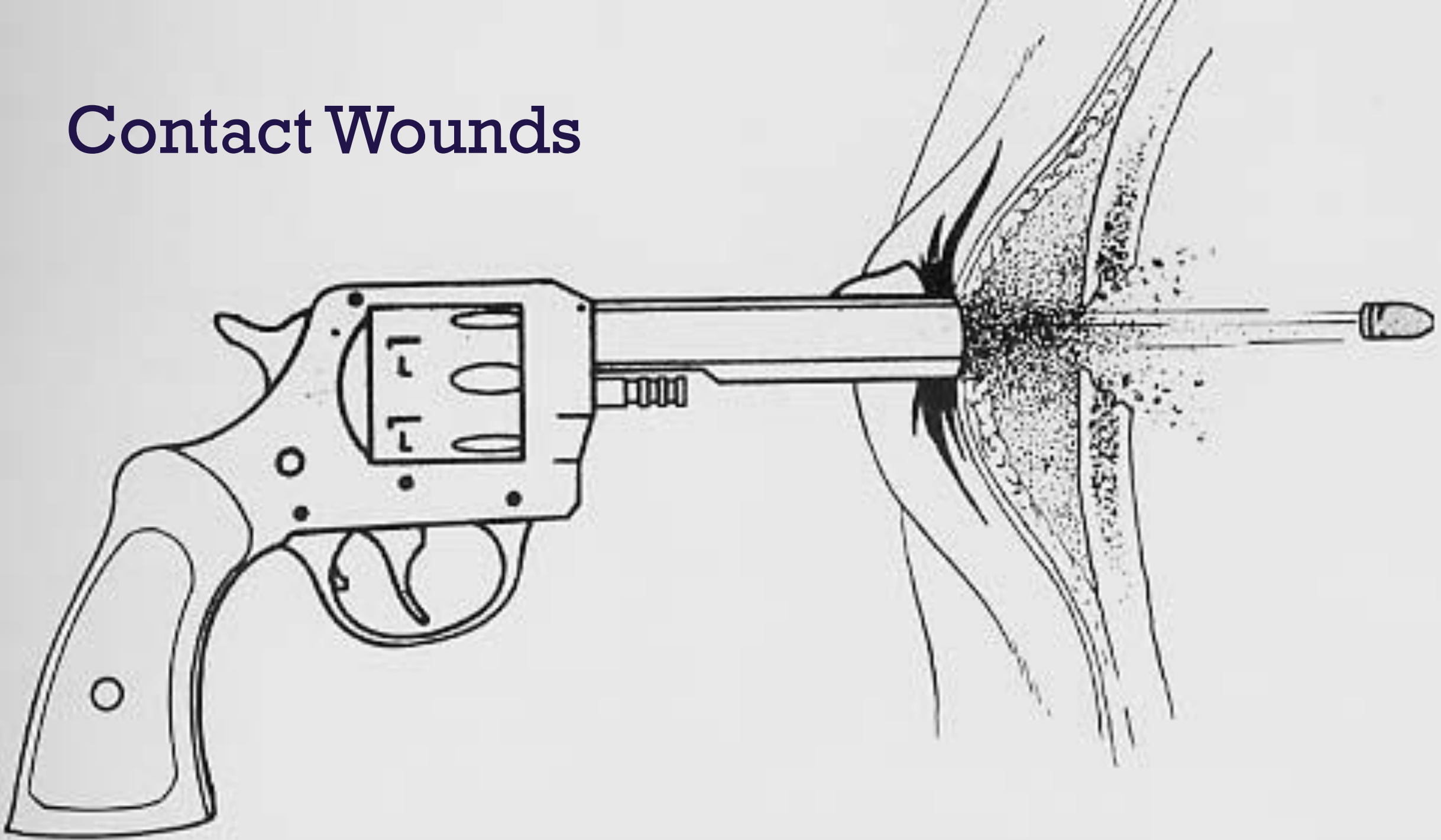


Categories of Gunshot Wounds: Range of Fire

- + Contact: muzzle against the skin
- + Near contact: $< 3/4$ inch
- + Intermediate: < 2 feet (18-24 inches)
- + Distant: > 2 feet (18-24 inches)

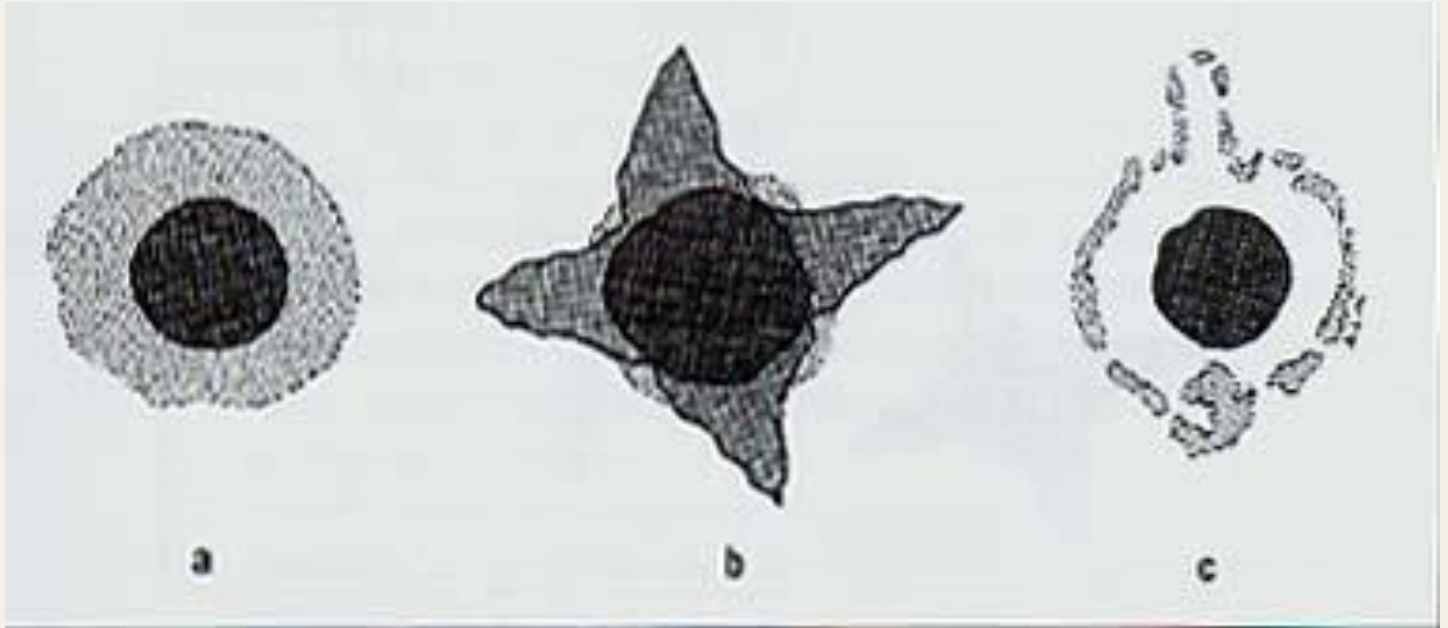


Contact Wounds



Types of Hard Contact Wounds

- + a. round with blackened margin, seared abrasion
- + b. split open stellate tear
- + c. muzzle imprint



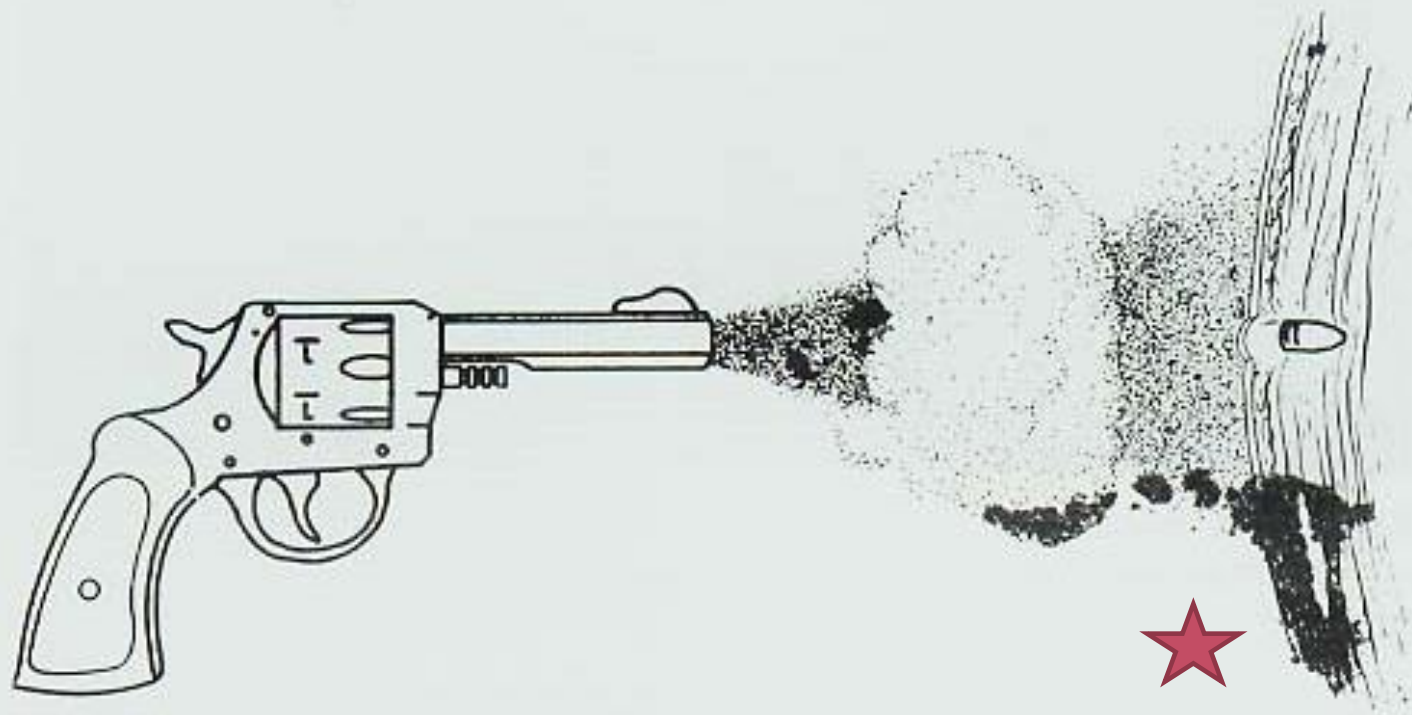
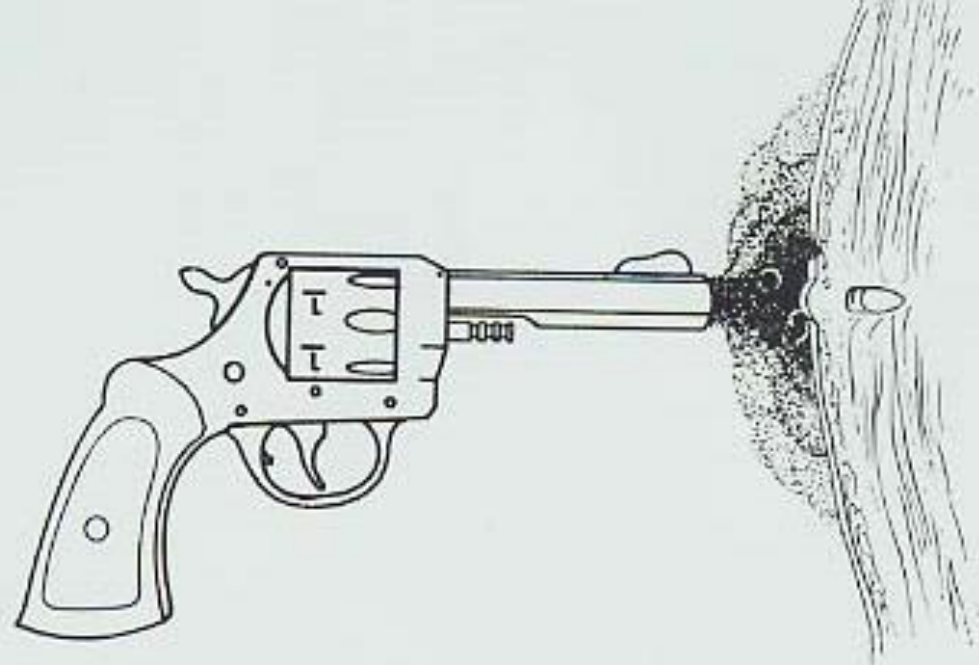
Hard Contact Wound of Head



Intermediate Range Wounds

- + **Stippling** at entrance wound: unburned gunpowder
- + Multiple reddish-brown to orange-red lesions of skin surrounding wound
 - + **Punctate abrasions**: cannot be wiped away
- + These marks are **NOT** powder burns!
- + Occur when muzzle to target distance **exceeds 3/4 inch.**

Near Contact v. Intermediate



Near Contact



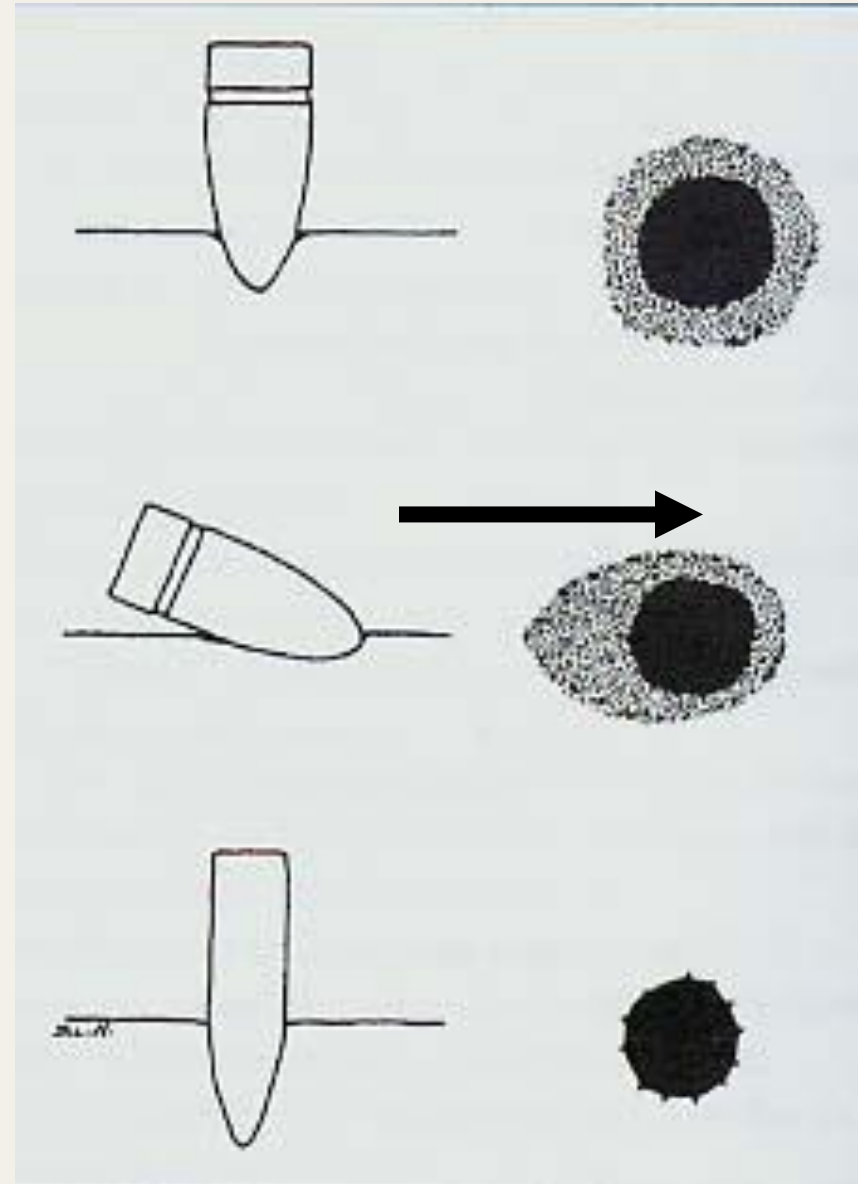
Soot deposition surrounding wound: < 6-8 inches

Intermediate Wound: **Stippling**



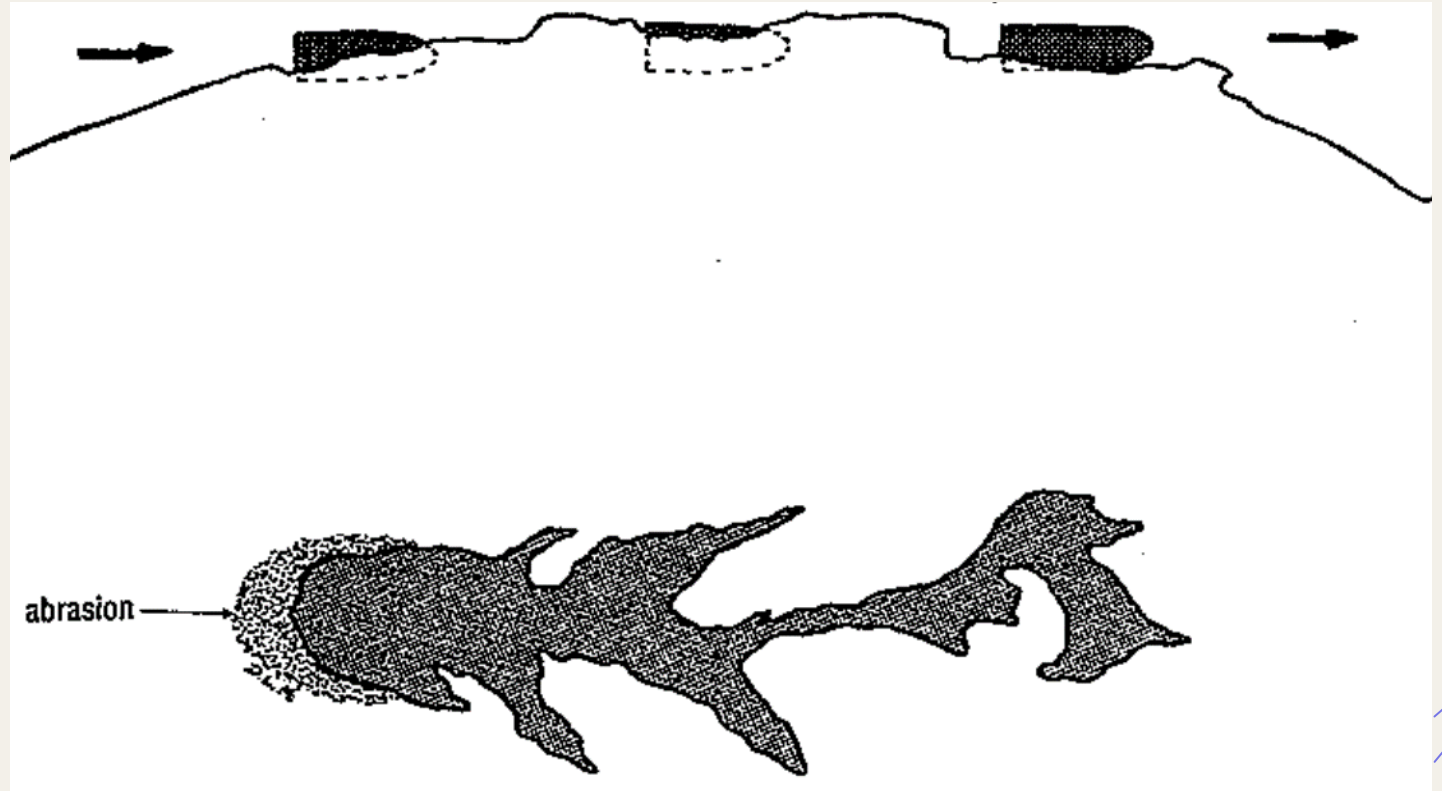
Entrance Wounds

- + Bullet enter skin at right angle; regular round abrasion collar (margin of abrasion)
- + Entrance at oblique angle; crescent-shaped abrasion collar (**determine direction of penetration**).
- + Rifle entrance: micro tears around entry (high velocity)





Graze Wound





Graze Wound

Distant Wounds



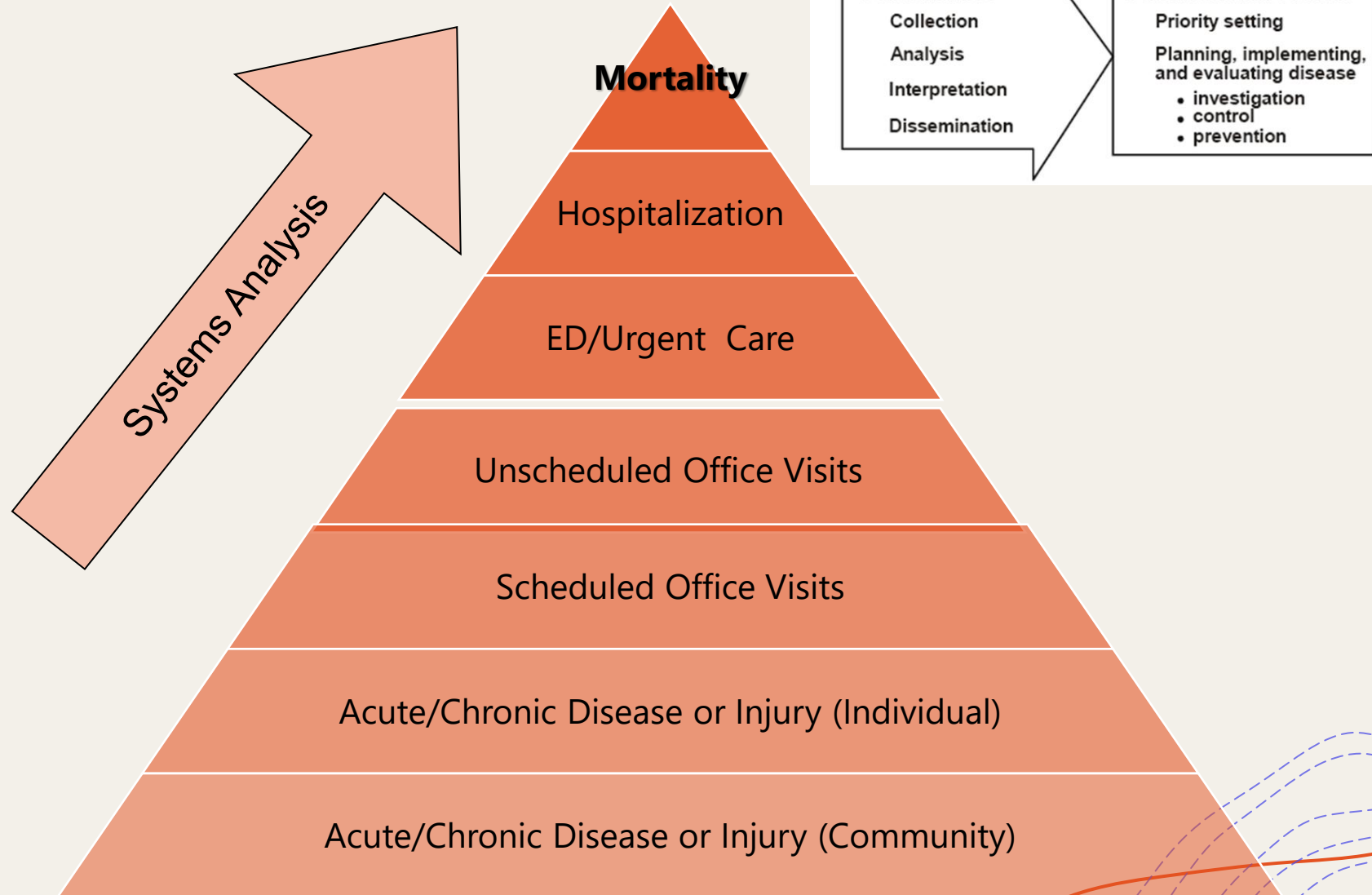
Exit Wounds

- + Larger and more irregular than entrance due to bullet destabilization and/or deformation
- + Can be slit-like, stellate, small or large
- + Do not have abrasion ring – not contact with skin's outer surface
- + Do not have central defect upon re-opposing the tissue (**except shored exit**)

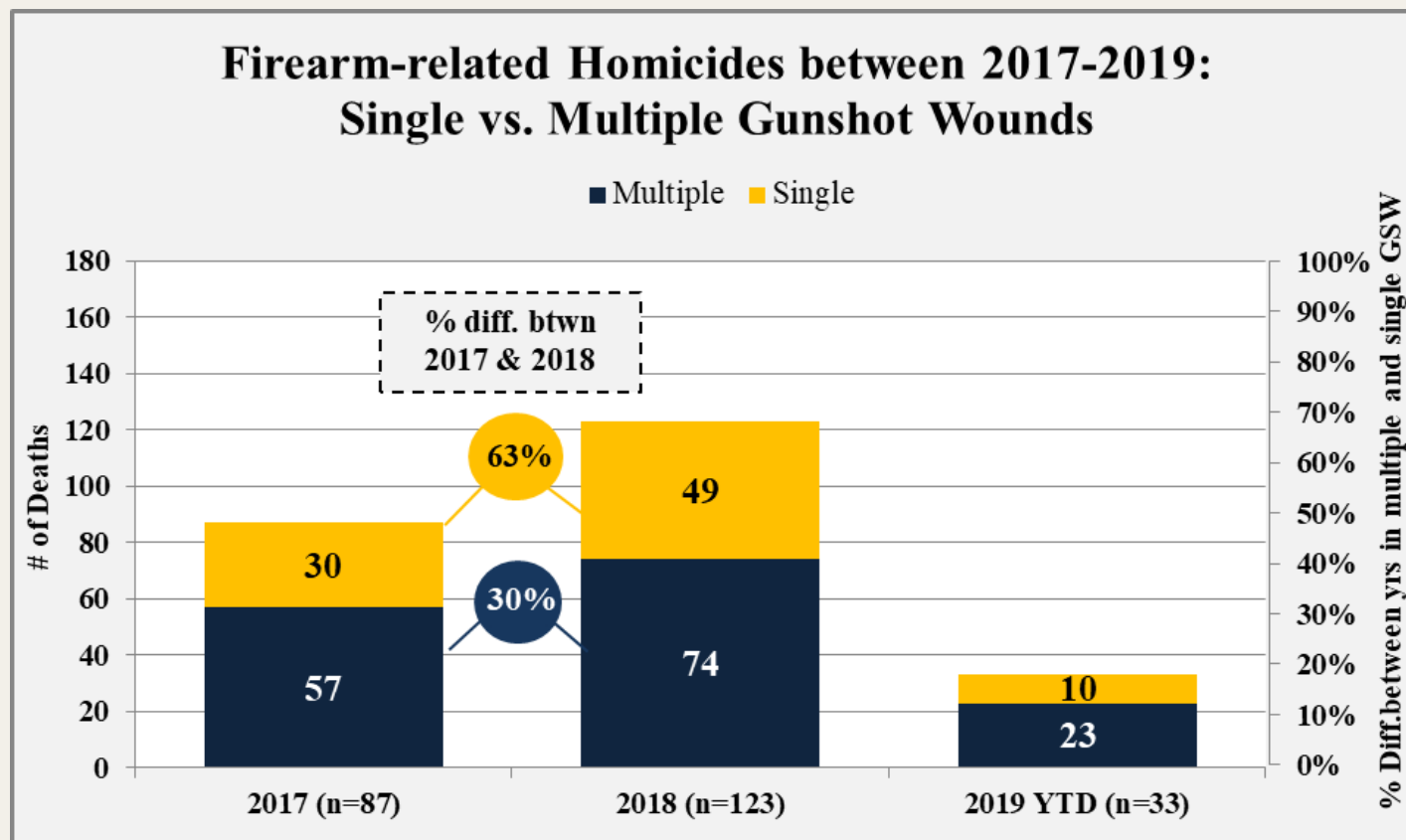
Exit Wounds



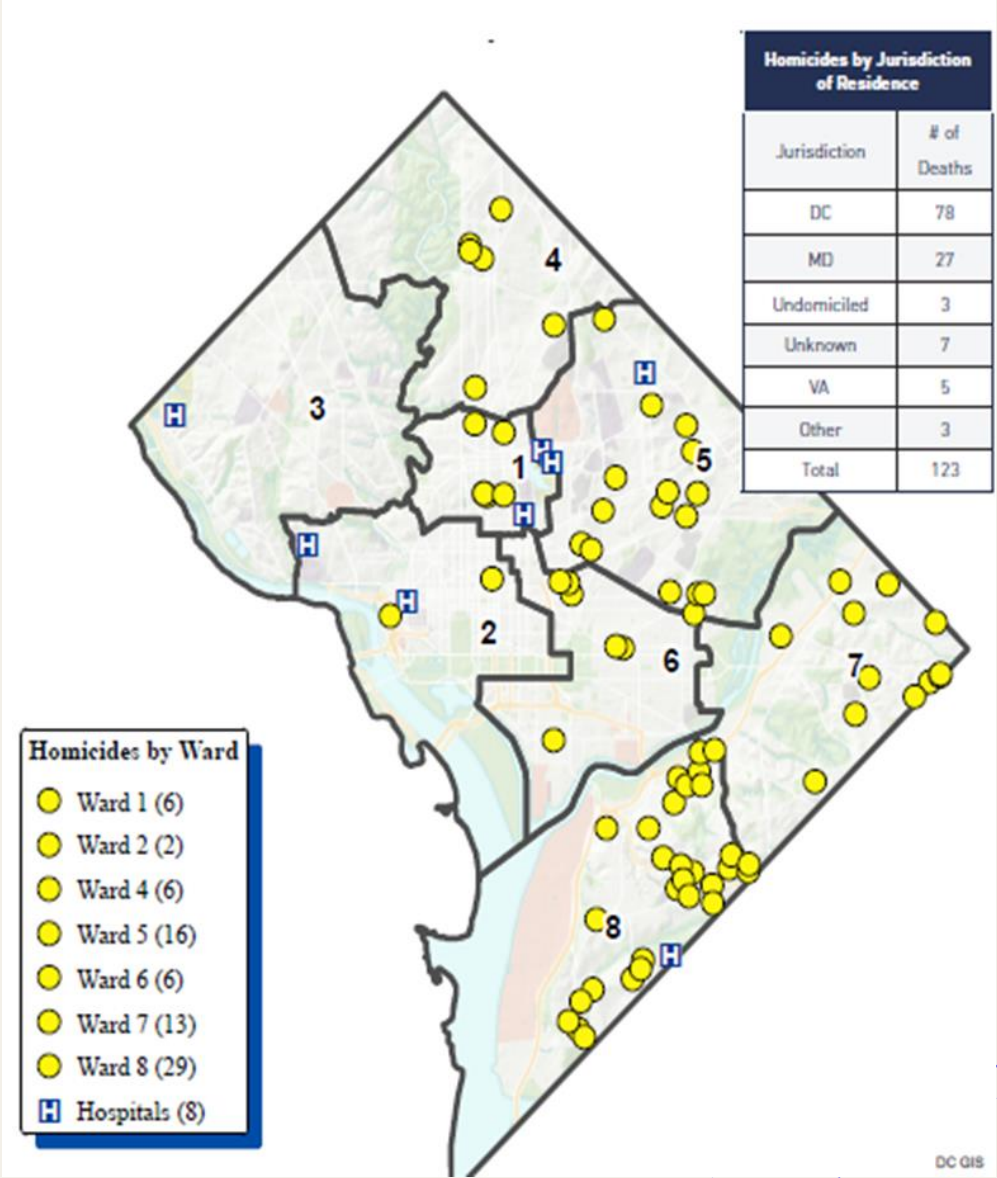
VIOLENCE AND ITS AFFECT ON HEALTH



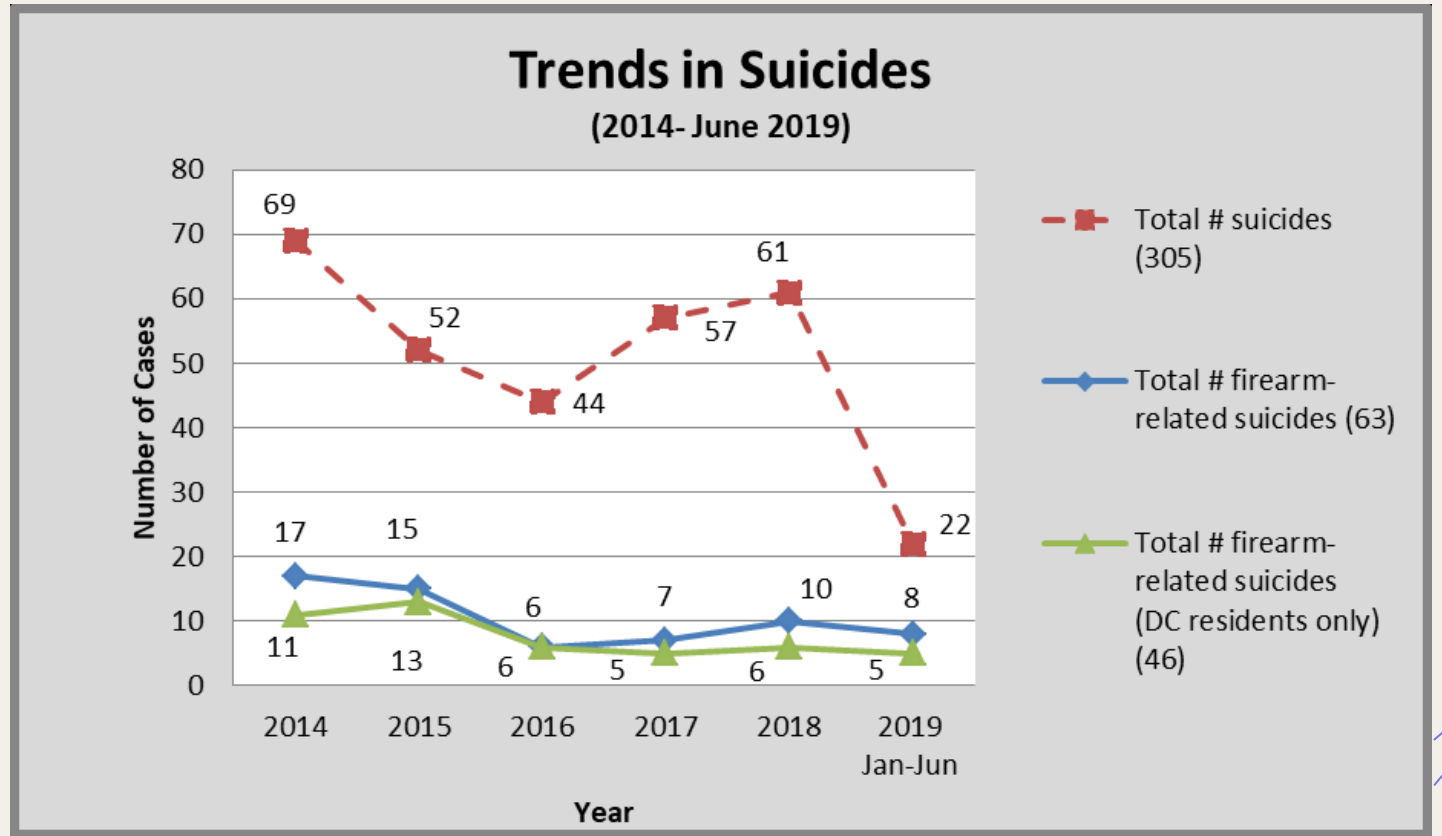
FIREARM RELATED HOMICIDES



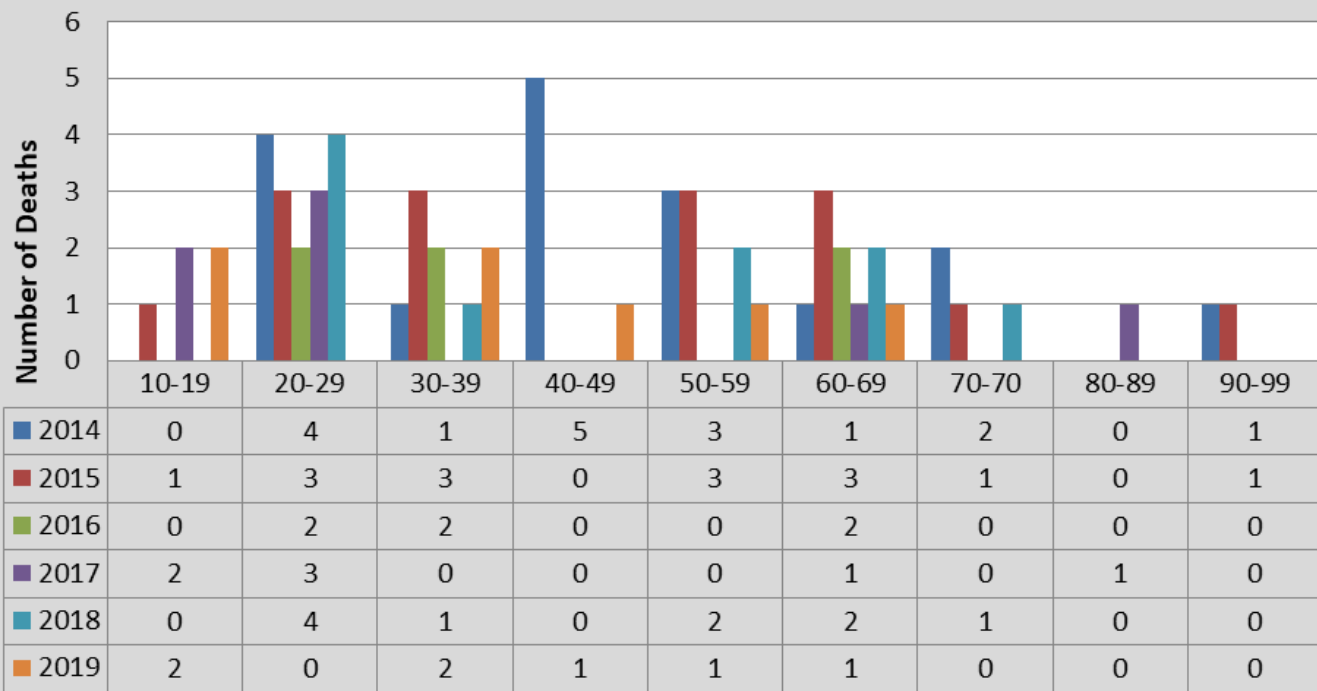
Homicides in the District



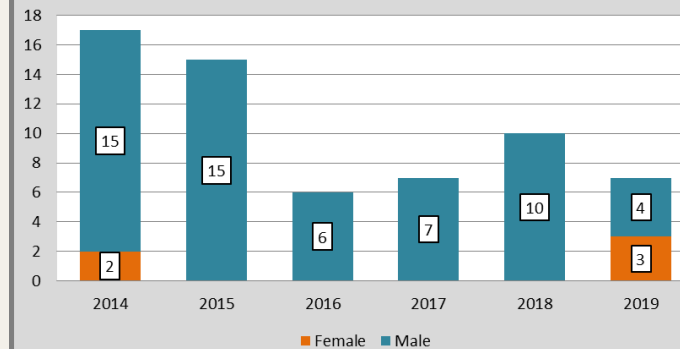
FIREARM RELATED SUICIDES



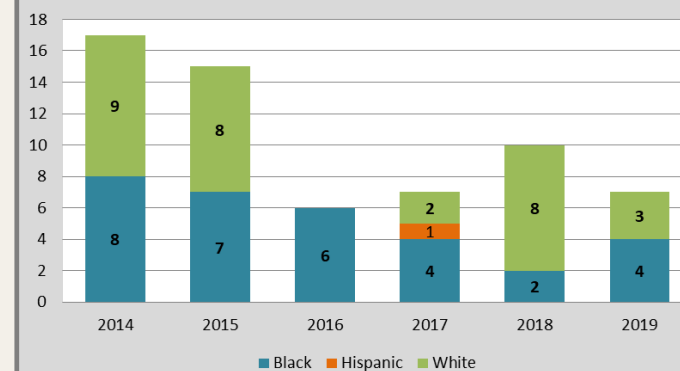
Suicides by Age Category (2014- June 2019)



Suicides by Gender (2014- June 2019)

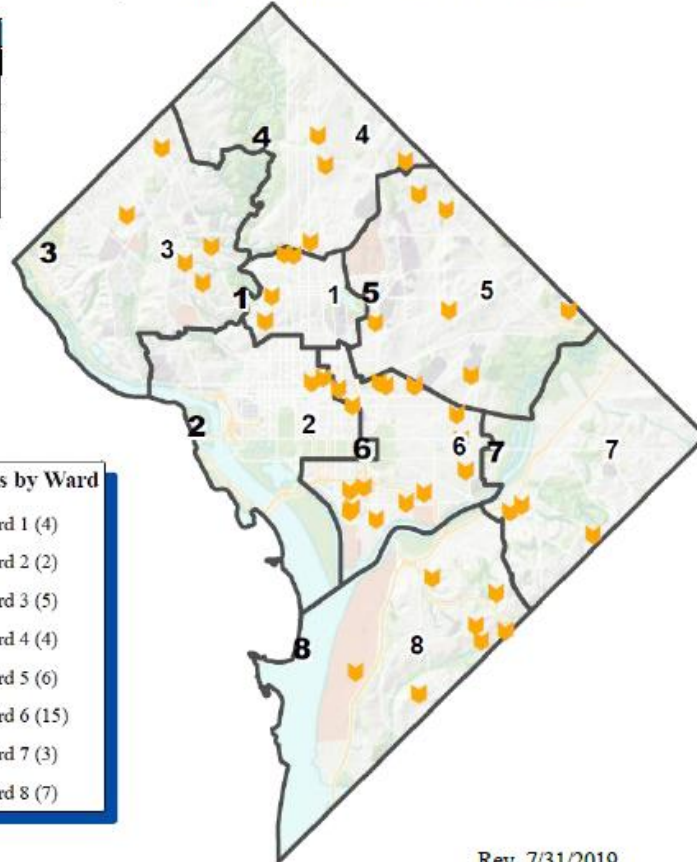


Suicides by Race/Ethnicity (2014- June 2019)



Suicides by Ward of Residence, 2014 - June 2019

Suicides by Jurisdiction of Residence and Year						
	2014	2015	2016	2017	2018	2019
DC	11	13	6	5	6	5
MD	2	0	0	0	1	1
VA	4	1	0	1	1	0
Other	0	1	0	0	2	0
Unknown	0	0	0	1	0	1



Suicides by Ward

- Ward 1 (4)
- Ward 2 (2)
- Ward 3 (5)
- Ward 4 (4)
- Ward 5 (6)
- Ward 6 (15)
- Ward 7 (3)
- Ward 8 (7)



Office of the Chief Medical Examiner
401 E. Street SW, Washington, DC 20024

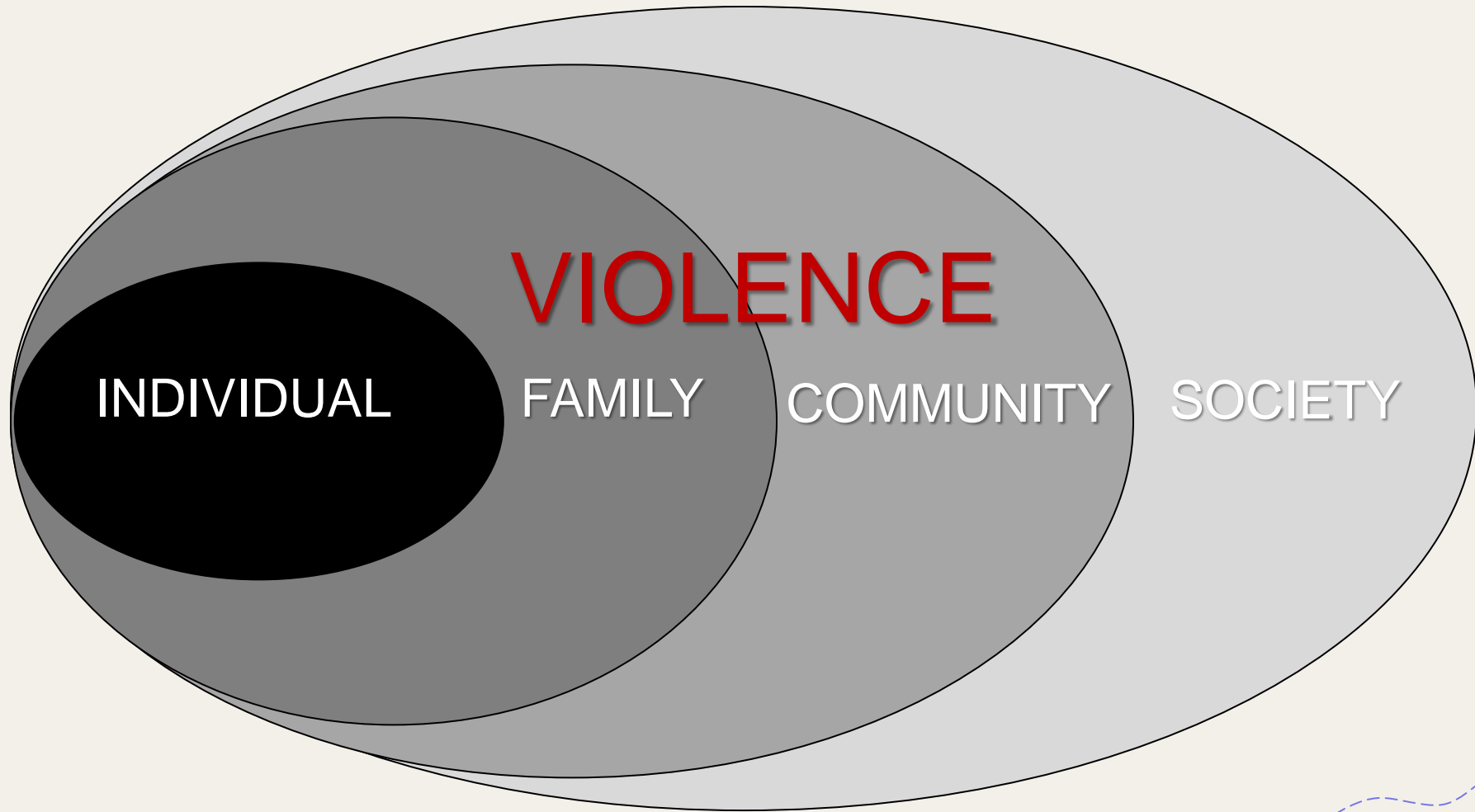
Rev. 7/31/2019

Prepared by: OCME Surveillance Reports

FIREARM RELATED SUICIDES



VIOLENCE AS A PUBLIC HEALTH ISSUE



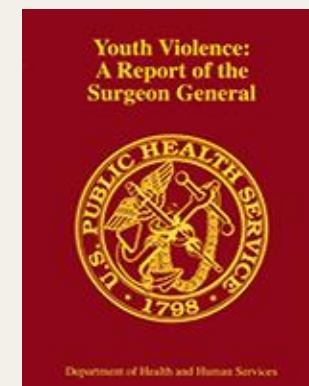
Youth Violence: A Report of the Surgeon General

Box 4-1. Early and late risk factors for violence at age 15 to 18 and proposed protective factors, by domain

Domain	Risk Factor		Protective Factor*
	Early Onset (age 6–11)	Late Onset (age 12–14)	
Individual	General offenses Substance use Being male Aggression** Psychological condition Hyperactivity Problem (antisocial) behavior Exposure to television violence Medical, physical Low IQ Antisocial attitudes, beliefs Dishonesty**	General offenses Psychological condition Restlessness Difficulty concentrating** Risk taking Aggression** Being male Physical violence Antisocial attitudes, beliefs Crimes against persons Problem (antisocial) behavior Low IQ Substance use	Intolerant attitude toward deviance High IQ Being female Positive social orientation Perceived sanctions for transgressions
Family	Low socioeconomic status/poverty Antisocial parents Poor parent-child relations Harsh, lax, or inconsistent discipline Broken home Separation from parents Other conditions Abusive parents Neglect	Poor parent-child relations Harsh, lax discipline; poor monitoring, supervision Low parental involvement Antisocial parents Broken home Low socioeconomic status/poverty Abusive parents Other conditions Family conflict**	Warm, supportive relationships with parents or other adults Parents' positive evaluation of peers Parental monitoring
School	Poor attitude, performance	Poor attitude, performance Academic failure	Commitment to school Recognition for involvement in conventional activities
Peer Group	Weak social ties Antisocial peers	Weak social ties Antisocial, delinquent peers Gang membership	Friends who engage in conventional behavior
Community		Neighborhood crime, drugs Neighborhood disorganization	

* Age of onset not known.

** Males only.



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