



## Pathology Biology Section – 2006

### G3 Frequency of Cases of Fatal Gunshot Wound Victims With Retained “Old” Projectiles From Previous Penetrating Gunshot Wounds

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After attending this presentation, attendees will learn the importance of considering “old” projectiles in assessing a gunshot wound homicide.

This presentation will impact the forensic community and/or humanity by increasing awareness of the “old” projectile as a possible pitfall in the multiple/complex gunshot wound case.

When considering multiple gunshot wound cases, the simple equation of number of entrance wounds equals the number of exit wounds plus the number of bullets lodged in the victim is always an excellent starting point in the forensic examination. However, when there are intermediate targets, atypical entrance wounds or fragmented projectiles the situation can be more complex. The equation can be further complicated by individuals who have sustained a penetrating gunshot wound in the past, survived the injury, and for medical or personal reasons elected not to have the projectile removed. These “old” projectiles can be easily distinguished from acute projectile injuries based on their gross appearance with lack of acute hemorrhage and usual encasement within an area of fibrosis, but when plain film radiographs are used in the original accounting process, this old retained projectile can complicate the equation.

A review of all of the victims of fatal gunshot wounds at the Arkansas State Medical Examiner's office from January 1, 2000-December 31, 2004 was performed to determine the frequency of cases in which an “old” bullet was discovered in addition to the acute, fatal, gunshot wound or wounds. A total of 703 gunshot wound homicides were reviewed; twenty-five of which had evidence of remote gunshot injury and retained projectiles or fragments identified on radiologic exam and internal examination. Individuals with evidence of remote gunshot injury were further classified based on anatomic location of the remote projectile, bullet caliber (large or small), or bird-shot pellets. This classification allows a discussion of possible reasons for leaving the “old” bullet in the patient; either for difficulty/futility of retrieval or the patient's desire to retain the bullet for show as a “souvenir” bullet.

In this retrospective study, four percent (4%) of the cases of gunshot wound homicides at the Arkansas State Crime Laboratory had retained projectiles from previous gunshot wounds. The frequency of these cases points out the importance of considering the possibility of old bullets when approaching complex gunshot wound cases. One should always remember that every projectile on the x-ray may not be from acute injury.

**Gunshot Wound, Homicide, Old retained Projectiles**