



Pathology/Biology Section - 2013

G87 John Hunter's Treatise on Gunshot Wounds

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After attending this presentation, attendees will gain an appreciation of the state of knowledge of wound ballistics as published in the literature approximately one decade after the American Revolution.

This presentation will impact the forensic science community by explaining the earliest underpinnings of the foundational science of wound ballistics.

The first significant description of gunshot wounds in the medical literature was by the famed London surgeon, John Hunter, in his 1794 *Treatise on the Blood, Inflammation, and Gun-Shot Wounds*.

John Hunter is generally regarded as the "founder of scientific surgery" and is recognized as among the greatest medical pioneers in the history of medicine. He wrote four books and left many lectures and notes. His last book, *A Treatise on the Blood, Inflammation, and Gun-Shot Wounds*, is considered to be his most important. This masterwork was published in 1794, a year after his death at age 65. The *Treatise* is known as the first scientific study of wound healing, but it may also be the first publication on wound ballistics. The introduction and first three parts of the book discuss healing and inflammation and 63 pages of the fourth part are devoted to gunshot wounds and their treatment. He declared: "Little has been written on this subject [gunshot wound healing], although, perhaps, when we take every circumstance into consideration, it requires particular discussion; and what has been written is so superficial, that it deserves little attention." His discussions are the result of observations made in 1761 – 1763, from the age of 33, as Staff Surgeon during the Seven Years War (the French and Indian War); first, on the French Island of Belle Ile during the siege and capture of the French Belle Isle and second, in Lisbon during the defense of Portugal against the Spanish, as well as 30 years of study thereafter. He saw gunshot wounds as different from other wounds: "Gun-shot wounds are made by the projection of hard obtuse bodies, the greatest number of which are musket-balls; for cannon-balls, pieces of shells and stones from ramparts in sieges, or splinters of wood, etc. when on board of a ship in an engagement at sea, can hardly have their effects ranked among gun-shot wounds, they will come in more properly with wounds in general." Hunter advised against the prevailing desire to explore the wounds, but instead advocated against opening the wounds, recommending they be treated conservatively. Hunter believed that infection was a treatment failure and not an unavoidable stage of healing, as did his contemporaries. It was not until after Joseph Lister published his successful trials on antiseptics in 1867 that Hunter's radical views become accepted. Hunterian scholars have not previously commented on his discussions of wound ballistics. Hunter categorized gunshot wounds into simple and compound—the former when the missile passes through "soft parts only" and the latter with fractures of the bone, lacerations of the arteries, or penetration of the body cavities to include injury of vital organs. Hunter also described the effect of the velocity of the musket balls on wounds, to include the effect on the path of the bullet, the amount of damage, the rapidity of healing, and the fracture pattern of bones. Forensic pathologists will relate well when he writes in a section entitled *Of the Strange Course of Some Balls*: "The difficulty of finding balls, I have just observed, often arises from the irregular course they take. The regularity of the course of the passage of a ball will in general be in proportion to its velocity, and want of resistance; ..."

The earliest description of gunshot wounds in the medical literature was published in the post-American Revolutionary period and was based upon clinical observations of musket balls during warfare.

Gunshot Wounds, Wound Ballistics, Forensic Pathology