



D76 Non-Lethal Firearm: Excessive and Inaccurate Terminology

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Certain ammunitions named “non-lethal,” often used by untrained persons can produce very significant or fatal wounds. A review of several studies would be necessary to estimate the penetration of this ammunition and to estimate the risks of fatal lesions. The goal of this presentation is to create a different or more accurate name such as “lethality reduced.”

This presentation will impact the forensic community and/or humanity by demonstrating the importance of the danger of non-lethal firearms evidenced by concrete cases during autopsies and recognizing studies on corpses. This demonstration could allow the reclassification of these types of weapons and to change their category in the French and European legislation.

Non-lethal weapons are by the definition approved by the NATO in September, 1999: “Non-lethal weapons are weapons which are explicitly designed and developed to incapacitate or repel personnel, with a low probability of fatality or permanent injury, or to disable equipment, with minimal undesired damage or impact on the environment.” Wounds caused by 12 various caliber ammunitions with non-lethal kinetic effect were studied, as well as blank cartridges from firearms.

Three weapons were used: 12/50 caliber Pistol SAPL GC 27, .9 mm Pistol Walther MLE P99, and 12/70 caliber Pump-action shotgun MLE 801.

Five types of ammunitions were studied: caliber 12/50 FUN TIR cartridge (16 mm diameter missile rubber ball), caliber 12/50 SLUG protection (16 mm diameter missile rubber ball), calibre 12/50 BUCK SHOT protection (6 mm diameter missile rubber buckshot), caliber 12 LD (16 mm diameter missile rubber ball), and .9mm P.A. Knall (blank cartridge).

Two anatomically intact, deceased subjects were used for the study: subject 1 is male, slight muscular build, low fat mass, and with fragile osseous structure; subject 2 is female with more pronounced muscular build and fat mass.

The shots were made by a marksman at a distance from the target from 0 m to 1.5 m. The use of corpses modifies and limits the severity of the induced wounds. Indeed, on dead bodies, tissue retraction, inflammatory process, and bleeding, are absent. However, the characteristics of lesions remain better defined than those supplied by a gelatin form. The severity of aftereffects depends on the wounded anatomical zone. The most critical zones are head and vital organs even when the impact did not cause penetration.

This study demonstrates that at a shot distance of less than 0.5 m, most ammunition penetrates the body and creates fatal wounds. It would be necessary to conduct additional experiments to estimate the limits of distance through clothes and different shot angles.

Estimation of lesion risk inherent to the various types of non-lethal ammunitions is difficult because of the different parameters playing in wound mechanism (shot distance, ammunition conception, victim type, wounded anatomical zone, protection type). It is difficult to find the best compromise between efficiency (assailant neutralization), and wound profile (reversible after effects). However, the researchers were surprised by the wound severity caused by certain “non-lethal” ammunitions, which can be used by unprepared individuals. It would be desirable to create a different more accurate name such as “lethality reduced.”

Non-Lethal Firearms, Gunshot Wounds, Lethality