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Hydrodynamics of Wound Ballistics

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Abstract : Simulation of a human body from 20% gelatin & 80% water mixture is examined from wound ballistics point of view. Parameters such as incapacitation energy & temporary to permanent cavity size & tools of hydrodynamics have been employed to arrive at a model of human body similar to the one adopted by NATO. Calculations using equations of motion yield a value of 339 μs in which a temporary cavity with maximum size settles down to permanent cavity. This occurs for a 10mm size bullets & settle down to permanent cavity in case of 4 different bullets i.e. 5.45, 5.56, 7.62,10 mm sizes The obtained results are in excellent agreement with the body as right circular cylinder of 15 cm height & 10 cm diameter. An effort is made here in this work to present a sound theoretical base to parameters commonly used in wound ballistics from field experience discussed by Col Coats & Major Beyer. Keywords. Gelatin, gunshot, hydrodynamic model, oscillation time, temporary cavity and permanent cavity, Wound Ballistic.

Keywords : gelatin, gunshot, wound, cavity
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