



B26 The Billiard Ball Ricochet Effect and the Garment as an Intermediate Target

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After attending this presentation, attendees will learn the importance of billiard ball effect while determining firing distance.

This presentation will impact the forensic community and/or humanity by demonstrating the importance of billiard ball effect while determining firing distance.

From the area of dispersed pellets on the target, a rough estimation of range of fire can be made. There are many factors that affect the dispersion of the pellets like length and diameter of the barrel, size of the pellets, degree of the choke, etc.

If a shotgun is fired in contact with a body or at close range, pellets hit the body en masse and are scattered a wide area within the body. This ricochet phenomenon has been termed 'the billiard ball ricochet effect'. Also, this phenomenon can occur when pellets hit the clothing en masse. This intermediate target will cause an increase in dispersion of the shot. The thickness of the clothing, the nature of the fabric and the number of layers of the garment can alter this dispersion of the shot.

In determining the range of fire in decomposed and burned bodies where the skin pattern cannot be seen, x-rays revealing shot patterns may be of considerable assistance. However caution is necessary. In these cases, the billiard ball ricochet effect may lead to erroneous conclusions about the range of fire because of the opinion is formed on basis of the pattern of the pellets on x-rays. Wide dispersion of the shots seen on the x-rays may lead to conclusion of a great range of fire than actually occurred. The cases presented are good examples of the billiard ball ricochet effect with intermediate targets. In the first case a woman had a contact shotgun wound of the abdomen. On the x-rays, widespread scatter of pellets were seen within the body. In the second case, although the pellets hit the clothing en masse, the size of shot pattern on the body was over a large area.

Shotgun, Pellet Distribution, Billiard Ball Ricochet Effect, Range of Fire