



B92 The Effect of Silencers on Gunshot Residues

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After attending this presentation, attendees will understand the effects of silencers on gunshot residues (GSR).

In firearm wounding, the investigation of the clothing is very important to determine firing distance. Firing distance determination is possible by analyzing of the gunshot residues (GSR) obtained from the victim's clothing.

The discharging of a firearm creates residues which evolve from the primer, lubricants, propellant charge and elements that are present in the bullets (volatized lead from the base of the bullet), cartridge casing, bullet jackets and gun barrel. These products of firearm discharge collectively referred as GSR.

Several factors affect the amount of GSR that are produced as well as the amount of residues that reach the target. These are distance, barrel length, propellant type, caliber etc. Also, attachments (like silencers) to the muzzle of a weapon can alter the amount of residues that are reach the target.

In this study we investigated the effect of silencers on the GSR. The guns used in this study were Micro UZI submachine gun (SMG), silenced Micro UZI SMG, Mini UZI SMG, and silenced Mini UZI SMG. The ammunition used in the experiments was 9mm Parabellum type cartridges produced by Turkish Machinery and Chemistry Foundation (TMCf). Shots were fired at white cotton from a range of contact, 2, 5, 10, 15, 20, 30, 40, 60, 80cm. Sodium Rhodizonate Test was applied on the white cotton targets to detect heavy metals containing GSR.

Except from the shot contact range, GSR was not found on the targets for silenced Mini UZI SMG. GSR was found on the target up to the distance 15cm, when experimental shots were fired with silenced Micro UZI SMG.

Silencer, Gun Shot Residues, Sodium Rhodizonate Test