

For Cases Related to Firearms and Ammunition

The firearms are very commonly used by the criminals in India. These firearms include pistols, revolvers, rifles, shotguns, carbines and machine guns of various types, makes, models and of the calibers from .22" to .45". Countrymade firearms are also very frequently used in the criminal activities. When a shooting incidence occurs, the investigating agencies collect the firearms related exhibits from the scene of occurrence and send to the forensic science laboratory for further examination.

The ammunition in this case meant all ammunition meant for firing by the small arms. The ammunition may be fired or unfired and includes all types of cartridges, cartridge cases, parts of the cartridge i.e. wads, shots, pellets, slugs, bullets, fragments of the bullet and the propellant charge. This ammunition may be recovered from the scene of crime or from the possession of the suspect. When a shooting incidence occurs, the investigating agencies collect the firearms related exhibits from the scene of occurrence and send to the forensic science laboratory for further examination.

The fired bullets/cartridge cases are generally required to link with the firearms which fired them.

When a shooting incidence takes place, the fired bullets/projectiles hit various objects on their way. The bullets/projectiles cause holes/ ricochet marks on these targets. The targets may be a material target or a human target. On analysis of the holes/marks on these targets, it may be opined, whether these are caused due to fire or not, the distance of firing, and the direction of fire.

When a shooting incidence occurs, it may be required to identify the involvement of a person with the shooting incidence. By conducting the analysis of the gun shot residues lifted from the hands, face or clothing's of a person, it may be determined that whether a person had discharged a firearm or handled a firearm or had been in the vicinity of the discharge of firearm. The technique is used to identify the involvement of a person in a shooting incidence.

Exhibits/Samples

1. Serviceable, unserviceable and parts/broken parts of regular, improvised firearms including air guns, toy guns/countrymade firearm.
2. Manufacturing tools used for firearms and ammunition.

3. Live and misfired cartridges, fired cartridge cases and parts of cartridge (percussion cap, base, wads, powder, projectile, shots/pellets, bullet pieces etc.)
4. Tools used for manufacture/loading re-loading of ammunition.
5. Smokeless powder, black powder and or its containers, if applicable.
6. Unburnt/partially burnt powder charge.
7. Fired bullets, pulled out bullets, shot, pellets, jacket/part of jacket of a bullet, lead/steel core/tip of the bullet etc.
8. Parts of skin, bones, hair and other body parts affected by shooting for Gun-Shot injury.
9. Victim's/accused's apparel.
10. Inanimate object(s) in and around shooting place, which might have been hit or pierced by bullets, shots pellets/powder charge/wads for range of firing.
11. Crime scene sketch map/photograph/audio-video tapes.
12. Post-mortem/injury reports and related X-ray plates
13. Swabbing on lifting by cello-tapes/stub from body parts of suspect shooter or victim.

Problems/precautions:

1. Improper packing, sealing and forwarding of the parcels/exhibits
2. Seals are not legible
3. Seals duly attested are not provided on a piece of cloth.
4. Parcels do not contain the details of the exhibits, case FIR, PS, parcels no. and the initials of the IO.
5. Improper preservation of the body parts

Limitations of exhibits in Ballistics Examination

Using the present techniques, it could not be possible to opine on the following points:

1. Time of firing
2. Exact range of firing
3. Sequence of firing
4. Whether the holes have been caused by a particular fired projectile?
5. Linkage of fired cartridge case with fired bullets/pellets
6. Reconstruction of shooting incidence in the disturbance of the scene of occurrence

Packaging and forwarding

1. Firearm-unloaded and wrap in a paper. Place in a cardboard/wooden box.
2. Bullets, cartridges and cartridge cases - Tightly pack in cotton or soft paper in pill, match or powder box.
3. Target - Normally should be wrapped in a paper/cardboard package. In exceptional cases instructions may be sought.
4. GSR - On cotton swabs and place in plastic containers.
5. The skin pieces should be fully dipped by a preserve in broad necked plastic container.
6. All above packaging may be properly labeled with details of case, contents and to be signed by IO.

Precautions to be taken by the forwarding authority

1. Firearms should be unloaded. If not possible please level it and handle carefully.
2. Any type of marks present on fired/misfired ammunition may be persevered.

Guidelines for collection and packing of physical evidences

1. The latent or visible fingerprints/blood stains, if any on firearms/cartridges are to be taken and preserved before sending these to the laboratory.
2. All the exhibits for Ballistics examination like firearms, live cartridges, fired bullets and empty cartridge cases and target materials like clothing, window pane etc. should be sent in separate sealed covers with labeling on the cover instead on the exhibits.
3. Garments with suspected gunshot holes are to be handled carefully to avoid the Gun Shot Residue particle from being spoiled. For this, handling should be minimum it should be folded carefully and packed in polythene bags.
4. In case of deceased, GSR around the suspected bullet hole on the human body should be collected prior to any cleaning around the wounds using cotton swabs preferably soaked (faintly) with dilute Acetic Acid (vinegar).
5. Hand swabs sent for shooter identification are to be collected by using cello tape/stub from body parts of suspected shooter.
6. Do not package any weapon before it has been made safe.

7. The firearms should be sent for forensic analysis just after seizure; otherwise, formation of rust in the barrel of the gun may affect the inherent pertinent rifling characteristics of the barrel, thus preventing the expert from getting correct opinion.
8. Sufficient ammunition of same caliber (probably) of at least 5 rounds should be sent, if test firings are to be conducted.
9. Firearm and ammunition should be packed separately.
10. The muzzle ends of sawn-off shoot gun barrels should be protected by a small bag, placed over the muzzle and taped in place on the barrel about 5cms back from the muzzle. Do not tape over the end of the barrel at any time.

Special precautions while handling firearms

1. Never touch a firearm unless you have received firearms training.
2. Always ensure that a weapon is unloaded or safe before it comes into your possession.
3. Never position yourself, so that the gun barrel is pointing in your direction.
4. Remember that bullets and shot ricochet around corners and pass through walls and doors.
5. Never trust any label, which says that the weapon is unloaded or safe.
6. Be prepared for a weapon to discharge as soon as it is touched.
7. Only trained firearms personnel should examine at a scene. The position of safety catches hammers spent/live rounds etc. should be noted.
8. The gun should be unloaded by trained firearms staff.
9. Keep people away when the weapon is being made safe, unloaded or checked for safety.
10. The position of any cartridges in the chambers of revolvers and shotguns to be noted. Magazines and/or unfired cartridges must be removed first from automatic or repeating weapons, bearing in mind that a live cartridge may also be present in the chamber. Any cartridge removed from the chamber should be packed separately.
11. Once unloaded, firearms should be handled as little as possible. Always remember that weapons can malfunction and always point the weapon in the safety direction.
12. The firing mechanism if interfered or activated might well affect the mechanical condition which is crucial to the outcome of a case. It should only be touched to assist with making the weapons safe.