

## Chapter 5

### CONCLUSIONS

Firearm fatalities in South Africa are responsible for a very large number of fatalities. For purposes of judicial administration, determination of manner of death, in particular, differentiating between homicidal, accidental and suicidal death, is one of the primary objectives in fatal shooting investigations.

Determining the muzzle-target distance can assist in establishing the manner of death, since contact gunshot wounds are seldom seen in cases of homicidal or accidental death. It has been reported that muzzle-target distance can be confirmed by detection of blood back spatter on the inner and outer surfaces of the weapons.

To determine whether this phenomenon was being used to assist the forensic analysis of fatalities, a study was undertaken whereby weapons used to inflict fatal contact gunshot wounds in victims presenting at the Pretoria MLL, were requested for biological analysis during the period June 2002 to June 2003.

Of the 123 cases identified, only 30 firearms were delivered to the Forensic Science Laboratory for analysis. Blood was found on the inside of barrels in 64% of cases, and the outer surface in 40%. These figures do not correlate well with international studies.

This study serves as proof that the current management of firearm-related fatalities and protocol pertaining to the handling of weapons after the fact prohibit proper and accurate scientific analysis of the weapons without risk of contamination or interference. In addition to this, great time delays between shootings and firearm analysis and rough and improper handling of weapons add some to doubt to the scientific validity of weapon analysis.

## SAMEVATTINGS

Skietwond sterftes in Suid Afrika is verantwoordelik vir 'n groot hoeveelheid van alle sterftes. Vir die doel van geregtelike administrasie, is bepaling van oorsaak van dood, en in besonder die differensiasie tussen moord-, ongeluk- en selfmoord sterftes, een van die primêre doeleindes in noodlottige skietgeval ondersoek.

Bepaling van die loop-teiken afstand kan die bepaling van die tipe sterfte fasiliteer, aangesien kontak skietwonde selde in moord- of ongeluksterftes teëgekomp word. Dit is reeds aangeteken dat loop-teiken afstand bevestig kan word deur die waarneming van bloed spatsels aan die binne- en buitekantste oppervlakke van die vuurwapens.

Om te bepaal of hierdie verskynsel gebruik word om die forensiometriese analise van sterftes te fasiliteer, is 'n studie onderneem waarvolgens wapens, gebruik in die toediening van noodlottige kontak skietwonde in slagoffers wat presenteer by die Pretoria RGL, aangevra is vir biologiese analise tydens die periode Junie 2002 tot Junie 2003.

Van die 123 sake geïdentifiseer, was slegs 30 vuurwapens na die FWL geneem vir analise. Bloed was sigbaar aan die binnekant van wapens in 64%, en aan die buitekantste oppervlak in 40% van alle gevalle. Hierdie syfers korreleer nie goed met internasionale studies nie.

Hierdie studie dien as bewys dat die huidige bestuur van vuurwapen-verwante sterftes en protokol met betrekking tot die hantering van vuurwapens na 'n skietvoerval, deeglike en akkurate wetenskaplike analise van wapens sonder die risiko van kontaminasie of inmenging, belemmer. Die aansienlike vertraging tussen skietvoorvalle en vuurwapen analyses, asook die rowwe en onbehoorlike hantering van wapens dra by tot twyfelagtigheid ten opsigte van die wetenskaplike geldigheid van wapen analyses.

Dit beklemtoon ook die noodsaaklikheid van die daarstelling van geskikte standaard werksprosedure op sulke tonele, asook die noodsaaklikheid van streng navolging van wetenskaplike protokol in die laboratorium.

In 'n land met so 'n uitsonderlike hoë syfer van vuurwapen-verwante sterftes, is dit steurend hoe ver verwyderd die areas van polisiëring en wetenskap funksioneer. Dit kan bevraagteken word of wetenskap enigsins 'n rol speel 'n polisiëring in Suid Afrika. Dit is daarom duidelik dat 'n studie wat so swaar staatmaak op akkurate wetenskaplik prosedure en beginsels, nie in die huidige sisteem uitgevoer kan word nie.

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It also emphasises the need for the establishment of appropriate standard operating procedure on these scenes and the need for strict adherence to scientific protocol in the laboratory.

In a country with such an elevated rate of death by firearm, it is quite disturbing how greatly divided the domains of policing and sciences are functioning. In fact, it is questionable whether science is at all involved in policing in South Africa. It is therefore clear that a study heavily depending on accurate scientific procedures and principles cannot be performed in the current system.

**Key Words:** forensimetric analysis, firearms, suicide, suicidal gunshot wounds, back spatter, blood on firearms, suicide weapons, drawback effect, blood, crime scene protocol.

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