

**Michael R. Grimm**  
**Forensic Consultant**  
**Friction Ridge and Impression Evidence Examinations**  
**730 Brooks Mill Rd. Union Hall, VA 24176 USA**  
**Telephone 1-540-576-3512, Fax 1-540-576-3942**

August 28, 2007

**Certificate of Examination**

To: Advocate PJ de Bruyn SC

Reference: Inge Lotz Homicide

Evidence Submitted:

- 1 Photographic images
- 2 Statement of Dr Rachel Johanna Adendorff

**Results**

On 2007-08-28, I examined a series of photographic images consisting of numerous injuries to the head and body of Inge Lotz. These photographic images depict a variety of both blunt force and sharp force injuries.

My examination of this evidence was requested based on my experience in the interpretation and comparison of patterned injuries on human skin over the last twenty plus years. As an impression evidence examiner, I was cross trained in this form of examination under the direct guidance of the Commonwealth of Virginia's State Medical Examiner Office in Roanoke, Virginia, USA. This guidance and subsequent oversight was conducted by Drs. David W. Oxley and William Massello. My training included the examination detection of all forms of epidermal and dermal injuries, including blunt force, sharp force and thermal. I have examined hundreds of patterned injuries on dozens of both deceased and living individuals. I have successfully associated, positively identified and/or positively excluded weapons of assault and murder in the majority of these cases. I have likewise testified on approximately twenty occasions in both State and Federal Courts to the results of my findings. Many of these testimonies have resulted in convictions or acquittals in Capital Murder cases. I have also lectured on the subject of patterned injury examinations on many occasions to both medical professionals and law enforcement officers. The procedures and conclusions reached in this form of examination are not unlike that of other impression evidence examinations including that of footwear impressions.

All injuries in this matter (Inge Lotz Case) were previously measured and described in a separate document prepared by Dr. Rachel Adendorff. Those descriptions, in part, are being used in my examination observations.

I began with the injury previously described as **1(a)**, a 30mm long semi-circular or oval shape laceration and avulsion. This injury also consists of bruising on the

anterior side. The posterior side of this mark is devoid of bruising at the edge of the laceration and is consistent with contact with a circular semi-sharp object of the approximate same diameter as the injury.

Injury **1(b)** was found to be an avulsion/laceration of a similar shape and size to that of the **1(a)** injury. However, this injury displayed what appears to be even more force when inflicted than the **1(a)** injury as there is more discernable avulsion or tearing of the skin and, there is consistent bruising on all sides.

The examinations of injuries **1(c)** and **1(d)** each revealed linear lacerations similar in shape and size. These two lacerations are consistent with blunt force contact by a cylindrical object. These injuries are approximately 30 and 35mm respectively.

Injury **5(a)** appears as a rectangular contusion (bruise) with a deep laceration in the centre area. This laceration is devoid of skin and the underlying tissue, thus exposing the skull or a portion of skull fragment. Likewise, injury **5(b)** is similarly shaped rectangular contusion with a like area devoid of skin and tissue in the centre. Injuries **5(a)** and **5(b)** are adjacent to each other in a diagonal position.

The victim's left cheek bears two (2) small lacerations, designated **7(a)** and **7(b)**. Each of these marks is adjacent to diagonal bruises in the direction of the nose. These lacerations are superficial in comparison to the other injuries in the report. However, their shape and size may be representative of the contact object and should not be considered of a lesser value in the examination and comparison.

Injury **9** is a linear laceration approximately 30mm in length. This laceration is surrounded by broad bruising or contusion indicative of forceful contact with a heavy cylindrical object.

The **10(a)** injury is a blunt force laceration approximately 35mm in length and surrounded by extensive bruising, 10 to 15mm in width and relative to the size of the striking object.

Examination of injury **10(b)**, a small laceration approximately 15mm in length, included the adjacent bruising in the left temporal area, as well as injury **10(c)** an 8mm laceration. This area roughly forms a square or rectangle and over all appears similar in shape and size to injuries **5(a)** and **5(b)**.

Injury **10(d)** is a laceration that bisects the helix of the left ear as well as the skin directly behind the ear. This laceration is indicative of blunt force trauma.

The lacerations forming the curved or semicircular wounds in injuries **1(a)** and **1(b)** are of approximate equal size (30mm to 35mm) and were likely consecutive contacts. These injuries are representative of the shape and size of the object inflicting the injuries. The **1(b)** injury possesses irregular abraded edges.

Under magnification, the linear lacerations described in injuries **1(c)**, **1(d)**, **9**, **10(a)** and **10(d)** all possess irregular abraded edge characteristic as well. These five (5) lacerations were all the result of substantial strikes from a cylindrical object. This conclusion can be further substantiated by the defused bruising adjacent to the

lacerations that occur with cylindrical forceful contact. Laceration in these instances occur when the skin and underlying tissue is fully compressed between the skull and the object of force, thus causing the skin to split in a random manner, but still consistent with the linear shape of the object. The **1(b)** irregular semi-circular laceration is likewise the result of extreme compression of the skin and underlying tissue. The aforementioned irregular lacerations and associated bruising are not indicative of sharp force trauma, such as would be seen with a knife, hatchet or other similar sharp tool.

Injuries **5(a)**, **5(b)** and **10(b)** are consistent with a rectangular object such as the muzzle end of some semi-automatic handguns with regard to shape and approximate size. Likewise, these same injuries are similar to the magazine, grip and back strap portion of this style firearm. The linear lacerations addressed as injuries **1(c)**, **1(d)**, **9**, **10(a)** and **10(d)** are all consistent with injuries inflicted with the barrel portion of a firearm.

The aforementioned injuries, with exception to the two (2) semi-circular injuries, **1(a)** and **1(b)**, could not be associated with marks commonly caused by a hammer on a human head. Blunt force trauma resulting from forceful contact with a hammer is usually represented by a full circular laceration or deep puncture of the skin and underlying skull and most often can be directly associated to the hammer with regard to size and shape. If the two (2) semi-circular injuries in question were made by a hammer, the dimension (width or diameter) of that hammer head would need to be consistent with the width of the injuries, which is 30mm.

**Although a definite determination as to the object or objects used to inflict the aforementioned injuries can not be made, injuries of this size and shape, collectively or in combination with each other, are indicative of forceful contact with a weapon having a variety of structural shapes. My experience with injuries of this type (shape, size and depth) suggests they are most indicative of a handgun.**

The remaining injuries on the head, described in Dr. Adendorff's report, were not examined due to the lack of discernable patterns.

Respectfully submitted as my conclusions and opinions of the injuries in this case.

---

Michael R.Grimm