



MEDICO-LEGAL ASPECTS OF WOUNDS

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INTRODUCTION

Forensic Science is a discipline on which law relies heavily for collecting corroborative evidence to reach the guilt of the accused or to better understand the crime scene or various dimensions of the offence committed. Medical practitioners very frequently need to examine, treat victims and issue medico-legal reports in pursuit of their profession dealing with wounded persons. Law enforcing officers may send the wounded victims for routine treatment and necessarily for medico-legal reports of the cases or occasionally the victims from their own selves request the attending medical practitioners to issue medical certificates and reports which will be needed to start a legal action against the accused persons. This is why the medical practitioners have to use their medical knowledge and skill regarding hurts or injuries, different causative weapons or means for making very useful medico-legal reports and on a later date to act as competent expert witness in the courts of law.

MEANING OF WOUNDS

The term **hurt**, **injury** and **wound** have almost the same meaning and some differences as well. They usually mean any damage to any part of the body or bodily harm caused by application of violence.

Injury also includes any harm to the mind, reputation and property,¹ and hurt includes bodily pain, disease or infirmity.²

A wound may be defined as ‘Solution of the natural continuity of any of the tissue of the living body’. Clinically, a wound is produced when there is breach of anatomical continuity of the skin or mucous membrane with or without damage of the underlying tissues. Forensically it is wound when there is damage of any tissue or organ irrespective of breach of continuity of the skin or mucous membrane.³ Thus, the injury may be visible externally but it is not essential as fatal internal injuries may be inflicted in the absence of any external marks of violence.

HOW WOUNDS ARE PRODUCED?

A wound is produced when the intensity of the applied force to the body exceeds the capability of the tissue to adapt or resist the force. The capability of the tissue to adapt or resist the force depends on mass, velocity, exact area of the weapon pressing the body, structure of the tissue, mode of application of the applied force like compression, traction, torsion, tangent and leverage of the stress. Type of damage of the tissue depends on the degree of transfer of the kinetic energy from the relative movement of the weapon and/or the body.⁴

FACTORS AFFECTING CHARACTER OF WOUNDS

¹ Section 44, Indian Penal Code, 1860 (Hereinafter referred to as IPC)

² Section 319 IPC

³ Mathiharan K, Patnaik K Amrit, Modi's Medical Jurisprudence and Toxicology, 23rd Edition, Lexis Nexis Butterworths

⁴ Karmarkar, RN; Forensic Medicine and Toxicology; Academic Publishers; 2010



The characters of an injury caused by some mechanical force are dependent upon the following:

- i. The nature and shape of weapon
- ii. The amount of energy in the weapon when it strikes the body
- iii. Whether wound inflicted on moving or fixed body
- iv. The nature of tissues involved
- v. The area over which the force acts

CLASSIFICATION OF WOUNDS⁵

1. Rank and Wakefield Classification

Tidy wounds	Untidy wounds
These are inflicted by sharp instruments and contain no devitalized tissues.	Untidy wounds results from crushing, tearing, avulsion, vascular injury or burns and contain devitalized tissues.
These are clean wounds.	These are contaminated wounds.
	

2. Traumatic Classification

a) Closed Wounds

Bruise / Contusion	Hematoma
It is the extravascular collection of blood in	This is localized collection of

the tissue, viz, dermis of the skin, subcutaneous tissue and other deeper tissues due to rupture of blood vessels caused by application of blunt force with overlying tissue remaining intact so that blood cannot escape outside. When the lesion is visible from outside it is called bruise and if not visible from outside it is called contusion.

blood in soft tissue. Initially this will be fluid, but later clots within minutes or hours. After a few days the hematoma will again liquefy. A hematoma will generally reabsorb but can also get infected. It can be evacuated by open surgery or aspirated by a large bore needle.



b) Open Wounds

Type	Character
Incised Wound	I. It is caused by the sharp edge of the weapo

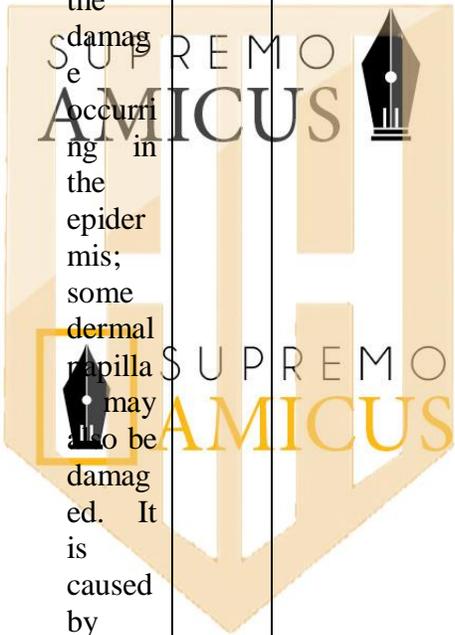
⁵ Guharaj, PV; Chandran MR; Forensic Medicine; 2nd ed; Orient Longman; 2002



INCISED WOUND-caused by sharp objects etc, have sharp edges

<p>n applied to the skin perpendicularly or obliquely making regular clean edges of the wound. It is called a slash wound when the length of the wound is greater than its depth. It is a stab wound when its depth is greater than its length and usually caused by pointed knife or dagger. A puncture wound is</p>	<p>produced when a pointed thin bodied weapon is pushed into the body. Its depth is also greater than its diameter. A penetrating wound is produced when a bigger type of pointed weapon like teta is pushed into the body making a greater depth. When puncture or penetrating wound is such that it has an entry and an exit and a tract through the tissue it is called perforating wound. Legally puncture and penetrating wounds are also considered as stab wounds.</p>
	<p>Laceration</p>
	<p>It is the tearing or splitting of</p>



<p style="text-align: center;">Laceration</p> 	<p>the skin, mucous membrane and surfaces of any internal organs caused by application of blunt force. Blood escapes from the wound to the exterior or any body cavity.</p>		<p>the pointed objects against the skin or mucous membrane. Most abrasions are caused by rubbing effect and others are caused by vertical pressure. Pattern of the impacting object may be retained at the abraded area.</p>
<p>Abrasion</p>  <p style="font-size: small; text-align: center;">shutterstock.com - 440149</p>	<p>II. It is the damage occurring in the epidermis; some dermal papilla may also be damaged. It is caused by rough hard blunt objects or surfaces or by drawing the tip of</p>		

3. On the basis of duration



Acute Wound	Chronic wound
<p>Wounds that repair themselves and that proceed normally by following a timely and orderly healing pathway are classified as acute wounds. The time course of healing usually ranges from 5 to 10 days, or within 30 days. Acute wounds can be acquired as a result of traumatic loss of tissue or a surgical procedure</p>	<p>Chronic wounds are those that fail to progress through the normal stages of healing and they cannot be repaired in an orderly and timely manner. The healing process is incomplete and disturbed by various factors, which prolong one or more stages in the phases of inflammation, proliferation or remodeling. These factors include infection, tissue hypoxia, necrosis, exudates and excess levels of inflammatory cytokines. A continuous state of inflammation in the wound creates a cascade of tissue responses that together perpetuate a non-healing state.</p>



4. Wounds caused by thermal forces

Burns	Frost Bite
<p>III. These are caused by flame, heated objects and scalds by hot liquids and vapours or gases. Bodily harm may also be caused by corrosives, electricity, insecticide, high dose of drugs.</p>	<p>This occurs when exposure to low temperatures causes <u>freezing</u> of the skin or other tissues. The initial symptom is typically numbness. This may be followed by clumsiness with a white or bluish color to the skin. Swelling or blistering may occur following treatment.</p>
<p>IV.</p> 	

5. Depending on depth of injury

Type	Character
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<p>Superficial wound</p>	<p>It is a type of wound in which the topmost layer of the skin (the epidermis) is scraped off. A good example of superficial wounds are the abrasion induced ones or superficial lacerations, popularly known as scratches.</p>		<p>deeper than ¼ of an inch beneath the surface of the skin. Because they go so far below the surface of the body, these wounds are much more likely to cause damage to a ligament, major blood vessel or artery, tendon or an organ. The depth can also cause both internal and external bleeding.</p>	
<p>Partial Thickness wound</p>	<p>These are wounds that extend only into the first two layers of skin, which are the dermis and epidermis.</p>		<p>6. Legal Classification</p>	<p>Hurt</p> <p>As per Section 319 IPC, whoever causes bodily pain, disease or infirmity to any person is said to cause hurt.</p>
<p>Full Thickness wound</p>	<p>A full-Thickness wound indicates that damage extends below the epidermis and dermis (all layers of the skin) into the subcutaneous tissue or beyond (into muscle, bone, tendons, etc.).</p>			
<p>Deep wound</p>	<p>A deep wound is one that cuts</p>			



	or dislocation of a bone or tooth, Any hurt which endangers life or which causes the sufferer to be during the space of twenty days in severe bodily pain, or unable to follow his ordinary pursuits.		presented on the body.	s are not present.	be present.
Direction			It may be in any direction.	It will proceed in one direction only.	It is usually from below to upward.

7. On the basis of manner of death

	Homicidal	Suicidal	Accidental
Situation	They can be situated anywhere, even a place where suicidal wounds cannot reach.	They are usually on the front or sides of the body and affect the vital organs.	These are situated on the exposed part of the body.
Character	These are incised and punctured wounds.	These are incised wounds.	These are contused and lacerated wounds.
No. of wounds	These may be one or multiple wounds.	These are multiple wounds.	There is one wound only
Defense wounds	Defense wounds are	Defense wound	They may or may not

8. On the basis of time of infliction

Antemortem wounds	Postmortem wounds
Antemortem injuries are those injuries a body has received before death.	Postmortem injuries are the injuries occurring after death.
They may be a contributing factor in the death or even its cause.	Postmortem injury can come from various sources such as deliberate mutilation of a body by a murderer following a homicide, predation by wild animals, or careless handling in the mortuary.
While the person is still alive, the blood is circulating and any injuries such as cuts or stabs will bleed.	After death, the body usually does not bleed. However, there can be exceptions.

EXAMINATION OF WOUNDS

The following points have to be looked into while examining a wound:

1. The exact date and time of examination



2. Situation, number and type of wound
3. Size, shape and direction of wound
4. Conditions of edges, ends and floor
5. Hemorrhage, its amount and source
6. Evidence as to time of infliction of wound

In reporting hurt cases, the clinical state of the victim with full description of the wounds are noted and an opinion regarding their legal state i.e. whether grievous or simple, age of the injury, type of the weapon or means causing the injury, whether inflicted by others or self inflicted etc. is given. These help the court to give its judgment. There are enacted laws describing section, numbers, types of crime and their punishments. Thus, scaled photographs showing the position and size of the wounds are highly desirable. Care should be taken to avoid extending any remarks in the form of inferences, or comments on the circumstantial facts of the case.

VICTIM EXAMINATION AND REPORT PREPARATION

1. **Clinical Examination:** After proper identification of the victim, history of the incident is taken and general clinical examination is done including detailed description of injuries necessary investigation is done. Margins, directions and other features are noted and necessary investigation like X-ray findings is added.
2. **Taking Evidence:** A photograph of the wound with a measuring scale placed by its side can also be added to

the injury report. Proper treatment is also given at the same time.

3. **Dying Declaration:** If the victim is in dying condition, his dying declaration is taken and his signature and LTI are taken. The declaration sheet is also signed by the doctor and two witnesses.
4. **Expert Opinion:** On the basis of medical findings found at the time of examination, opinion is given mentioning the category of hurt, type of weapon used to cause the wounds, age of the injuries, whether self inflicted or inflicted by others. The report is signed by the doctor and his legal impression is put and sent to the investigating officer in sealed envelope. Copies of medical documents are also preserved by the doctor for future reference.

MEDICAL TESTIMONY OF DOCTOR IN THE COURT OF LAW

The medical testimony of doctor becomes admissible in the court of law under Section 45 of Indian Evidence Act, 1872. The report of the doctor as to the injuries of the victim form part of documentary evidence as per Section 3 of the Act of 1872. When evidence is read into the record of a trial, only that portion of the document, which validates the information being discussed needs to be read aloud.⁶ One paragraph or even one part of a paragraph may be all that is necessary to substantiate the point a person is making. When the doctor deposes in the Court, the medical report prepared by him acts as a corroborative piece of evidence to his testimony. Also, the testimony of the doctor

⁶ Vij, Krishan; Textbook of Forensic Medicine and Toxicology; 4th ed; Elsevier



is more in the nature of opinion on the particular science involved in the case and therefore, the Court is not bound by such opinion. The opinion is not conclusive in nature and it is up to the Court to accept it or not. However, because of the complexity of the sciences in the case which is not within the common knowledge of a Judge, the opinion of doctor becomes relevant under the Act.

A medical expert witness could be instructed by either the claimant or the defendant in a civil litigation case or by either party in a criminal case. Sometimes the expert will be instructed by both parties, as their responsibility is to provide an independent opinion to the court and not to advocate for the person who is instructing or paying them.

CONCLUSION

Medical documentary evidences like medico-legal reports on hurts prepared by the medical practitioners are very important for the courts in making their legal judgments. The type of wounds and weapons, legal categories of hurts and their ages must be specifically noted in the injury reports: Medical-legal training and experiences strengthen the abilities of the medical expert witnesses.

Timely medical examination serves many purposes in a case and the accuracy of the science helps in arriving at correct decision.

