

FORENSIC SCIENCE

VI SEMESTER

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INJURY

II) Medicolegal Classification

1. Suicidal injury or self-inflicted injury
2. Homicidal injury
3. Accidental injury
4. Defense wounds
5. Fabricated wounds.

III) Injuries in Relation to Death

1. Antemortem injury
2. Postmortem injury

IV) Legal Classification

1. Simple injury
2. Grievous injury.

Mechanical Injury

ABRASION

Definition An abrasion is a type of mechanical injury characterized by loss of superficial layer of skin (i.e. epidermis) or mucous membrane due to application of mechanical force.

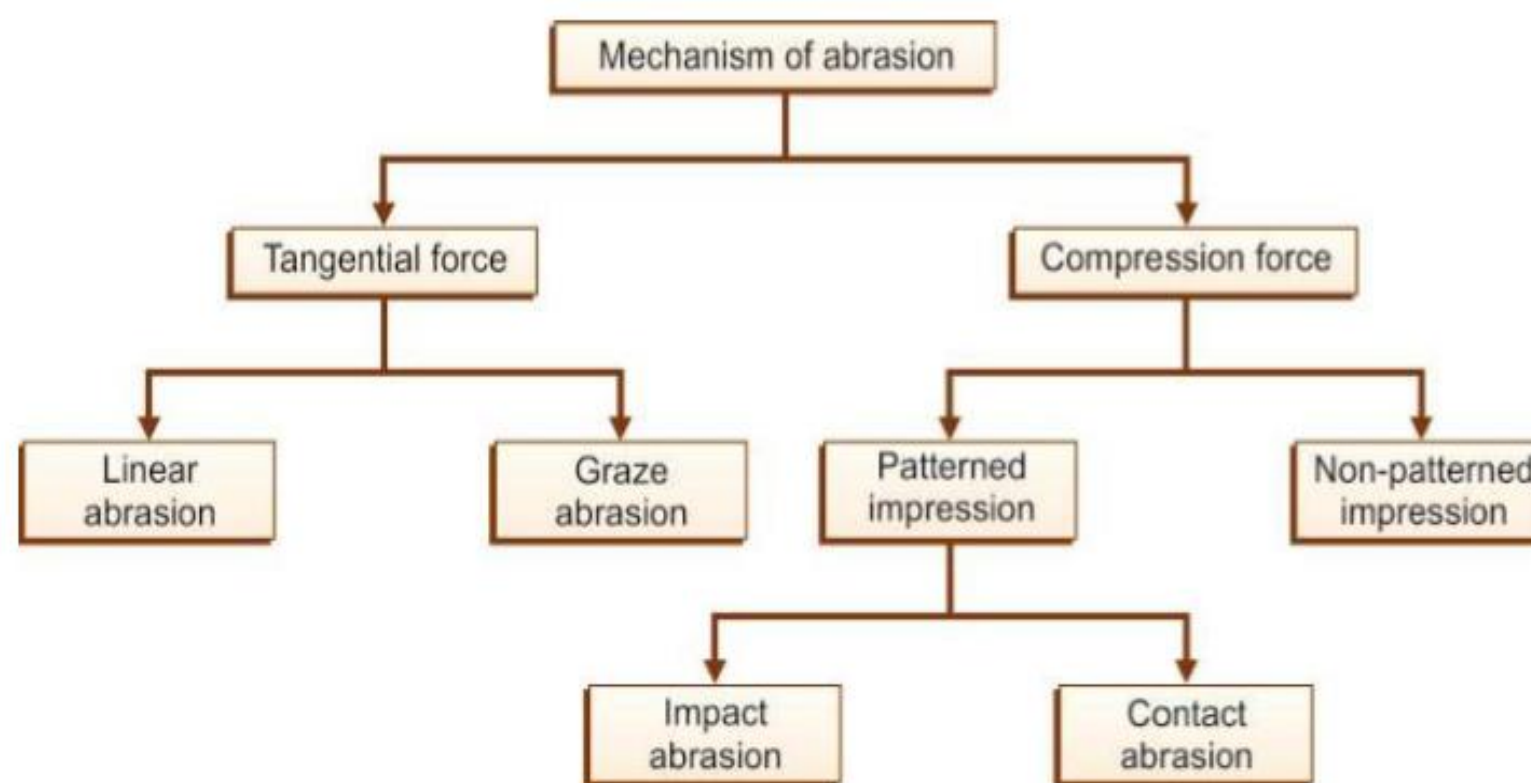


FIG. 9.1: Flow chart showing mechanism of abrasion

Types

1. Linear abrasion
2. Graze abrasion
3. Pressure abrasion
4. Imprint abrasion

Linear Abrasion

- Also called as scratch abrasion.
- These abrasions are caused by sliding movement of sharp, narrow object such as pin, thorn, barb, prickle, pointed end of weapon etc. • The feature of this abrasion is that it is wider at the starting point and shows heaping of epithelium (accumulation) at the end. This heaping up of epithelium indicates the direction of movement of causative weapon or object

Graze Abrasion

- Also called as sliding abrasion, gliding abrasion, brush abrasion, scrape abrasion
- These abrasions are produced by sliding movement of broad or wider surface against skin
- Graze abrasions are wider at the starting point and they get narrower at the end with heaping of epithelium at the end
- The abrasion shows, uneven, longitudinal, parallel lines (grooves or furrows) with epithelium heaped up at the ends. The heaping of epithelium gives indication regarding the direction of movement of causative object or surface.
- When the friction force is great, grazed area appears like burn injury. Such graze abrasions are called as brush Burn.

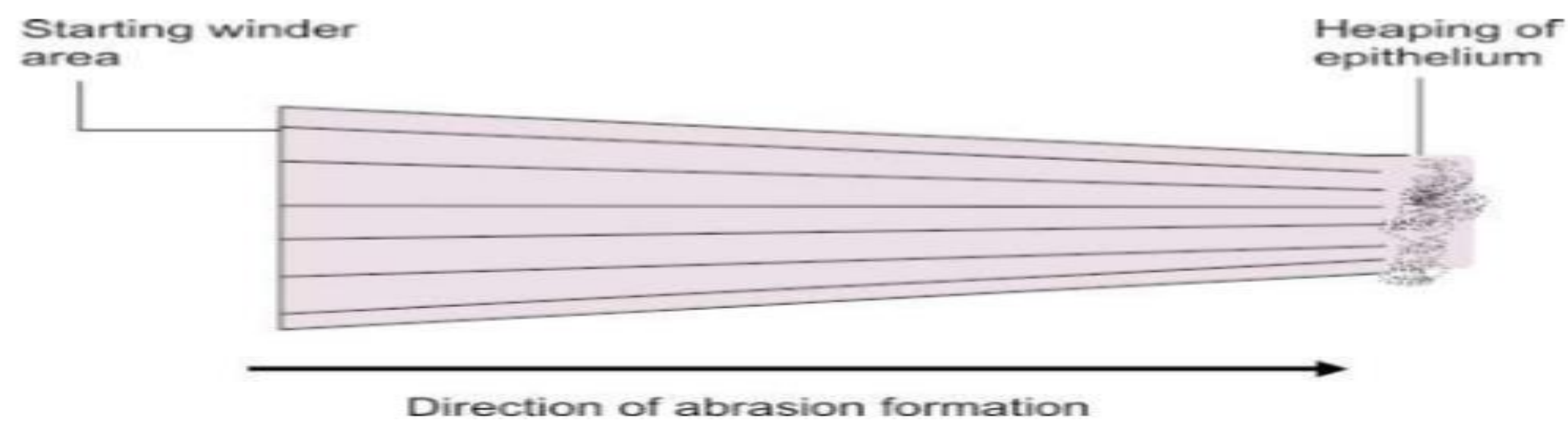


FIG 9.5: Showing graze abrasion formation

Table 9.1: Difference between antemortem and postmortem abrasion

<i>Features</i>	<i>Antemortem abrasion</i>	<i>Postmortem abrasion</i>
Site	At anywhere on body	Over bony prominences
Color	Bright red	Pale, dry and parchment like
Covering	Covered with scab composed of coagulation of blood and lymph	No such scab
Inflammation	Signs of inflammation present	No
Microscopy	Congestion and vital reaction present	No

Table 9.2: Age of abrasion

<i>Age</i>	<i>Features</i>
Fresh	Reddish, no scab
12 - 24 hour	Dark red scab
1-2 days	Reddish brown scab
3-5 days	Dark brown scab
5-7 days	Blackish scab shrinks and falling begins from margin
7-10 days	Scab falls off, leaving hypopigmented area

Medicolegal Importance

1. Site of impact and direction of force used to inflict abrasion can be known
2. Type of weapon/object used can be identified
3. Time of assault can be determined from the age of abrasion
4. Abrasions are usually simple injuries. However, abrasion over cornea may produce corneal opacity and restrict vision of a person. Such hurt becomes grievous one.
5. Can give idea about some type of offenses committed. For example abrasion near private parts of female may be suggestive of sexual offense attempted or committed. Similarly abrasion at neck may be indicative of throttling. Abrasion around mouth and nose may be suggestive of smothering.
6. Abrasion may be only injuries present over surface of deep seated or internal injury.
7. Presence of foreign material along with abrasions, such as sand particles, mud, dirt, grease etc. may connect the injuries with scene of crime.