

**WOUNDS CAUSED BY**  
**POINTED AND SHARP-EDGE**  
**WEAPONS**

■

slashed, chop and stab wounds

Tomáš Vojáček, M.D.  
Institute of Forensic Medicine  
2<sup>nd</sup> Medical Faculty

# Slashed (Incised) Wounds



- Produced by pressure and drawn (force, blade and direction or localization)
- Length is greater than its depth
- Margins are clean, but can be rough
- On the opposite sides superficial, in the middle deeper
- Easily go through soft tissues and cartilage
- If they are sharp - much bleeding
- Signs of blood and fat tissue on the knife - DNA

- Wounds – linear, arched, tangential shape
- Clean sharp margins (knife, scalpel, scissors)
- Irregular margins (saw, circular saw ) – irregular or tattered edges of the tissues – on the border between incised and lacerated wounds, not bleeding much – contusion of vessels
- Complications of healing of the slashed wounds – inflammation for example

## Cause of death:

- Most often: haemorrhagic shock (air embolism and aspiration of blood)

## Homicide:

- Often combination with stab wounds

## Typical marks:

- Slashed wounds findings on the clothes
- Localization of the slashed wounds – inaccessible places
- Slashed wounds on the hands – self defence

- Missing killing weapon – **attention!!!**
- Lot of slashed wounds on different parts of body
- **We have to observe:** length of the wounds, angles, depth, where are and which structures of body strikes

**Defensive divide of the body:** slashed and cut wounds rising after death, reason – hide body, difficult identification (there is no vital reaction)

# Suicide:

## Suicide marks:

- Localization on the available and nude places
- Wrist, forearm, cubita, neck, ankle
- We can find tentative (hesitation marks) cuts !!!
- Describe localization and direction of the wounds

## Accident:

- Adjustment of food, fall to door fill, scrap glass, car accident, circular saw

## Self-deterioration:

- Demonstrative suicide, masochism

## Ability to action:

- Should be extensive

## Permanent effects:

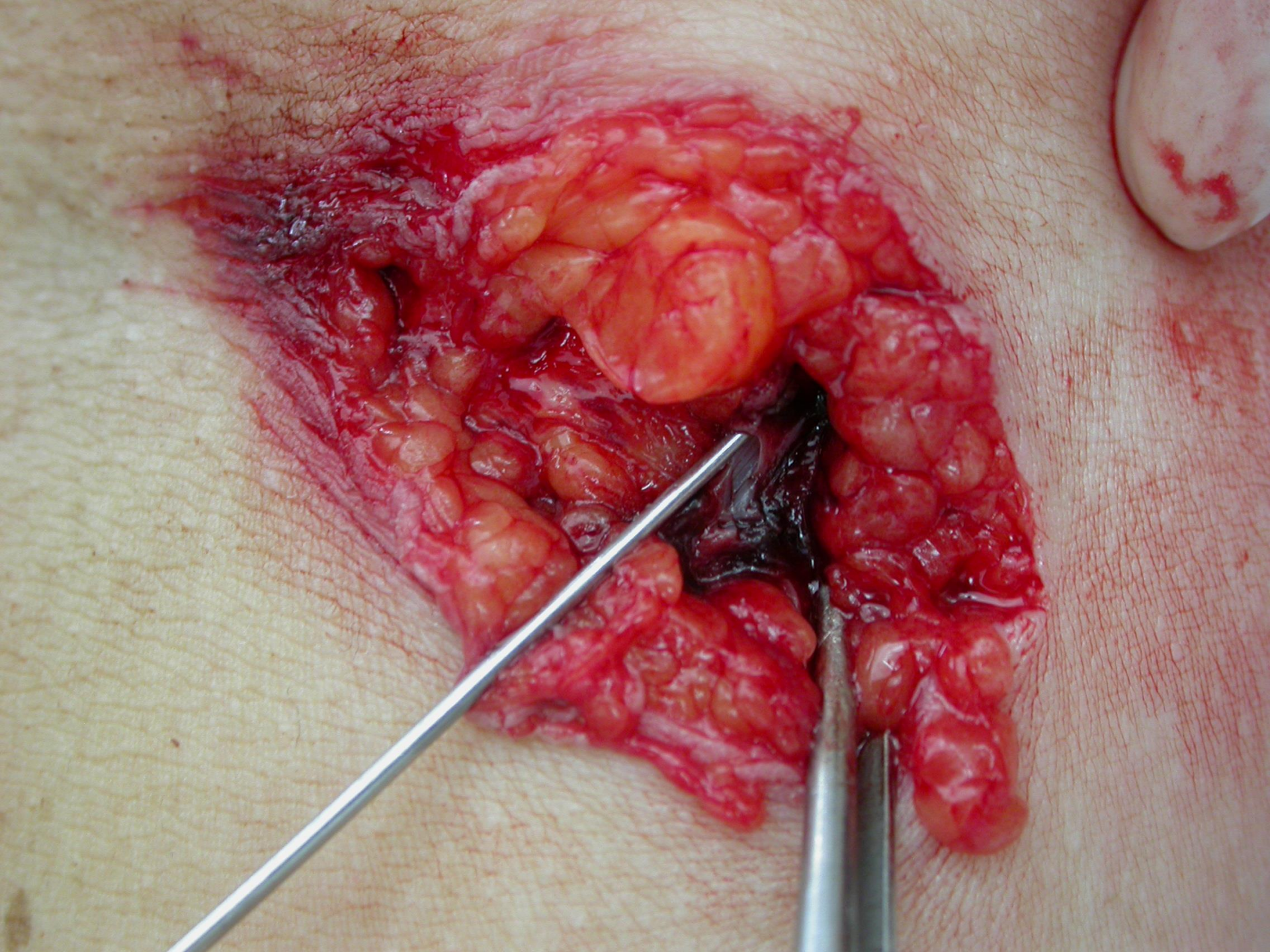
- Scars, cutoff the neurons, larynx, lost of parts of body











# Chop wounds

- Their size is dependent on the character of chop instrument and important is force and direction of impact
- Smooth edges and sharp angles
- Deeper than incised wounds, not bleeding a lot
- Combination: chop and incised wounds  
(swords, sabres)
- Linear, arched and tangential, loss injuries
- Bones should be cut or crushed
- If the tool is not sharp, it's look like a bruise

# Cause of death:

- Most often injuries on the head, exactly on the brain
- Less commonly:
- Massive bleeding with haemorrhagic shock
- Meningitis – later complication

## Homicide:

- Most popular tool is axe

## Homicide marks:

- Extensive deep wounds on the head, go through the skull
- Self defence: cut and chop wounds on the hands
- A lot of wounds on the body which go through the clothes



## Suicide:

- Rare, sometimes at brainsick people

## Suicide marks:

- Wounds on available places (frontal and anterior parietal area) – most often parallel and multiple

## Accident:

- Split wood, food adjustment – not fatal
- Propeller, broken circular saw
- Deformation of car coachwork



## Self-deterioration:

- Very rare – amputaion of fingers

## Ability to action: :

- Determine extensity of brain injury

## Permanent effects:

- Frequent – epilepsy and mental disorders

# Stab wounds



- Sharp or blunt object which penetrate through the skin and the wound is deeper than the length

(important is type of stab tool, force and localization)

- We can see: place where knife penetrate in, stab canal and place where penetrate out

( different elasticity of skin)

- Marks on the skin – possibly determine shape  
(knife, scissors, screwdriver etc.)

- We can stab wounds divide into few groups:

a) Stab tools with sharp tip and with 1-2 sharp edges

b) Sharp tip and circle, oval or cubic cross-section

c) Very small tools with sharp tip

d) Sharp tip and irregular cross-section

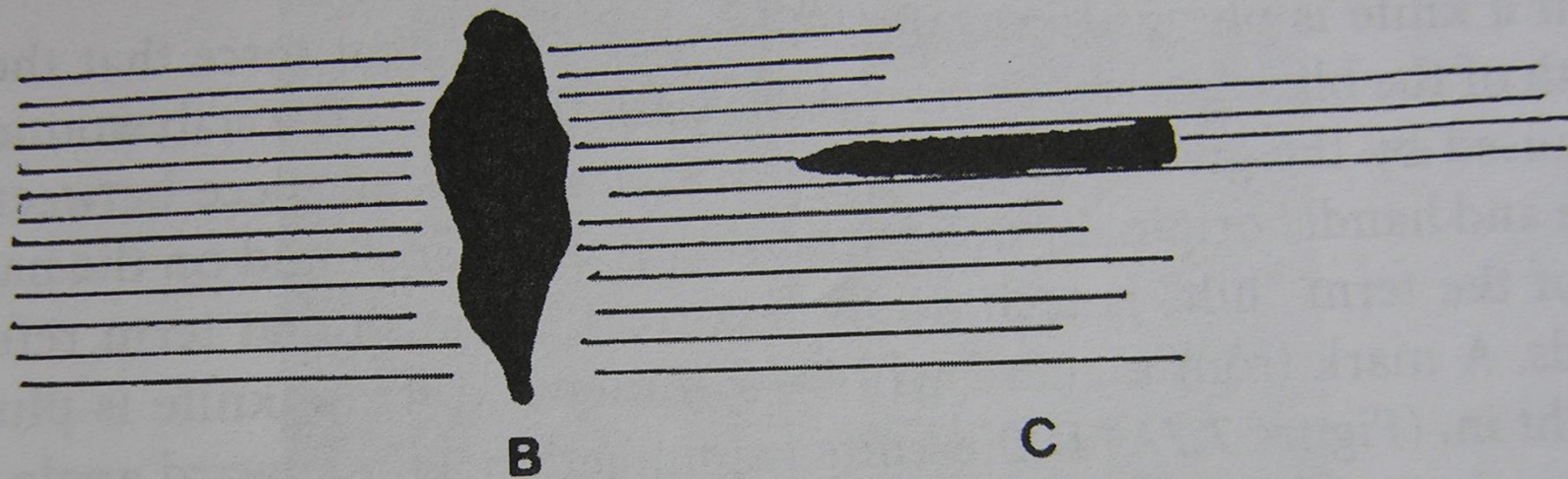
e) Scissors

f) Tools with blunt tip, but go through with big force to body

g) Strange type of stab tools

Entrance wound:

- Penetrating skin injury
- Big force—hilt can do abrasion, bruise on the skin
- Wounds on the clothes have/haven't context with the wounds on the body
- Wound has sharp or blunt angles
- Wound can have shape like a stab instrument



**Figure 7.3** (A) Multiple stab wounds with same knife. Varied shapes to wounds due to Langer's lines. Effect of Langer's lines on stab wound perpendicular to (B) and parallel to (C) lines.





Stab wound – entrance w.

Sharp angle

Blunt angle



L-shape wound

- Instruments with blunt tip, can do contusions (bruise, abrasion) – important is kinetic energy

## Stab canal:

- Mostly straight, but can change direction
- Length of stab canal and length of stab instrument – be careful
- More numerous stab canal
- Big force – stab canal go through cartilage and we can find stab wound on the bones (rarely go through bone)



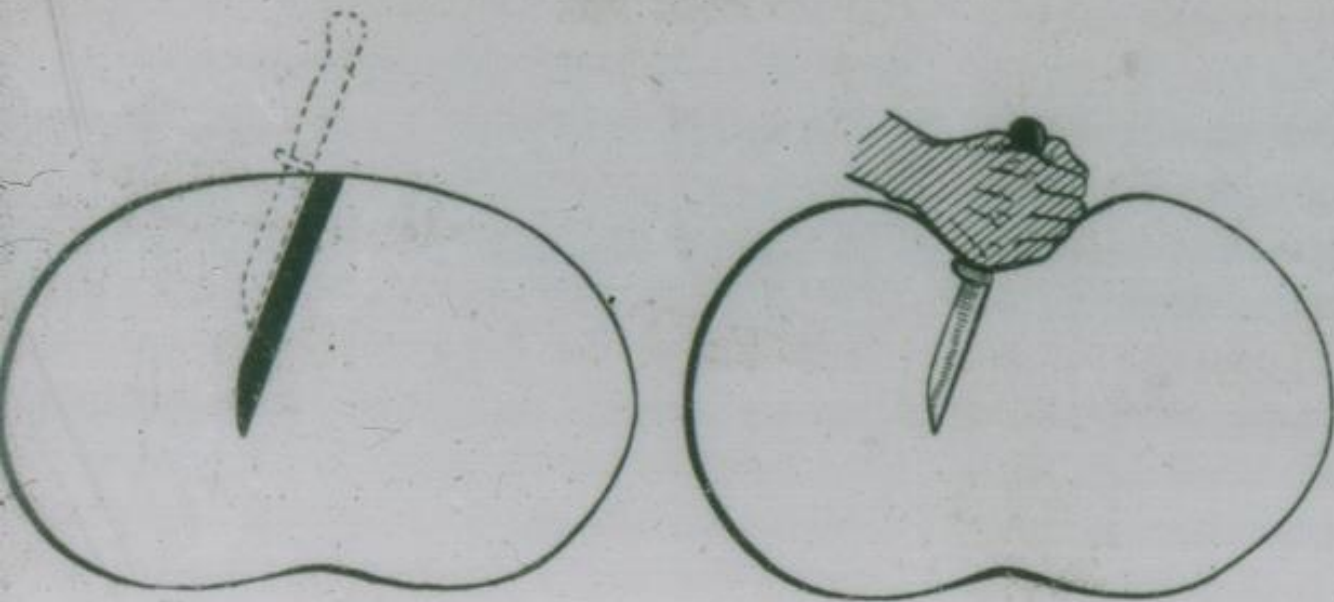


Abb. 3. *Stichkanalverlängerung*  
durch Wucht des Stechens  
in nachgebenden Körper.  
Vertiefung des Stichkanals  
(schwarz) über die Länge  
der Schneide hinaus.

- Don't put probes into the wounds within autopsy
- Carefully take out layer after layer (skin, muscles under skin etc.) – look to direction of stab canal

### Exit wound:

- Go out from the body on the opposite site
- This wound (injury) isn't characteristic
- Be careful – when you determine entrance and exit wound !!!

# Cause of death:

- More often haemorrhagic shock – inner or outside bleeding (vessels injured or parenchymatous organs)
- Stab wounds on the neck: danger of air embolism and aspiration of the blood to airways and lungs
- Often – inflammatory complications ( peritonitis )

## Homicide:

- Common and frequent matter

## Homicide marks:

- Stab wounds go through the clothes
- Localization on non-accessible places
- Signs of self defence
- Big quantity of stab wounds anywhere on the body

## Suicide:

### Suicide marks:

- Tentative, superficial or little stab wounds
- Wounds are on the uncovered body
- Localization on the available and nude places
- Stab instrument in the wound or near of the body

## Accident:

- Most frequent (car crash, sport, swallow fish bone, animals horns, bite)

## Self-deterioration:

- Basicly uncommon
- Swallowing little sharp things at prisoners

## Ability to action:

- Sometimes considerable
- Most important is extent of injuries

## Permanent effects:

- Lost eyeball, cut nerves, aneurysm of aorta, scars











# Wounds due to bite

- Animals X people
- Wounds can be anywhere, some localizations are typical for specific motivation:
  - a) Sexual – frequent at rape cases
  - b) Fight – bite off parts of body
  - c) Animal attack
  - d) Brain sick and self deterioration

- Reconstruction of the teeth:
- Two opposite curves(oval), animal-deeply arched or „U-shaped“
- Light contusion, little abrasions with not big bruises, bruises, deep lacerate-contusion wounds
- Shapes of the wounds – incisive tooth, canine t., back t.



- Describe shape and size (missing or displaced teeth)
  - photodocumentation
  - in this times computer reconstruction

## Cause of death:

- bleeding, sepsis, rabies, snake poison
- Most often it is accident