

WHAT IS TODAY'S OBJECTIVE?

**RECOGNIZE
PATHOLOGICAL
SIGNS OF BFT**

FACTORS THAT AFFECT APPEARANCE

Subject-Dependent Factors:

- anatomical region being impacted
- age of the decedent
- medical status

Object-Dependent Factors:

- type of instrument or surface making contact
- the body surface area impacted
- amount of time it makes contact

EXTERNAL EXAMINATION



- Document carefully diagrammatically & photographically
- Look for patterns or orientation to the injury



BLUNT FORCE INJURIES

****Most common injury seen by F.Path****

BFT (blunt force trauma) seen as:

Abrasions

Lacerations

Avulsions

Contusions

Chop/Crush

ABRASIONS

An abrasion (or scrape) occurs when the skin contacts an opposing surface & the movement of either the skin or surface results in friction that pulls away the superficial layer(s) of skin

- You can not determine the AGE of an abrasion

ABRASIONS

- Side impact produces a moving abrasion
 - Indicates direction
- Direct impact produces an imprint abrasion
 - Pattern of causative object
- **ALL** abrasions reflect **site of impact** (*in contrast with contusions*)

One common type of blunt force injury is the **brush-burn abrasion**.

Brush-burn abrasions are broad, dried abrasions that often have a yellow-orange or orange-red coloration.

These abrasions are caused by dragging or scraping the surface of the skin against a rugged surface; they are most often encountered when a body slides on pavement. These abrasions are sometimes called "**road rash**."

PATTERNED ABRASIONS

- The importance of an individual injury may not be obvious at first
- Just b/c an injury didn't cause death does not mean it's not important

Road Rash – rolled motorcycle into a ditch

LACERATION

A laceration forms when an object impacts the body w/ a force that exceeds the elastic capacity of the skin & underlying tissues

*aka: a **forceful tearing** of the skin*

*Beaten with a metal pipe,
resulting in multiple linear
lacerations on the vertex
of the scalp*

*The head was
shaved to see the
lacerations better*

AVULSION

An avulsion is the tearing away of tissues from their attachments; leaves a FLAP

CONTUSIONS

A contusion (or bruise) occurs when a blunt impact tears capillaries & larger blood vessels, resulting in the escape of blood into the extravascular space.

You can see the densely hemorrhagic nature of the bruise and the distinct margins between normal and abnormal tissue



Types of contusions (gross appearance):

PETECHIA: small punctate hemorrhages

ECCHYMOSES: small contusions

HEMATOMA: focal space-occupying collection of blood that expands and/or distorts the tissue configuration
(lump o' blood)

Remember: the appearance of a contusion *may not* adequately reflect the degree of force used

CONTUSIONS

- The extent of bruising is inversely proportional to the sharpness of the impacting object **(inc sharp = less blob)**
- Bruises may be associated w/other BFT such as abrasions & lacerations
- **As a general rule:** contusions are not associated w/ incised wounds or stab wounds where there is a free flow of blood from the cut blood vessels rather than leaking into the tissues

SITE OF TRAUMA

- In contrast w/abrasions, the location of a contusion does not necessarily reflect the precise point of injury
- Leaking blood will follow the path of least resistance and gravity
- **During autopsy:** another exam 1-2 days later may show bruises which were not previously seen

PATTERNED CONTUSIONS

- Patterns can be obvious
- Do thorough documentation
- Even if it seems unimportant, document it!
- Not every subcutaneous hemorrhage is caused by impact trauma (*ex. broken nose: blood can dissect along fascial planes, creating the appearance of a contusion*)

QQs:

**WHY DO BRUISES
CHANGE COLORS?**

TAKE NOTES ON THE LEFT SIDE OF WS

<https://www.youtube.com/watch?v=3x1yhVEDkNw>