Sharp Force and Blunt Force Injuries

Sharp force injuries are injuries produced by objects with sharp edges. Sharp force injuries can be divided into three different types: stab wounds, incised wounds, and chop wounds.

Stab Wounds

A stab wound is created by a pointed instrument, such as a fork or knife. The depth of penetration of a stab wound into the body is greater than length of the wound on the skin. Injuries may occur both internally (e.g., a stab wound to the heart) and externally (e.g., contusions or abrasions).

Stab wounds may leave patterned injuries. Patterned injuries are injuries that resemble the weapon used. Weapons that may produce patterned injuries include forks, scissors, pokers, and screwdrivers.

The type of knife used may exhibit characteristics on the surface of the skin. The different types of knives include single-edged blades, double-edged blades, and serrated knives. A wound from a single-edged blade will show a wound with one squared off end from the blunt side and a V shape at the other end, which is from the sharp side of the blade. A double-edged knife will exhibit a V-shaped pattern at both ends of the wound. A serrated knife may show sawtooth marks.

A characteristic that differentiates a stab wound from a laceration is tissue bridging. Tissue bridging is present in a laceration but not in a stab wound.

Incised Wounds

An incised wound is a wound produced by a sharp-edged instrument. The injury is longer on the skin than it is deep. Incised wounds are interchangeable with cut wounds. For incised wounds to be fatal, they are usually present in the neck and arm region. Hesitation marks are considered incised wounds and are superficial marks that might be present on a body from a homicide or a suicide.

Chop Wounds

Chops wounds are caused by heavy instruments, such as axes and machetes. Chop wound instruments have at least one sharp edge. A chop wound consists of an incised wound with possible skeletal damage.

Blunt Force

A blunt force injury is produced by blunt object (such as a tire iron) striking the body or by the body impacting a surface (e.g., a car accident). The severity of a blunt force injury may be determined by the nature of the weapon, region of the body impacted,
amount of body surface struck, amount of force delivered, and time in which the force is delivered.

Injuries caused from blunt force trauma include abrasions, contusions, lacerations, and skeletal trauma.

**Abrasions**

Abrasions are superficial scrapes of the epidermis caused by a sliding motion that creates friction between the skin and a surface.

**Contusion**

A contusion is also known as a bruise. A contusion is caused from a blunt force object striking the skin and rupturing vessels. Then, the blood seeps into the tissue. Contusions may also form a pattern depending on the object that is used.

**Laceration**

A laceration is a tear in the tissue produced from a blunt force object. Lacerations commonly occur over bony prominences. Lacerations can occur internally (such as on the liver). Tissue bridging is present in laceration injuries.

**Skeletal Trauma**

Skeletal trauma includes fractures of the skeletal system resulting from blunt force trauma. Blunt force trauma to the lower extremities maybe superficial or result in a compound fracture.

Bumper fractures are produced when a moving vehicle strikes a standing pedestrian. If there is a bumper fracture to only one lower extremity, the pedestrian was struck from the side. If there is a bumper fracture to both legs at the same level, the pedestrian was standing still. If there is a bumper fracture to both legs at different levels, the pedestrian was either walking or running.

**Combination**

Finally, a blunt force injury might have a combination of abrasions, contusions, lacerations, and skeletal trauma.