

Training Paramedics

Emergency Service
10.2011

THE SKELETON SYSTEM

Jurg Spors
Essen Fire Department

Chief Hygiene Officer
state certified disinfectant
paramedic instructor
BIO-TASK-FORCE



Mongolian Emergency Service
Hospital Hygiene Project
MeshHp.mn

Fracture treatment



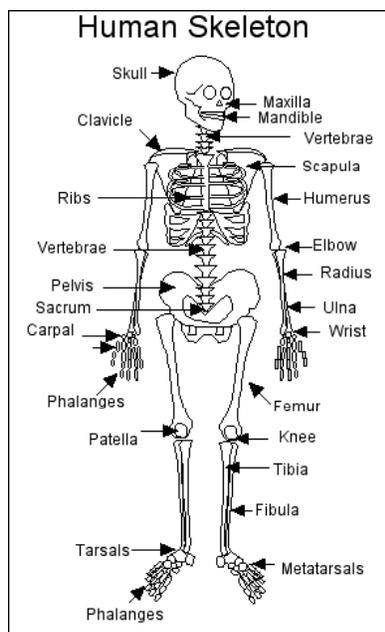
The human skeleton consists of 206 bones. These bones support your body and allow you to move. Bones contain a lot of **calcium** (an element found in milk, broccoli, and other foods). Bones manufacture blood cells and store important minerals.

The longest bone in our bodies is the **femur** (thigh bone). The smallest bone is the stirrube bone inside the ear. Each hand has 26 bones in it.

Joints: Bones are connected to other bones at joints. There are many different types of joints, including: fixed joints (such as in the skull, which consists of many bones), hinged joints (such as in the fingers and toes), and ball-and-socket joints (such as the shoulders and hips).

Differences in males and females: Males and females have slightly different skeletons, including a different elbow angle. Males have slightly thicker and longer legs and arms; females have a wider pelvis and a larger space within the pelvis, through which babies travel when they are born

Fracture treatment



Fracture treatment

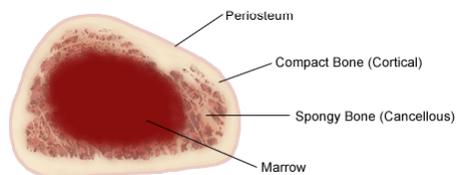
**Anatomy of the bones**

Bone is living tissue that makes up the body's skeleton. There are three types of bone tissue, including the following:

- compact tissue - the harder, outer tissue of bones.
- cancellous tissue - the sponge-like tissue inside bones.
- subchondral tissue - the smooth tissue at the ends of bones, which is covered
- with another type of tissue called cartilage. Cartilage is the specialized,
- gristly connective tissue that is present in adults, and the tissue from which
- most bones develop in children.

Together, compact and cancellous tissues are called the periosteum.

Beneath the hard outer shell of the periosteum there are tunnels and canals through which blood and lymphatic vessels run to carry nourishment for the bone. Muscles, ligaments, and tendons may attach to the periosteum.



Fracture treatment



A fracture is a break, usually in a bone. Fractures commonly happen because of car accidents, falls or sports injuries. Another cause is osteoporosis, which causes weakening of the bones. Overuse can cause stress fractures, which are very small cracks in the bone.

All fractures can be broadly described as:

- Closed (simple) fractures** are those in which the skin is intact
- Open (compound) fractures** involve wounds that communicate with the fracture, or where fracture hematoma is exposed, and may thus expose bone to contamination. Open injuries carry a higher risk of infection.

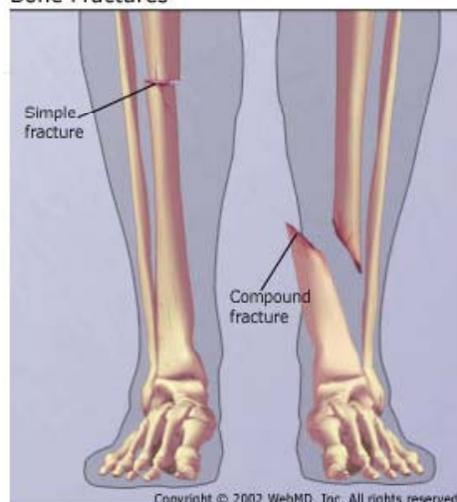
Symptoms of a fracture are

- Out-of-place or misshapen limb or joint
- Swelling, bruising or bleeding
- Intense pain
- Numbness and tingling
- Limited mobility or inability to move a limb

Fracture treatment



Bone Fractures



Problems associated with bone fractures

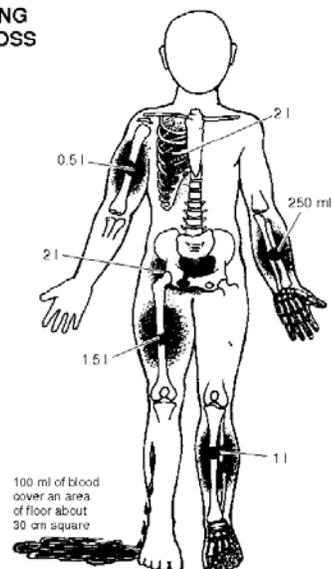
Some of the problems associated with fractures include:

- Blood loss
- Injury to organs, tissues or surrounding structures (such as blood vessels)

ESTIMATING BLOOD LOSS



the volume of your fist is about 500 ml



100 ml of blood cover an area of floor about 30 cm square

Fracture treatment

Mongolian Emergency Service
Hospital Hygiene Project

DIE SAM® SPLINT UNIVERSALSCHIENE

Falten Sie die Schiene, so daß Sie zwei gleich lange Seiten erhalten. Um die Schiene die notwendige Stabilität zu geben, biegen Sie jede der beiden Seiten mit Ihren Daumen vorsichtig in der Mitte durch.

Die Schiene wird immer um den Hals gelegt und vorsichtig in die Stützposition gebracht.

Die oberste Schiene kann um den Arm, um Unterarm oder an den Kniebein angelegt und mit Klebeband, Verband oder Bandage fixiert werden.

Zur Stabilisierung ausgezogener Schenkeln geben Sie der Schiene eine diagonale U-förmige Form.

Zur Stabilisierung des Oberarms kann die Schiene wie oben gezeigt gefaltet werden.

Zur Sicherung von Handgelenk oder Unterarm sollte die Schiene um den Ellenbogen gefaltet werden.

Die Stabilität der Schiene kann durch Verriegelung erhöht werden. Damit wird die Schiene fest genug, um die Armbänder für Wagnisbrennen oder bei Resthaushaltungen eingesetzt zu werden.

Eine T-Faltung erhöht die Stabilität der Schiene erheblich.

Die Kniekehle wird mit einer einzigen Schiene gesichert, die unter dem Fuß gefaltet und an beiden Seiten angelegt wird.

Reineise oder Bandenwicklungen kann auf jeder Seite des Beins jeweils eine Schiene angebracht werden.

THANK YOU FOR YOUR ATTENTION



Infektionsgefahren im Einsatzdienst

2009
2. Aufl. 320 S. PB 170x240 mm
Lehmanns
3-86541-345-5
ISBN-13: 9783865413451