

LEICESTERSHIRE JU-JITU AND SELF DEFENCE ACADEMIES

BLACK BELT MEDICAL KNOWLEDGE

NOTE:- ESSENTIAL AND GENERAL INFORMATION

THE BODY SYSTEMS - ESSENTIAL

- 1 SKELETAL
- 2 MUSCULAR
- 3 CIRCULATORY
- 4 RESPIRATORY
- 5 NERVOUS
- 6 HORMONAL
- 7 EXCRETORY
- 8 DIGESTIVE
- 9 Endocrine & Glands

THE SKELETON – ESSENTIAL INFORMATION

BONES - NUMBER OF:-

Body	213
Skeleton	206
Head	28
Hand	27
Foot	26
Wrist	8 (Two lots of four)
Ankle	7
Vertebrae in the spinal column	33
(split into)	
Cervical	7
Thoracic	12
Sacral	5
Lumbar	5
Coccyx	4

NAMES

Bones of the head:-

Frontal, Temporal, Parietal, Sphenoid, Zygomatic, Nasal

Lower Jaw:-	Mandible
Upper Jaw:-	Maxilla
Collar Bone:-	Clavicle
Shoulder Blade:-	Scapula
Arms:	Humerus, Radius, Ulna
Leg:	Femur, Fibia, Tibia
Knee Cap:	Patella

General:-

Easiest bone to break is the clavicle

Hardest bone to break is the scapula

Bone at the base of the tongue is the hyoid

MUSCLES – ESSENTIAL

Number of muscles **650**

Types: Voluntary and involuntary

Name: 6 different muscles

i.e. Arm: Tricep, Bicep

Shoulder: Deltoid, Pectoral Major

Back: Gluteus Maximus

Leg: Soleus, Gastrocnemius

GENERAL - ESSENTIAL

The largest organ is the skin.
The largest internal organ is the liver

Windpipe - trachea
Foodpipe - Esophagus

Average weight of the brain is 4-5 lbs

Average weight of the head is 10-12 lbs

The left kidney is higher than the right

Nerves: the longest - syatic
 others - brachial, ulna, sacral, cranial (head)
 the plexus of the nerves in the shoulder is brachial

CIRCULATION ESSENTIAL INFORMATION

Six blood pressure points can be found at the following arteries:-
 Temporal, Facial, Carotid, Subclavian, Brachial, Femoral

Four chambers of the heart:-
 Left and right ventricle
 Left and right Atrium

BRAIN - ESSENTIAL INFORMATION

Sections of the brain:-

- 1) Medulla Oblongata (extension of the spinal column)
- 2) Cerebrum (largest part of the brain)
- 3) Cerebellum (Controller balance)

Section of the brain which is above the brain stem: Mudula Oblongata

The passage the brain stem fits into: Ferenam Magum

The liquid which surrounds the brain: Dema Mata

The nerve that controls the diaphragm: Phenic

ORGANS - GENERAL DESCRIPTION – ESSENTIAL

Liver:	largest internal organ - secretes bile
Kidney:	cleans the blood, secrete urine
Heart:	Pumps blood around the body
Lungs:	Provides the chamber in which the blood becomes aerated
Spleen:	Assists in the digestive process
Skin:	largest organ - provides a waterproof, semi permeable membrane to the body.

GLANDS - GENERAL DESCRIPTION

Pituitary:	In the brain
Hypothalamus:	In the brain
Parathyroid:	At the throat
Thyroid:	at the throat
Thymus:	Near the Heart
Liver:	largest gland, just below lungs
Adrenal:	Above the Kidneys
Pancreas:	Near the Kidneys
Ovaries:	Females
Testes:	Males

SUMMARY INFORMATION

The Skeleton - ESSENTIAL Information

Bones - Number of:

Body	213		
Skeleton (excludes; ear bones & hyoid)	206		
Head	28	Ankle	7
Hand – Carpals, Metacarpals, Phalanges	27	Wrist	8 (2 sets of 4)
Foot – Tarsals, Metatarsals, Phalanges	26		

Vertebrae in spinal col	33	Bones of the head	6	Shoulder Blade	Scapula
Cervical	7	Frontal, Temporal,	Parietal,	Chest	Sternum
Thoracic	12	Sphenoid, Zygomatic,	Occipital	Collar Bone	Clavicle
Sacral	5	Upper Jaw	Maxilla	Arms;	Humerus
Lumbar	5	Lower Jaw	Mandible	Radius	Ulna
Coccyx	4	Leg	Femur,	Tibia	Fibula
		Knee cap	Patella	Eye Socket	Orbit

General; Easiest - Collar bone, Hardest - Shoulder blade (Scapula), Tongue - Hyoid

Muscles - ESSENTIAL

Number of muscles - 650, **Types** - Voluntary and Involuntary

6 Different Muscles; **Arm** - Triceps, Bicep, Shoulder - Deltoid, Chest - Pectoral Major,
Back - Latimus, Gluteus Maximus,
Leg - Quadriceps (thigh), Soleus, Gastrocnemius

General - ESSENTIAL **Largest organ** - Skin, **Largest internal organ** - Liver, **Windpipe** - Trachea
Foodpipe - Oesophagus

Avg weight of brain - 4-5 lbs (1.8kg), Avg weight of head - 10-12 lbs (4.5Kgs)
 The left kidney is higher than the right

Nerves;

Longest - Syatic, Others; Phenic (diaphragm) Cranial (head), Brachial (shoulder), Sacral (spine), Ulna (forearm),

Circulation - ESSENTIAL

6 blood pressure points can be found at the following arteries;

- 1.Temporal (Temple - head)
- 2.Facial, 3 Carotid (Neck), 4.Subclavian 5.Brachial (Shoulder)
6. Femoral (inner thigh)

Four chambers of the heart; Left and Right Ventricle & Left and Right Atrium

Brain - ESSENTIAL; Sections of the brain; 1.Medulla Oblongata (Extension of the Spinal Column)

2.Cerebrum (Largest part), 3.Cerebellum (Controls balance)

Section above brain stem - Medulla Oblongata. The passage the brain stem fits into Ferenam Magnum.

The liquid which surrounds the brain Dema Mata. The nerve that controls the diaphragm - Phenic.

Organs - General Description - ESSENTIAL

Liver: Largest internal organ - secretes bile. Kidney: Cleans blood, secretes urine. Heart: Pumps blood.

Lungs: Chamber in which blood gets oxygen. Spleen: Aids digestion. Skin: Waterproof semi-

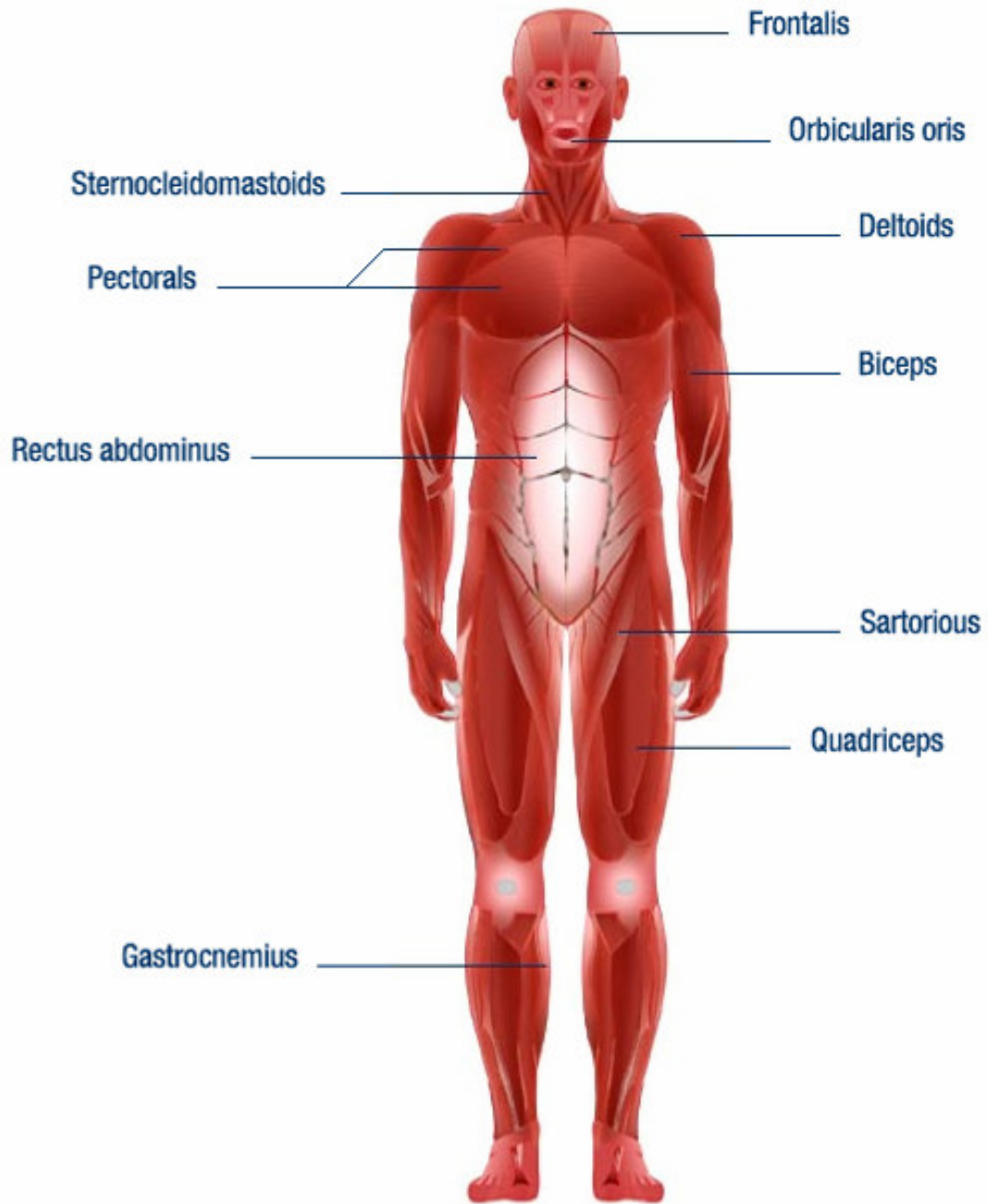
permeable membrane, Pancreas: Produces insulin and regulates sugar levels

Other Information: Tendons - Attach muscle to bone, Ligaments – Attach bone to bone

There are 4-5 litres (7-9 pints) of blood in the body.

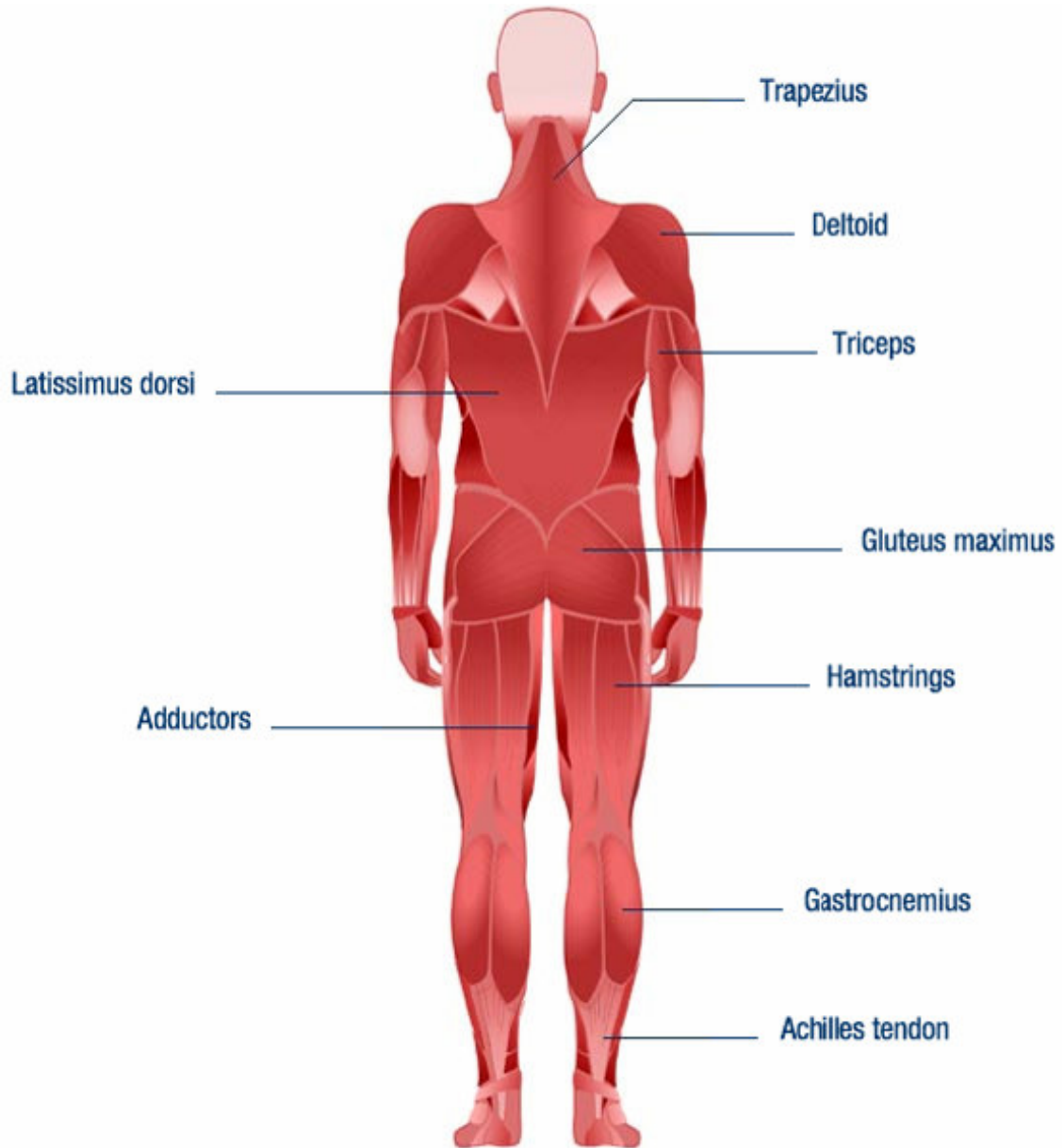
Circulation. Arteries carry oxygenated blood away from the left side of the heart, they pulse and are muscular tissue. Arteries divide becoming capillaries, then gradually join up again, becoming veins, returning to the right side of the heart. Veins have no muscular tissue. In the avg adult at rest the heart beats 72 times/min.

Human Anatomy – Front View of Muscles



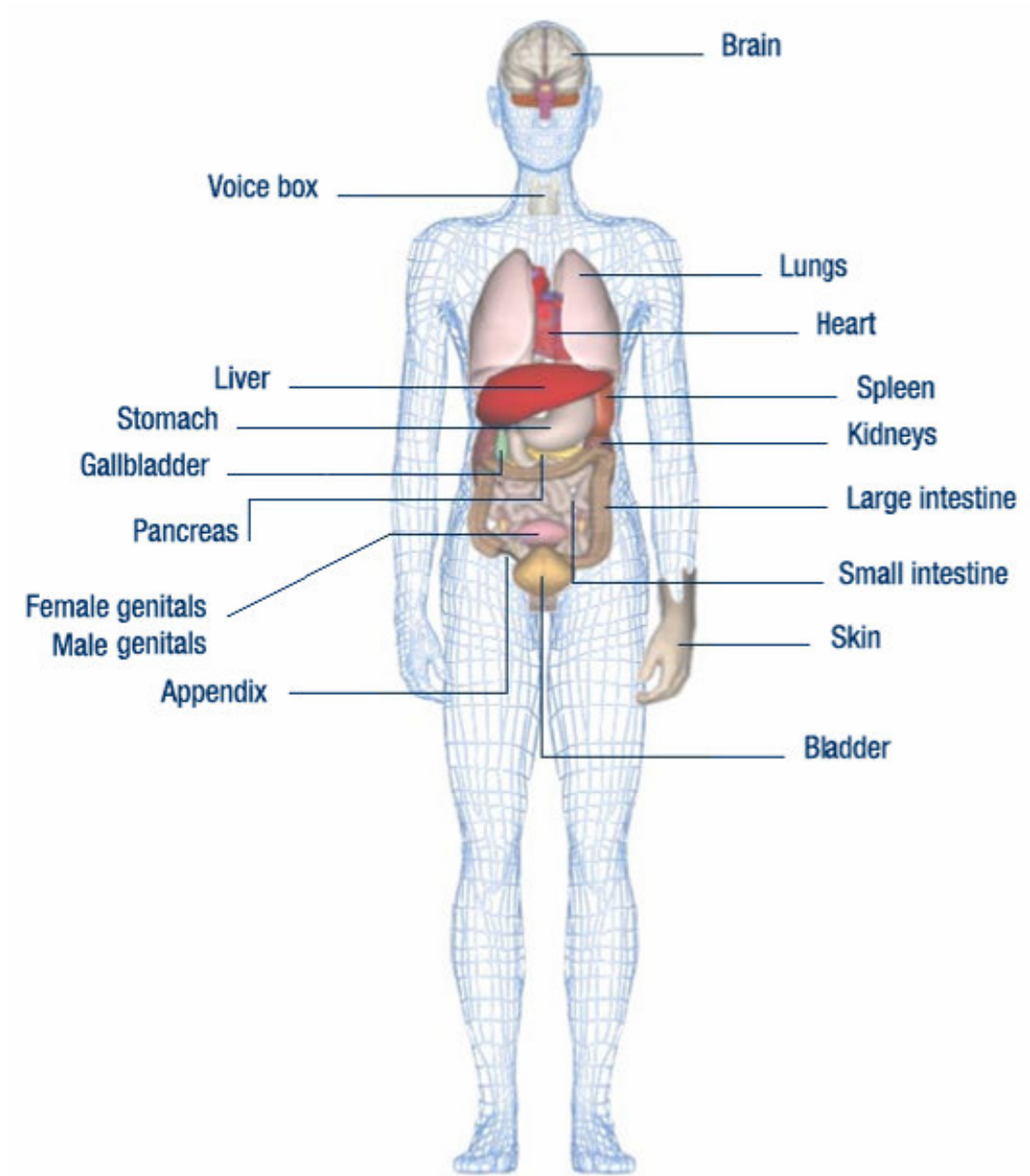
http://www.bbc.co.uk/science/humanbody/body/factfiles/muscle_anatomy.shtml

Human Anatomy – Front View of Muscles



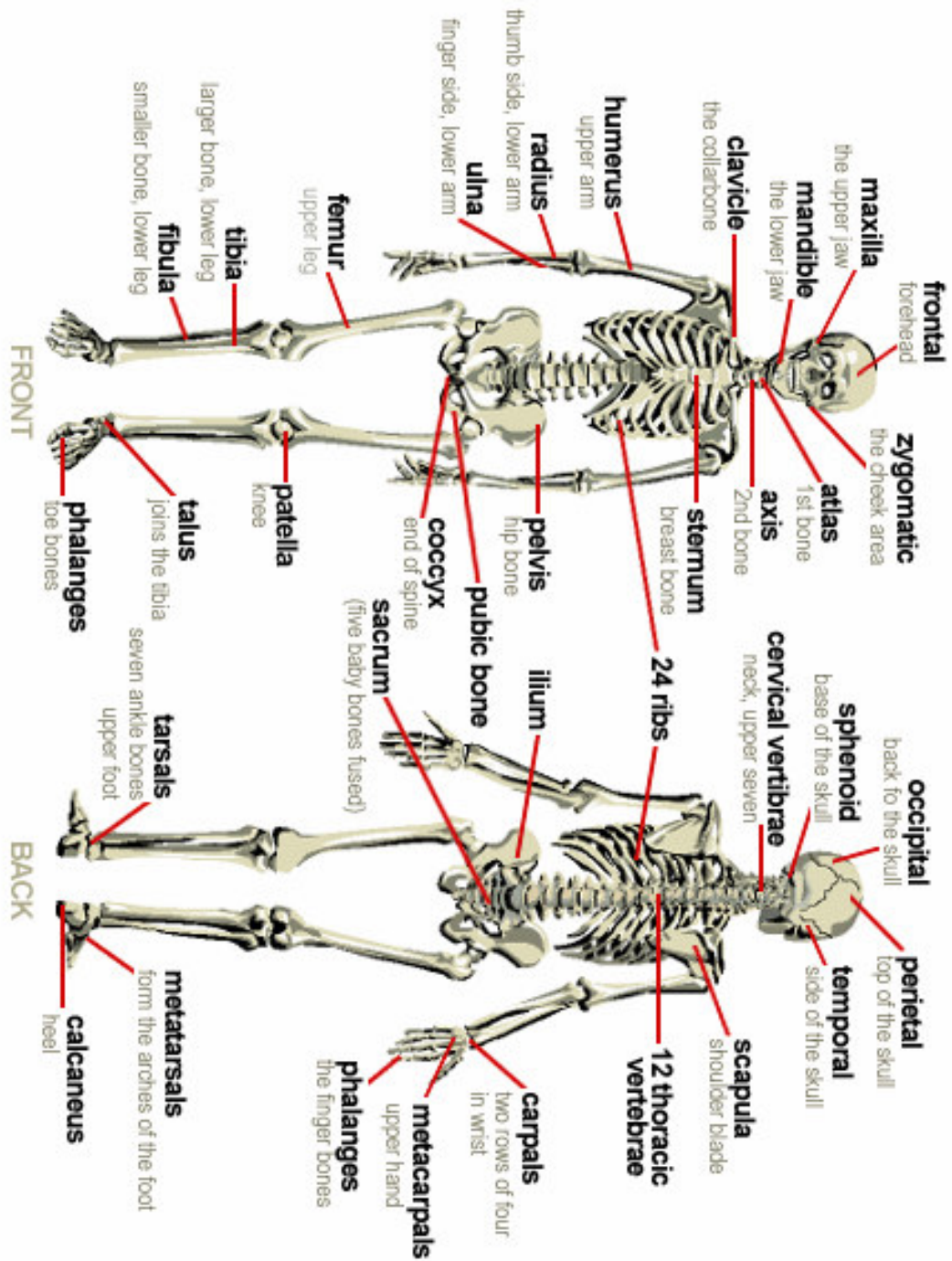
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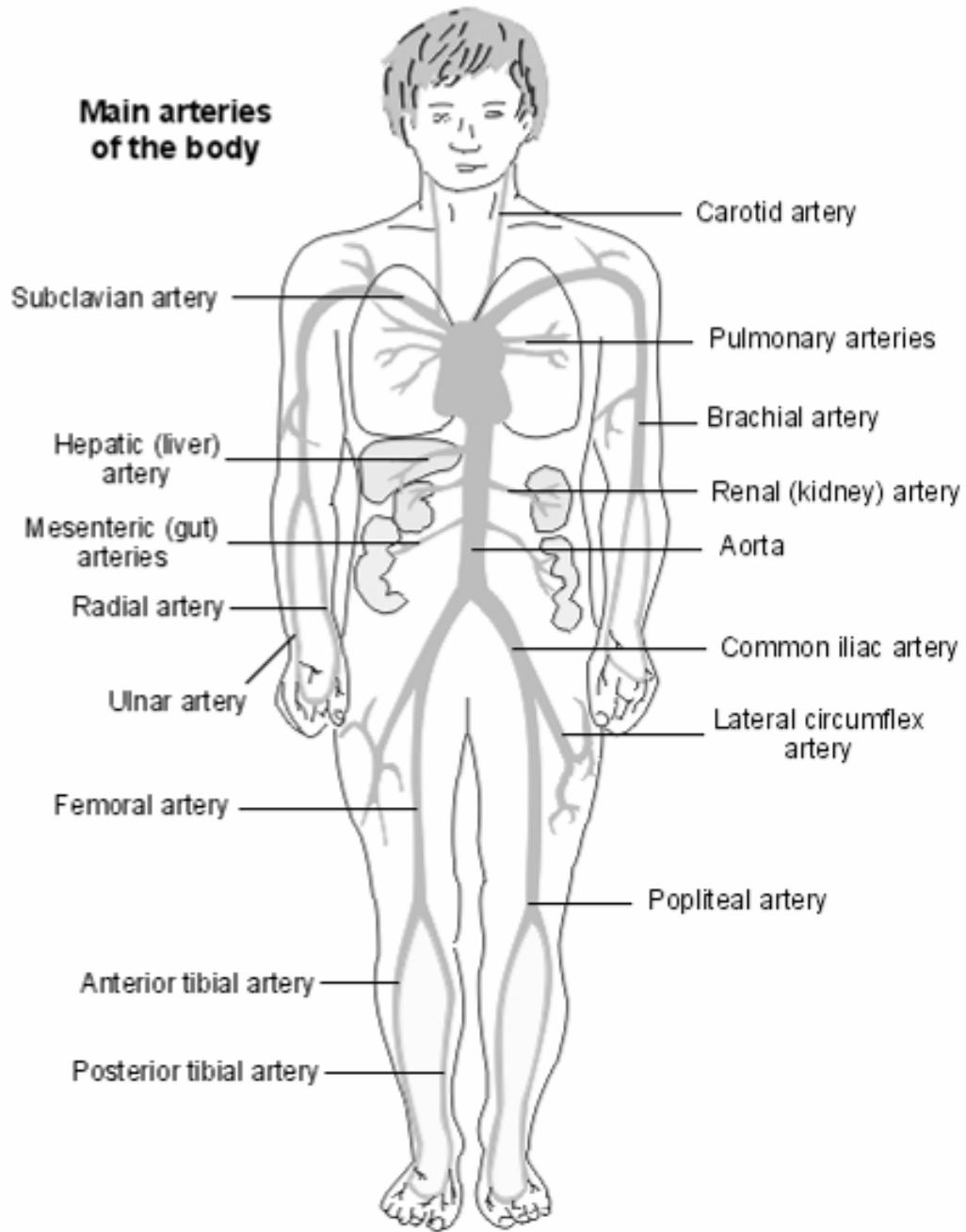
Human Anatomy – Organs



http://www.bbc.co.uk/science/humanbody/body/factfiles/organs_anatomy.shtml

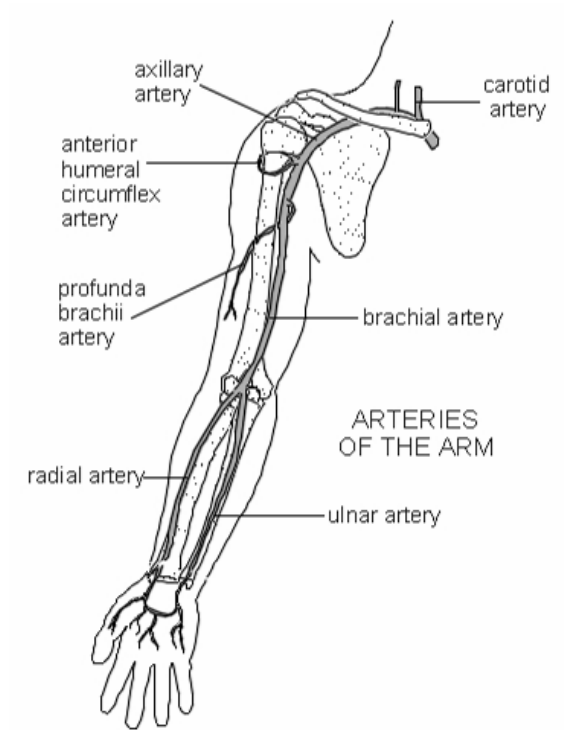
Human Anatomy – Skeleton





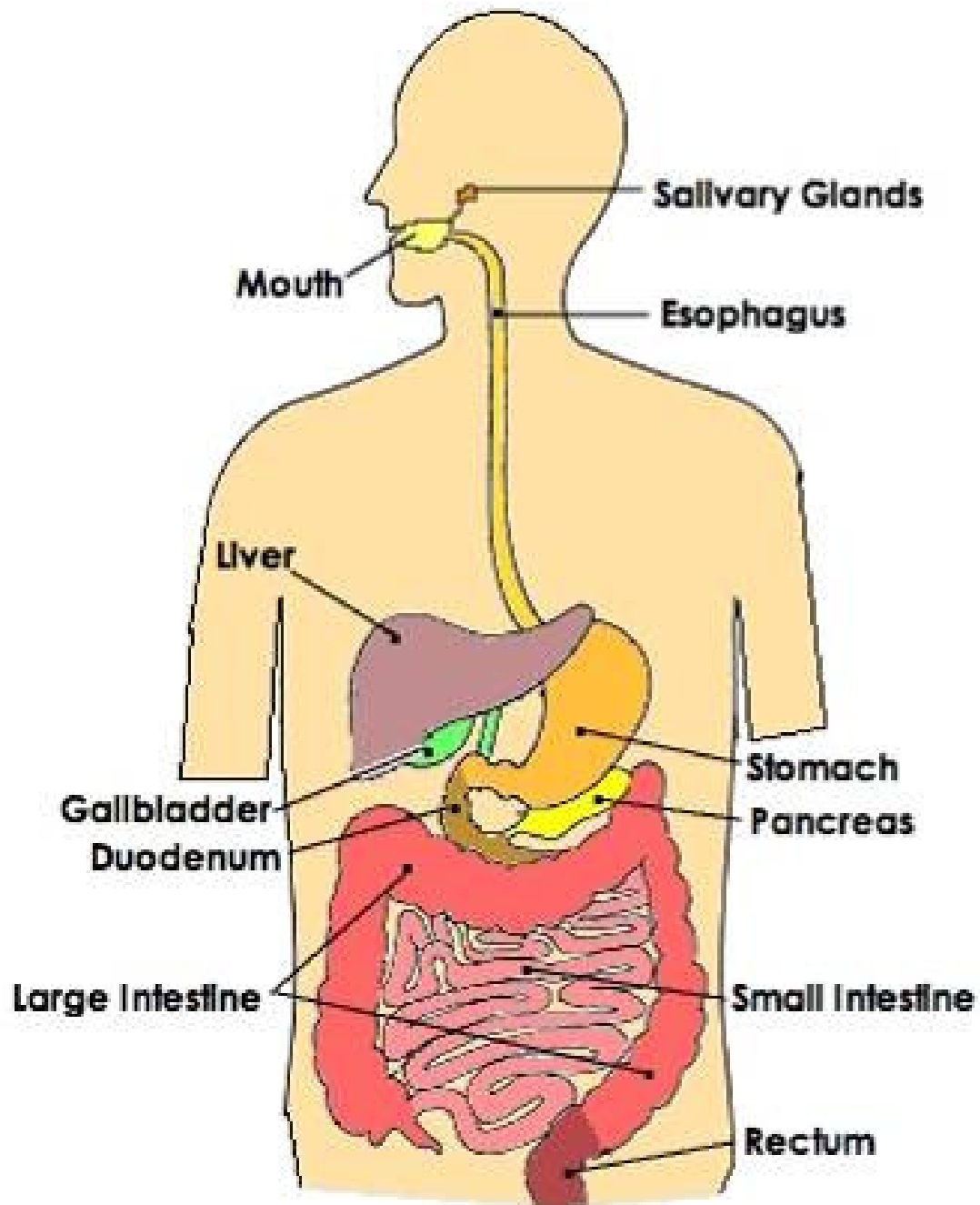
<http://www.patient.co.uk/showdoc/21692485/>

Main Arteries of the Arm



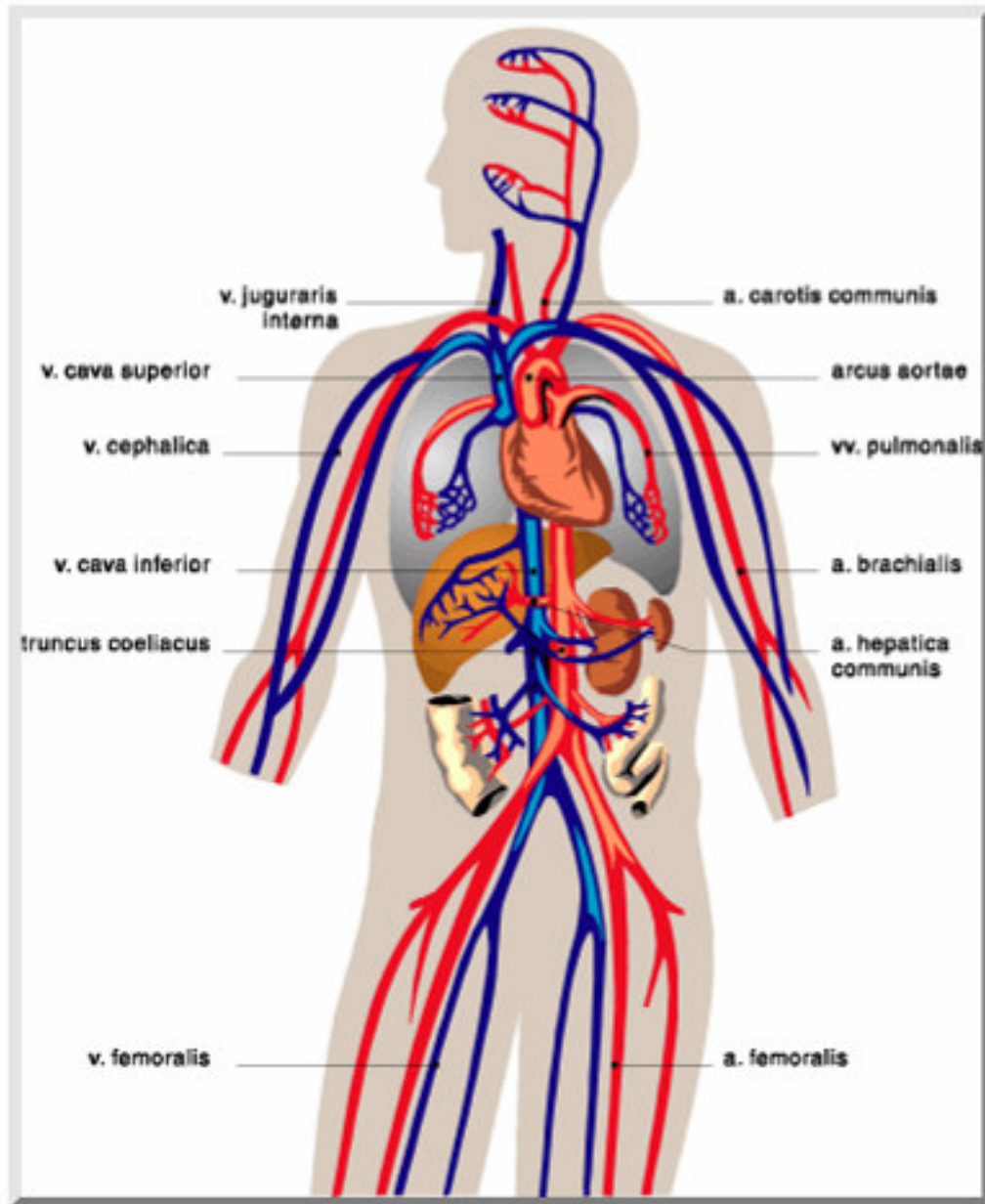
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The Human Digestive System



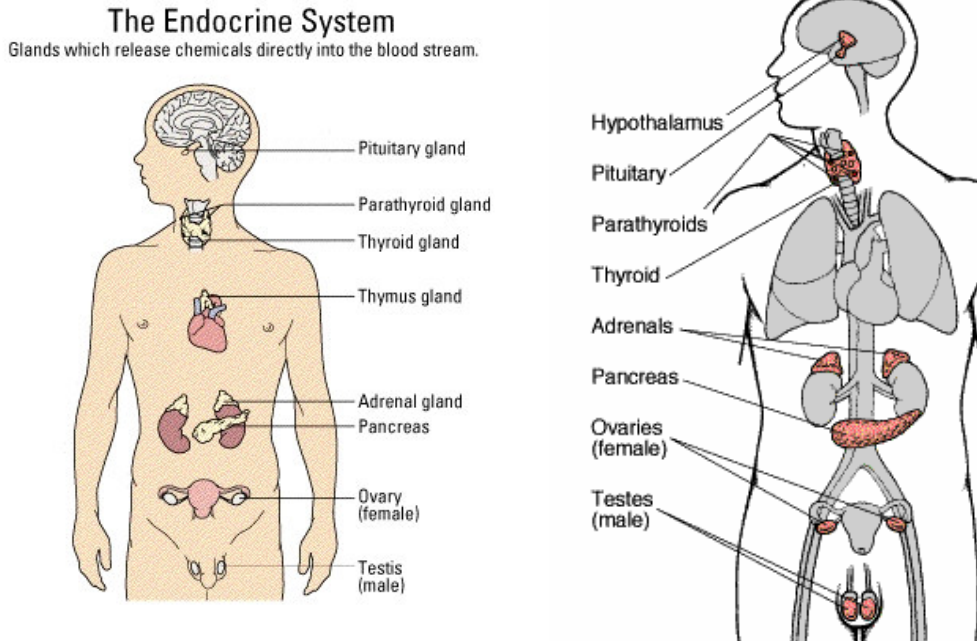
<http://web.lemoyne.edu/~hevern/psy340/graphics/human.digestive.system.jpg>

Circulation



- Red Blood cells carry oxygen from the lungs to all the cells of the body
- White blood cells are like soldiers protecting the body
- ARTERIES are vessels that carry blood away from the heart
- VEINS are vessels that carry blood back to the heart
- Blood CIRCULATES – circles – all around your body in about one or two minutes
- Inside the heart are four hollow chambers. Each chamber is a little pump. The pumping pushes blood all around your body.

<http://www.imcpl.org/kids/guides/health/circulatorysystem.html>



http://www.cushings-help.com/the_body.htm

Nerve cells in the hypothalamus control the pituitary gland by producing chemicals that either stimulate or suppress hormone secretions from the pituitary

Although it is no bigger than a pea, the **pituitary** (pronounced: puh-**too**-uh-ter-ee) **gland**, located at the base of the brain just beneath the hypothalamus, is considered the most important part of the endocrine system. It's often called the "master gland" because it makes hormones that control several other endocrine glands. The production and secretion of pituitary hormones can be influenced by factors such as emotions and seasonal changes. To accomplish this, the hypothalamus relays information sensed by the brain (such as environmental temperature, light exposure patterns, and feelings) to the pituitary.

The **thyroid** (pronounced: **thigh**-royd), located in the front part of the lower neck, is shaped like a bowtie or butterfly and produces the thyroid hormones **thyroxine** (pronounced: thigh-**rahk**-seen) and **triiodothyronine** (pronounced: try-eye-uh-doe-**thigh**-ruh-noon). These hormones control the rate at which cells burn fuels from food to produce energy. As the level of thyroid hormones increases in the bloodstream, so does the speed at which chemical reactions occur in the body. Thyroid hormones also play a key role in bone growth and the development of the brain and nervous system in children. The production and release of thyroid hormones is controlled by **thyrotropin** (pronounced: thigh-ruh-**tro**-pin), which is secreted by the pituitary gland.

The major glands that make up the human endocrine system are the hypothalamus, pituitary, thyroid, parathyroids, adrenals, pineal body, and the reproductive glands, which include the ovaries and testes. The pancreas is also part of this hormone-secreting system, even though it is also associated with the digestive system because it also produces and secretes digestive enzymes. Although the endocrine glands are the body's main hormone producers, some non-endocrine organs - such as the brain, heart, lungs, kidneys, liver, thymus, skin, and placenta - also produce and release hormones.

Textual information taken from;

http://www.kidshealth.org/parent/general/body_basics/endocrine.html