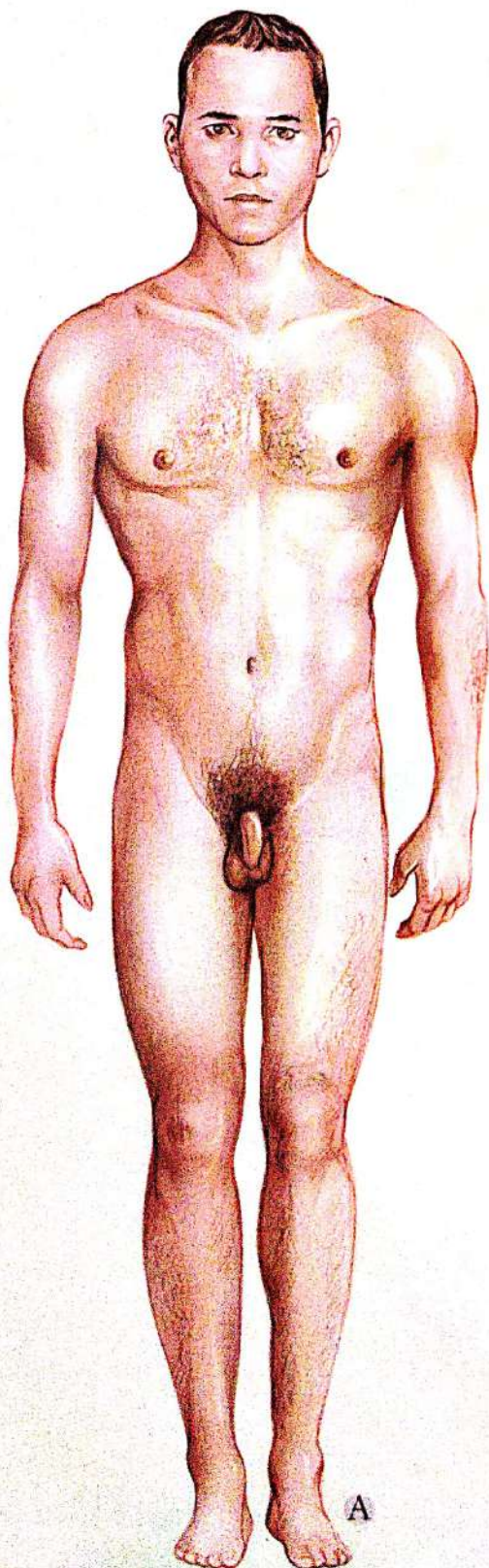




AN OVERVIEW of the HUMAN BODY

As for the other living beings, the human body is the result of an evolutionary process that began millions of years ago when life started on the Earth and that is still taking place. The group of organs forming the human body, the constitution, morphology and physiology of each one of them, the structures and functional units that participate in the assembling of the body and the interconnection among all these units and the other elements in order to form a multi-functional organism, a unit, make its study a hard work entailing some difficulties. This investigation gets even harder because, despite all that we already know about the organism, there are still many secrets to be unveiled. For that reason is a must to have a working methodology characterized by a logical order and a meticulous systematization of each one of the discrete elements and also of the system it belongs to, all the time having in mind the existence of a homeostasis among all the organs and systems.

There are some aspects to take into account when trying to understand the human body and, far from being neglected, they must be considered as essential. The above mentioned aspects referred to the knowledge of the anatomic external elements, the different regions they are divided into, the cavities they present, the basic vocabulary normally used when describing and defining the organs, positions or movements, etc. This chapter is exactly devoted to offer this information.

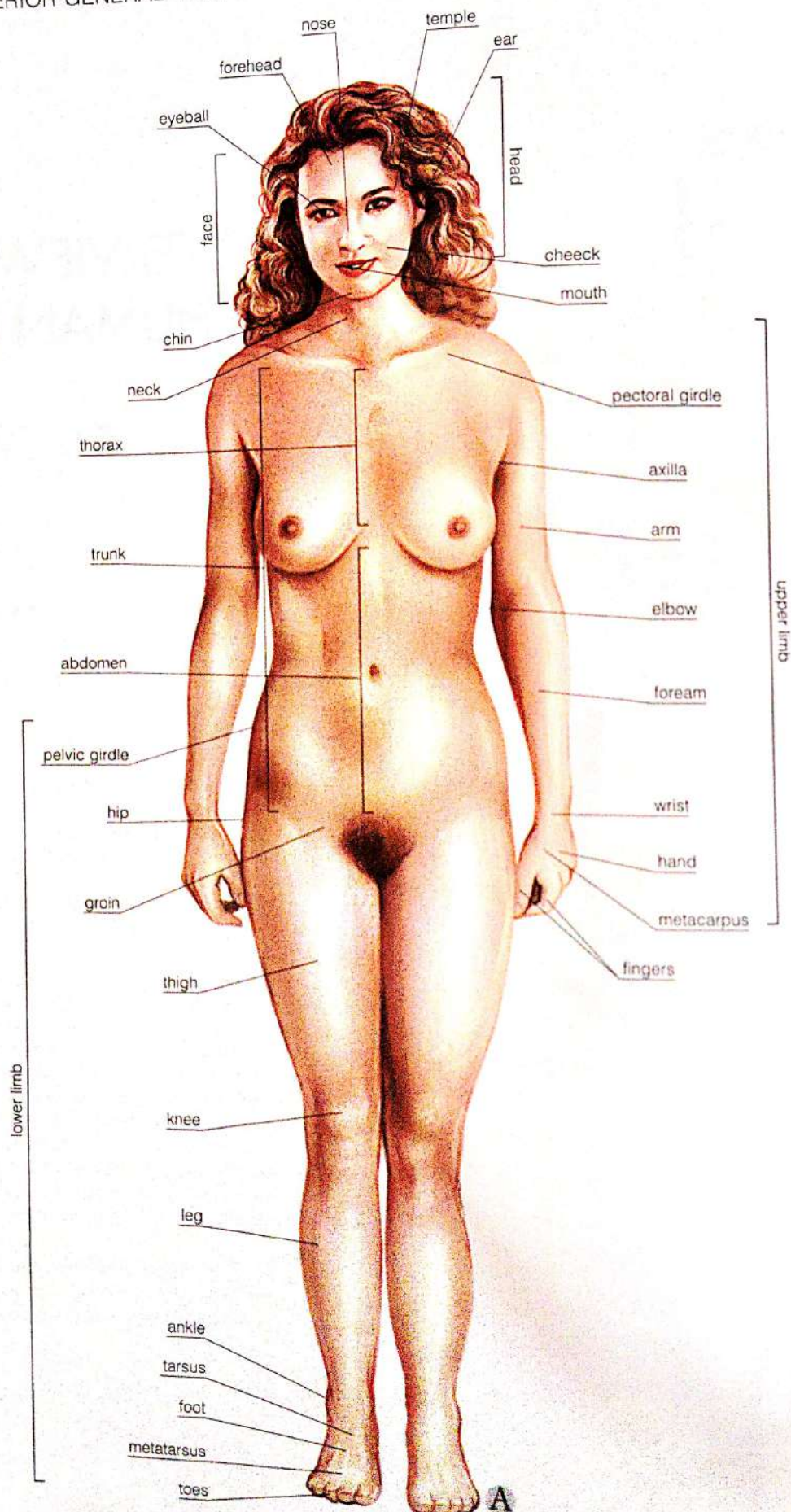
It is essential to have available this knowledge, even more in nowadays society where there is a constant updating in topics like sports, new findings in medicine, diseases, accidents, beauty, and in general, everything pertaining to the human body; this explains the reason why day by day life is being progressively altered in each one of its different aspects; whether it be the medical science, health and fitness, or the cosmetic treatments and the care of the body appearance. Having available this knowledge about the human body becomes a solid foundation upon which a complete understanding about Anatomy and Physiology can be consolidated, and this is also valid for Cytology, and for the Medical Science in general and all its specialties.

It is crucial not to forget that although when considering the human body as a unit, each of its external elements is devoted to accomplish a specific function and has a particular name.



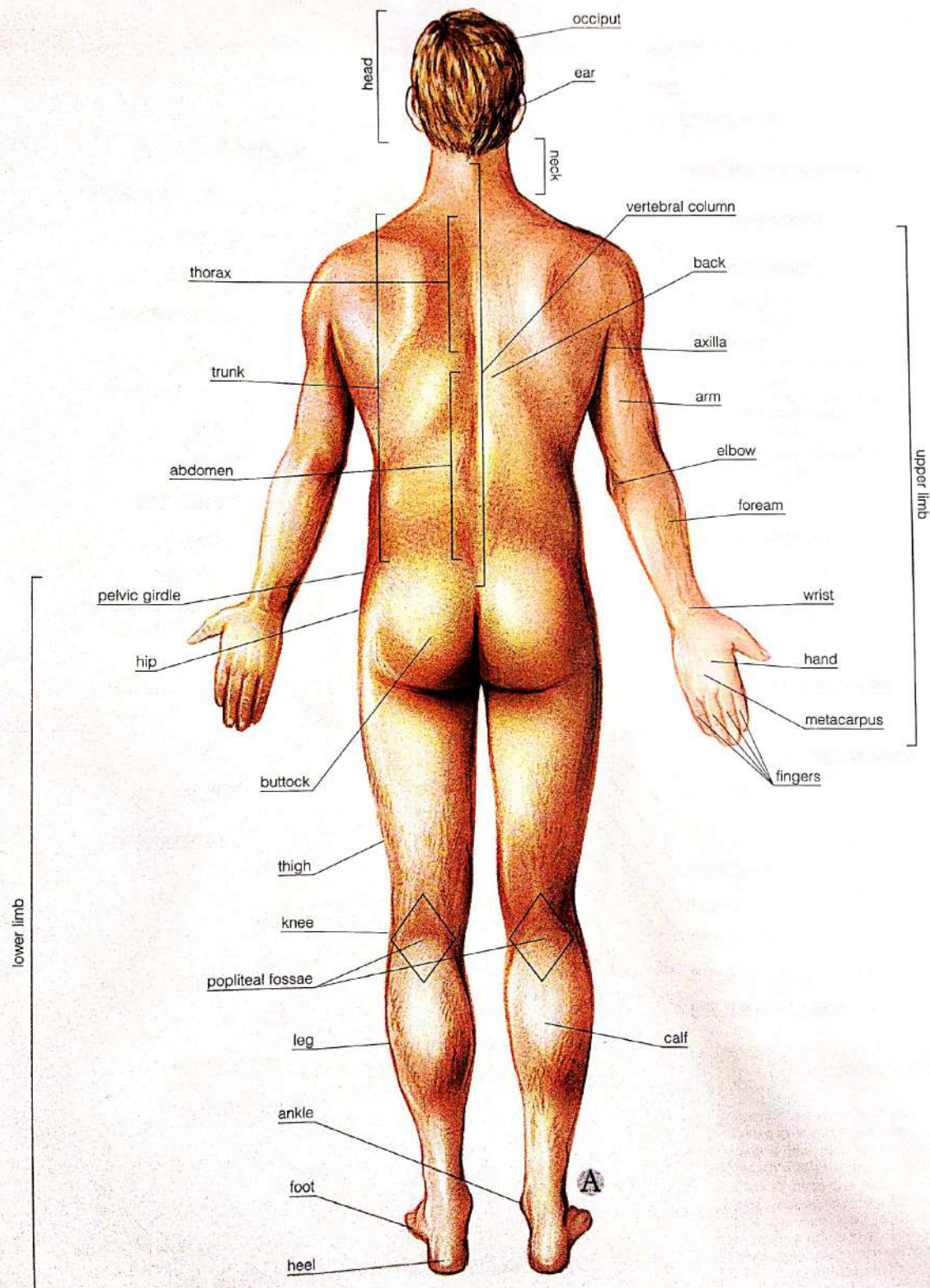
EXTERNAL ANATOMICAL ELEMENTS (I)

FEMALE SEX. ANTERIOR GENERAL VIEW



EXTERNAL ANATOMICAL ELEMENTS (II)

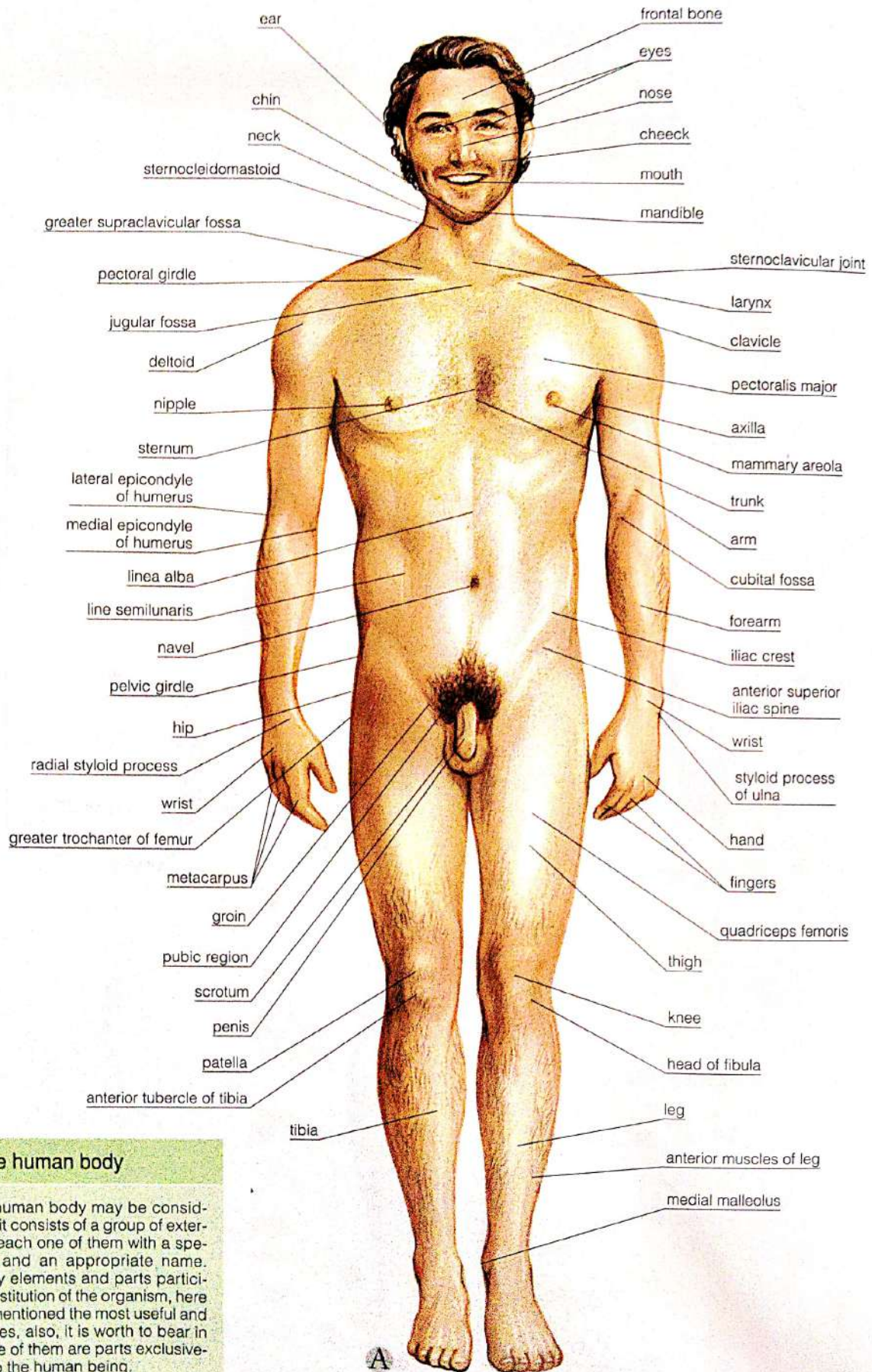
MALE SEX. POSTERIOR GENERAL VIEW





SUPERFICIAL ANATOMY (I)

MALE SEX. ANTERIOR VIEW

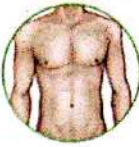


the human body

However the human body may be considered as a unit, it consists of a group of external elements, each one of them with a specific function and an appropriate name. Although many elements and parts participate in the constitution of the organism, here they are only mentioned the most useful and well-known ones, also, it is worth to bear in mind that some of them are parts exclusively belonging to the human being.

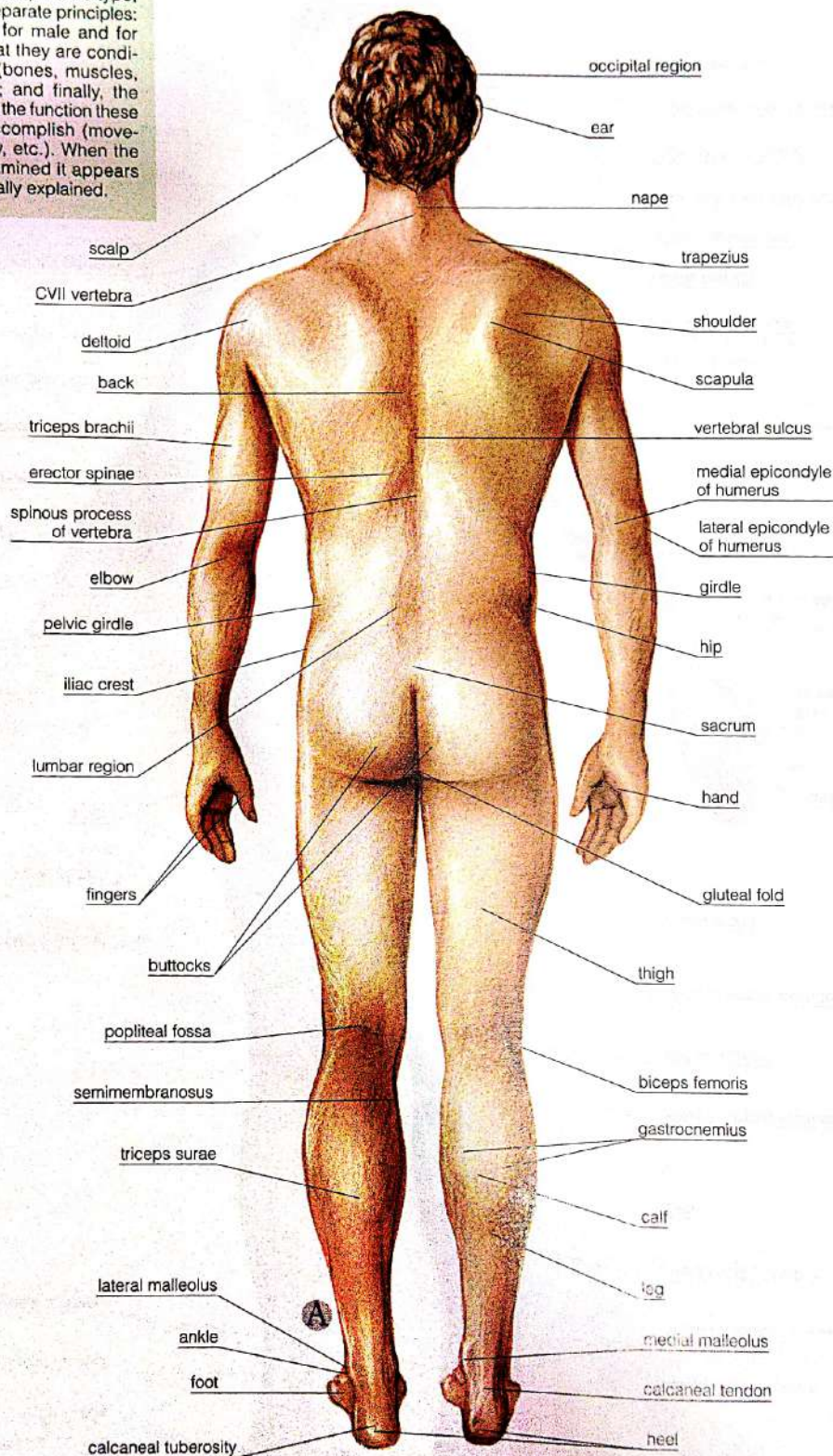
SUPERFICIAL ANATOMY (II)

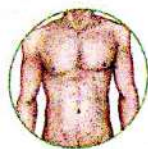
MALE SEX. POSTERIOR VIEW



the shapes of the human body

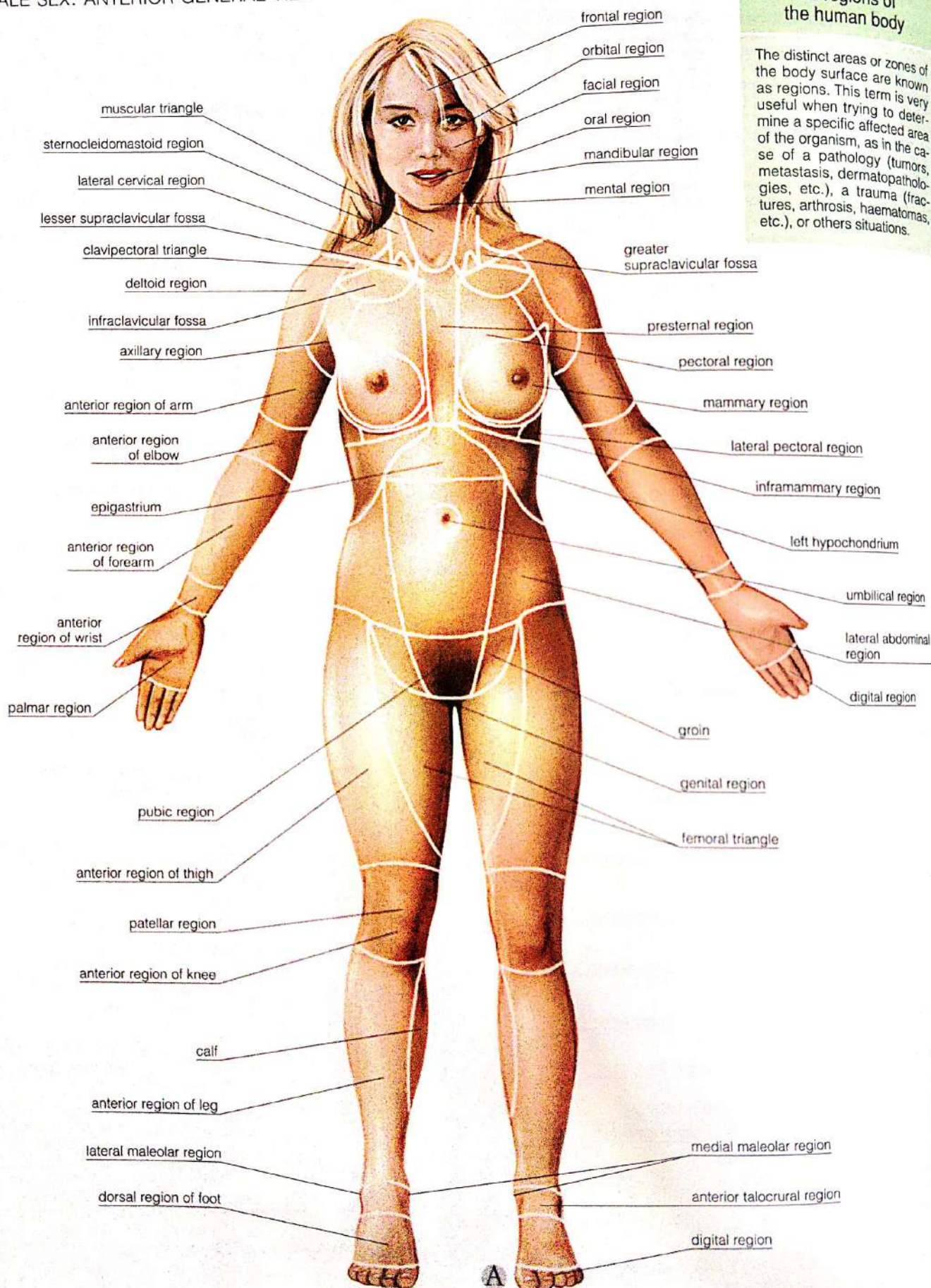
The shapes that appear along the different parts of the human body are not of a capricious type, but they basically obey three separate principles: the hormone action, specific for male and for female individuals; the fact that they are conditioned by various structures (bones, muscles, intestines, etc.) they contain; and finally, the shapes are also conditioned by the function these structures are intended to accomplish (movement, locomotion, prehensility, etc.). When the human body is attentively examined it appears that all its shapes can be logically explained.





REGIONS of the HUMAN BODY (I)

FEMALE SEX. ANTERIOR GENERAL VIEW



the regions of the human body

The distinct areas or zones of the body surface are known as regions. This term is very useful when trying to determine a specific affected area of the organism, as in the case of a pathology (tumors, metastasis, dermatopathologies, etc.), a trauma (fractures, arthrosis, haematomas, etc.), or others situations.

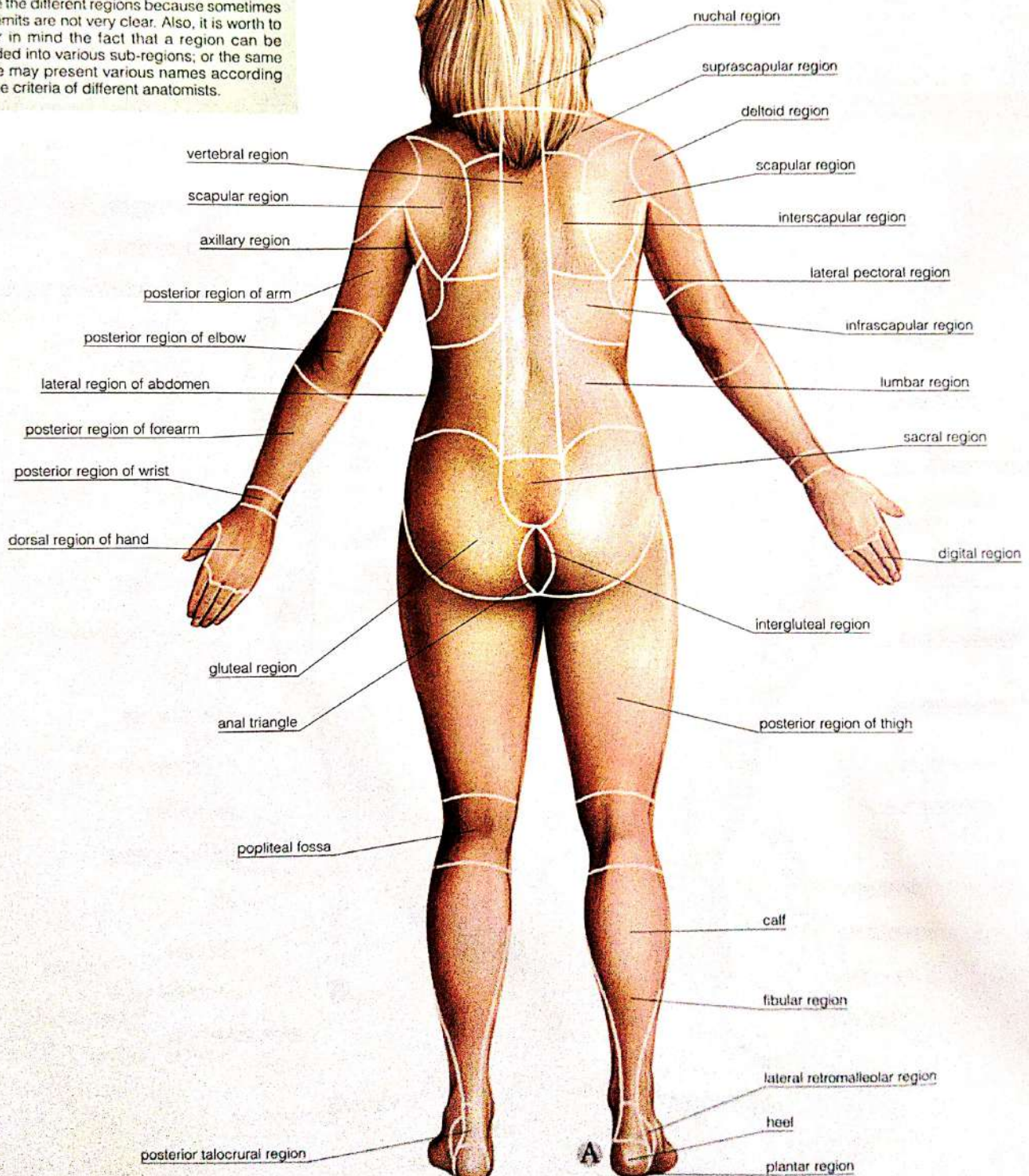
REGIONS of the HUMAN BODY (II)

FEMALE SEX. POSTERIOR GENERAL VIEW



the regions of the human body

Assigning a region to each one of the areas of the body surface is a precision gaining strategy, however is not easy to exactly determine the different regions because sometimes the limits are not very clear. Also, it is worth to bear in mind the fact that a region can be divided into various sub-regions; or the same zone may present various names according to the criteria of different anatomists.



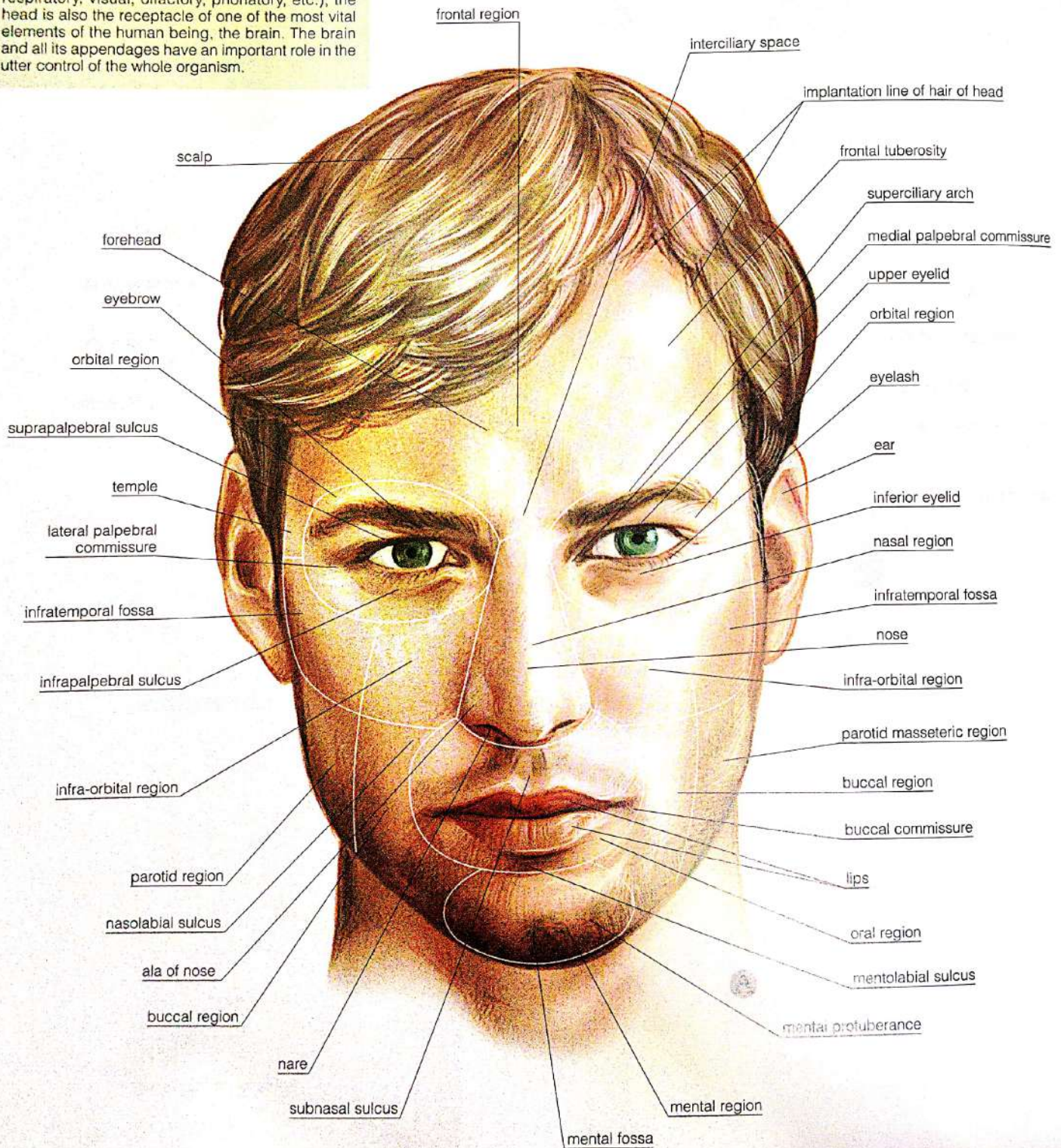


REGIONS of the HUMAN BODY (III). HEAD (I)

MALE SEX. ANTERIOR VIEW

the head

Besides being an anatomic area of the human body used to identify individuals, and of containing a group of organs corresponding to various apparatuses that accomplish different functions (digestive, respiratory, visual, olfactory, phonatory, etc.), the head is also the receptacle of one of the most vital elements of the human being, the brain. The brain and all its appendages have an important role in the utter control of the whole organism.



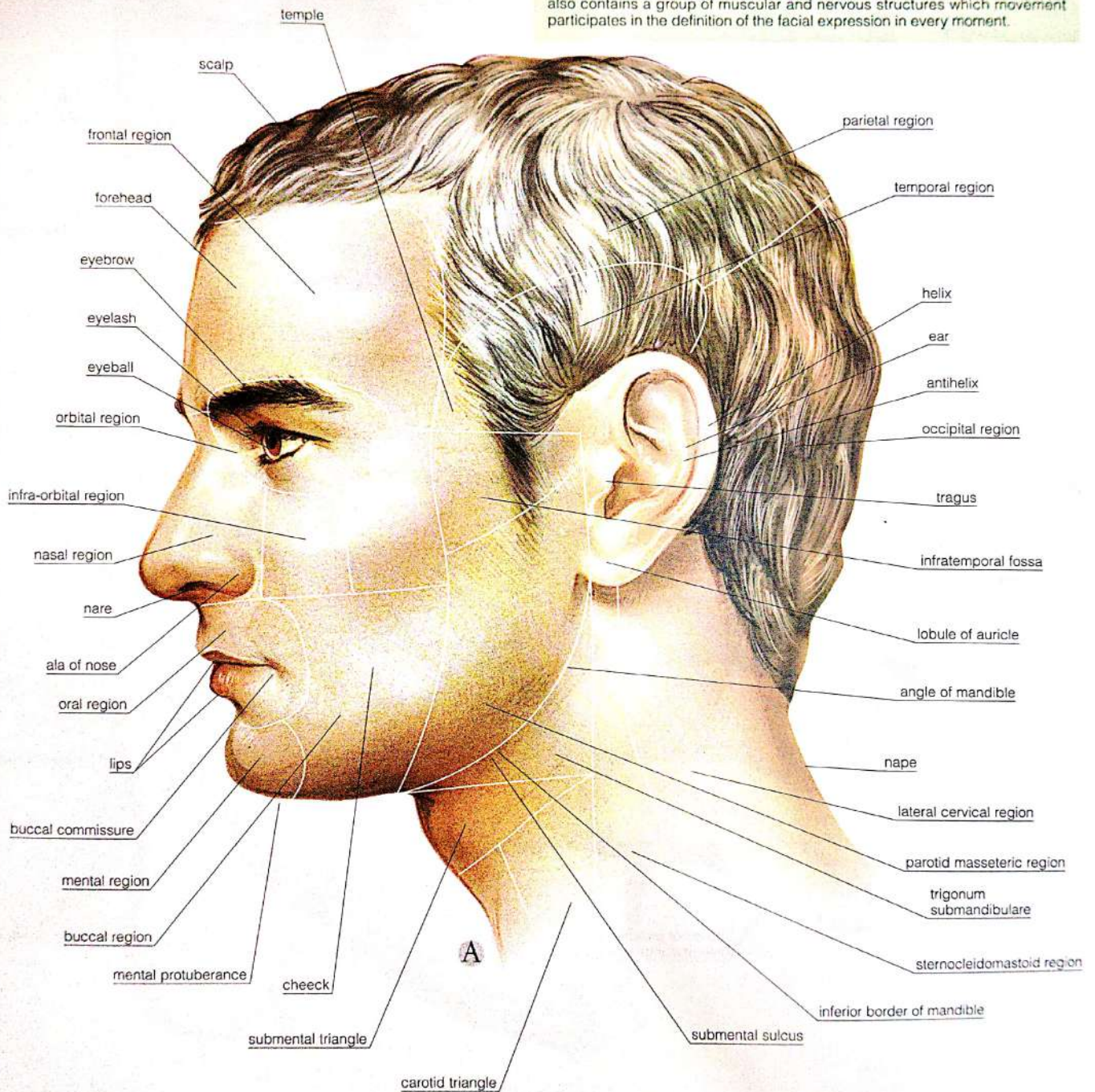
REGIONS of the HUMAN BODY (IV). HEAD (II)

MALE SEX. LATERAL VIEW



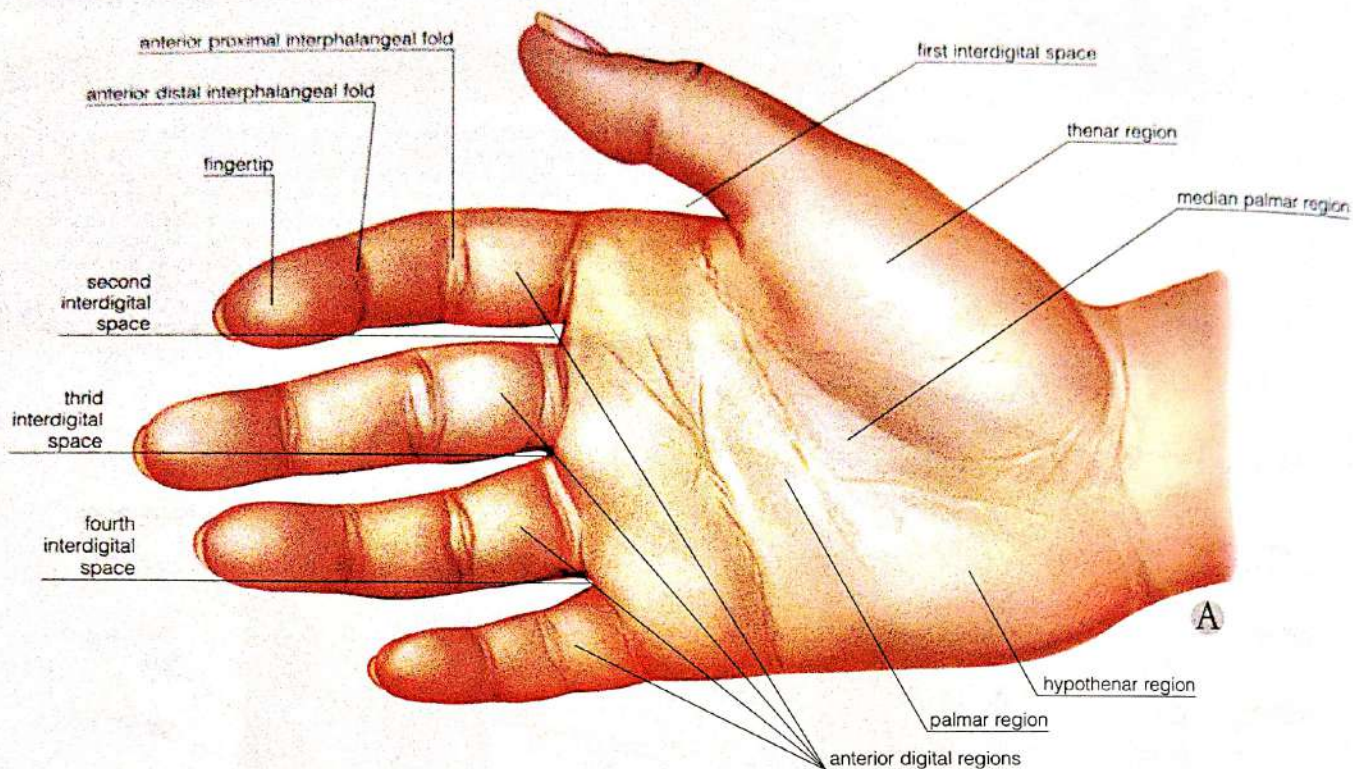
the head

The head is normally defined as the upper portion of the human body. It is made up for two basic components: the skull, located at the superior-posterior section, and the face, located at the inferior-anterior section. It contains many elements and it presents specific characteristics; sometimes just slight alterations in them can make the difference between one individual from another, in terms of appearance, health conditions, state of mind or personal identity. It also contains a group of muscular and nervous structures which movement participates in the definition of the facial expression in every moment.

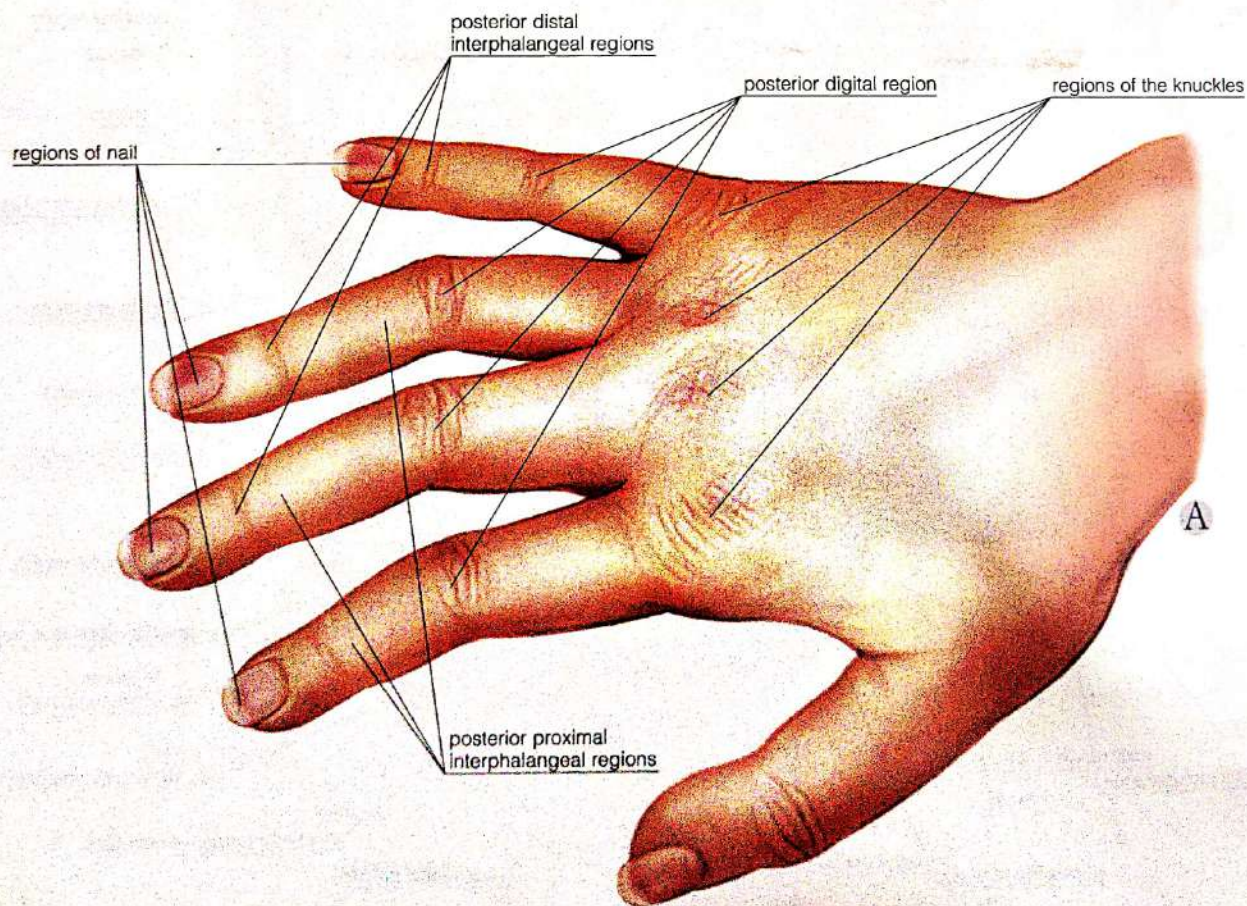




REGIONS of the HUMAN BODY (V). HAND



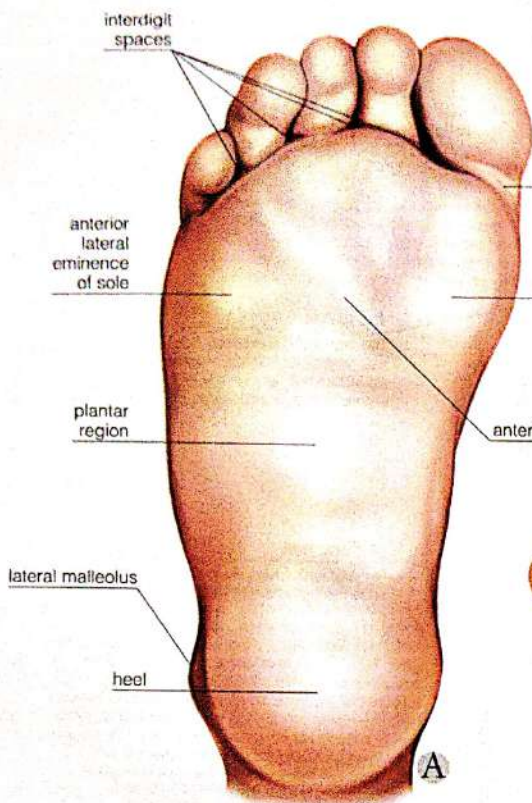
ANTERIOR VIEW



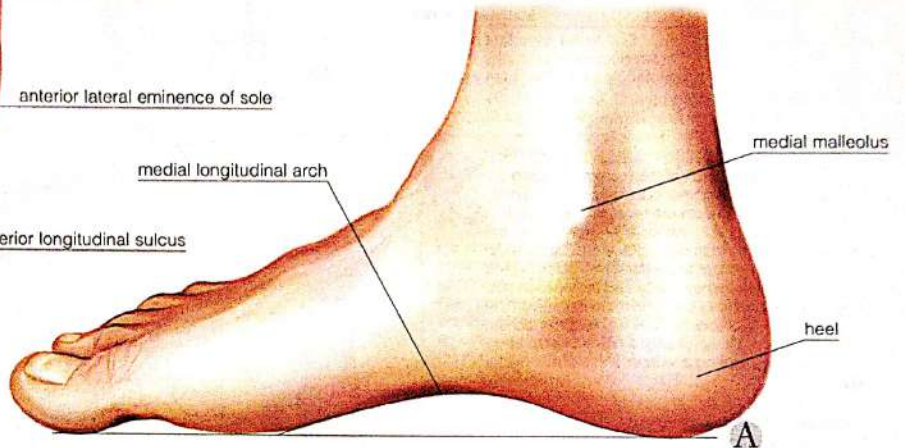
DORSAL VIEW



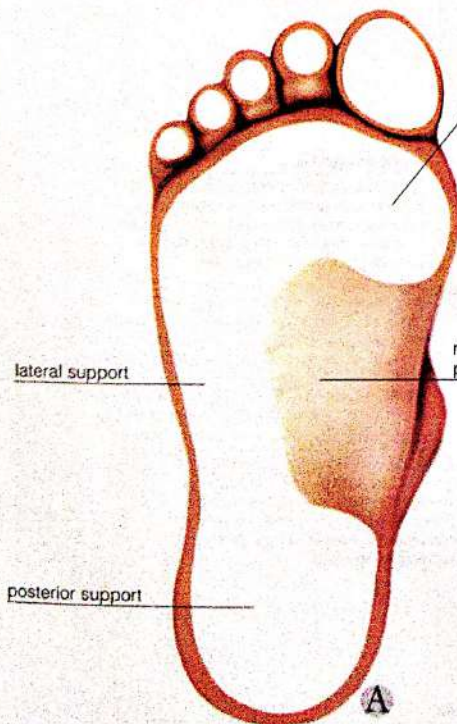
REGIONS of the HUMAN BODY (VI). FOOT



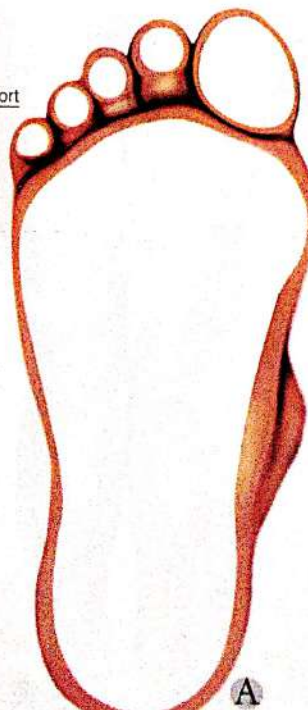
RIGHT FOOT. PLANTAR VIEW



RIGHT FOOT. MEDIAL VIEW



Normal foot.



Flatfoot.

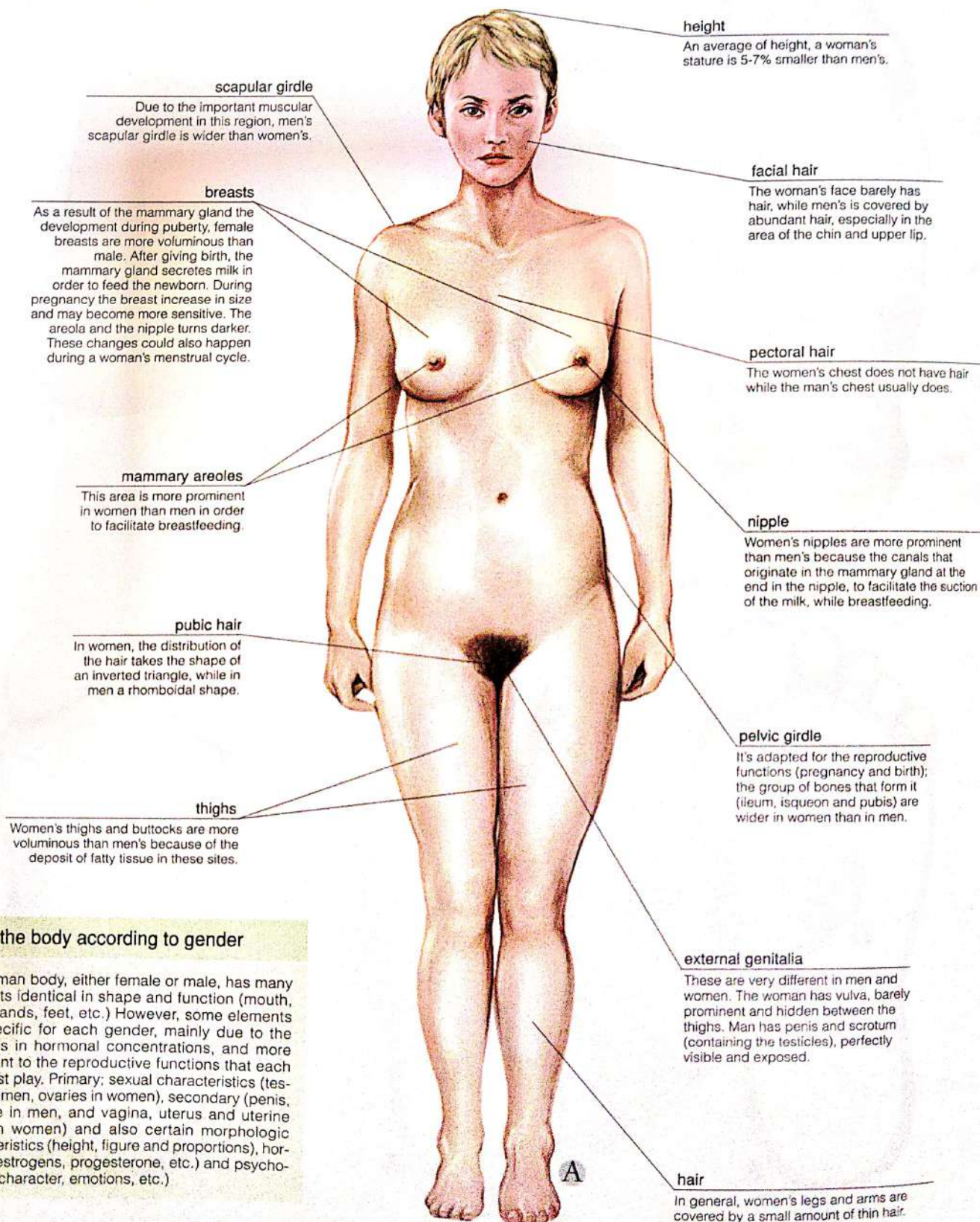


Caval foot.

FOOTPRINTS. REGIONS OF SUPPORT

EXTERNAL ANATOMICAL ELEMENTS (I) MAIN DIFFERENCES BETWEEN SEXES

FEMALE SEX. ANTERIOR VIEW



the body according to gender

The human body, either female or male, has many elements identical in shape and function (mouth, eyes, hands, feet, etc.) However, some elements are specific for each gender, mainly due to the changes in hormonal concentrations, and more important to the reproductive functions that each one must play. Primary: sexual characteristics (testicles in men, ovaries in women), secondary (penis, prostate in men, and vagina, uterus and uterine tubes in women) and also certain morphologic characteristics (height, figure and proportions), hormonal (estrogens, progesterone, etc.) and psychological (character, emotions, etc.)



EXTERNAL ANATOMICAL ELEMENTS (II) MAIN PARTS of the HUMAN BODY

FEMALE SEX. POSTERIOR VIEW

head

Upper section of the body, which contains two basic elements: the cranium, which occupies the upper posterior section and is a bone cavity where the brain-the central section of the nervous system- and its annexes is located, and the face, located in the lower anterior section, which is the place where the digestive and respiratory system tracts section off from. The lower anterior section also includes the external components of most of the main sense organs: eyes, ears, nose, mouth, all of which play important roles.

neck

Section of the body, of a cylindrical shape, located between the head (hyoid bone) and the thorax (collarbone), which joins them. Its inner section contains many tracts: respiratory, digestive, circulatory, lymphatic, nervous, etc., in addition to the spinal cord.

thorax

Upper section of the trunk, between the neck and the abdomen. With it, it constitutes the trunk, which is the central section of the body. It contains an osteocartilaginous structure (thoracic cavity), where the lungs, heart and other structures are located. It is separated from the lower section of the trunk (abdomen) by the diaphragm muscle.

abdomen

Constitutes the trunk, along with the thorax. The inside of the abdomen contains most of the organs of the digestive system (stomach, intestines, liver and pancreas), as well as the spleen and the urinary organs. Its lower region (or pelvis) contains the urogenital organs and the final section of the digestive system.

trunk

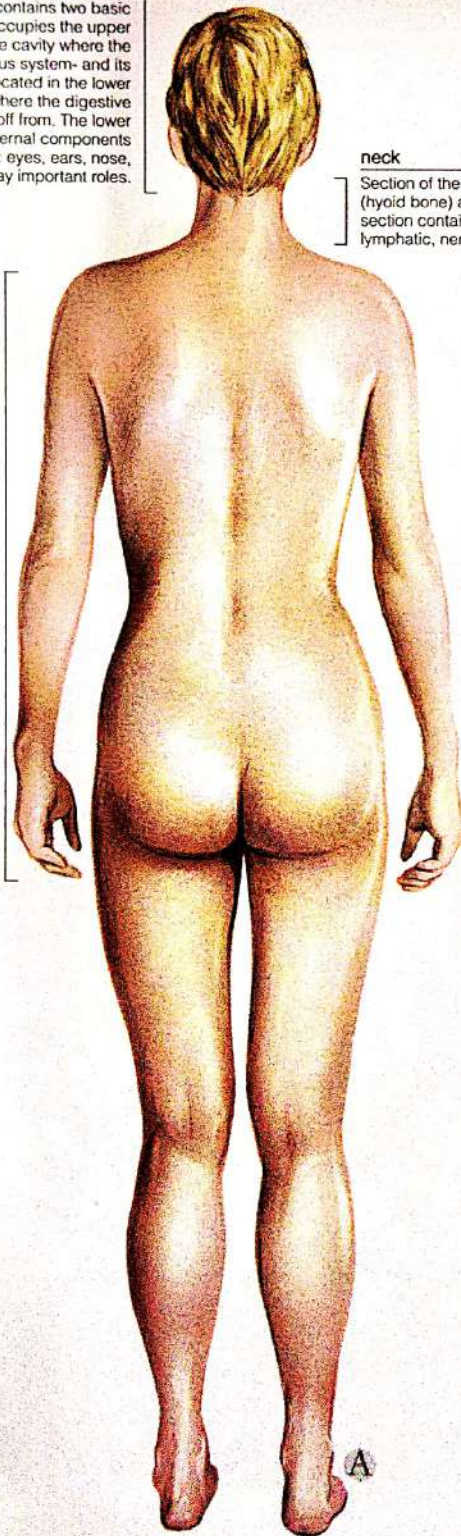
It is the central section of the body where the upper central area of the head, the superior lateral sections of the upper limbs, and the inferior lateral sections of the lower limbs join together. It contains two parts: thorax and abdomen; the abdomen also includes the pelvis.

upper limbs

Refers to two appendices which section, one on each side, from the upper section of the trunk. They contain a group of bones, muscles and joints which can make gestures, lift weights, etc. They have four basic parts (arm; its skeleton is made up of the humerus- elbow-where joint with the same name is located-, forearm-which bone structure is made up of the radius and the ulna- and the hand-where the carpal and metacarpal bones and the phalanges of the fingers- are located), which have a bone structure and a muscle coverage. Its respective joints possess great mobility, especially the hands.

lower limbs

Refers to two appendices which section from the lower and lateral sections of the abdomen, one from each side. They are made up of four basic parts (thigh; its skeleton is made up of the femur- knee-where the joints structures with the same name are gathered-, leg; its bone structure is made up of the tibia, the fibula and the patella, and the foot-where the tarsal and metatarsus bones, as well as the phalanges of the fingers are located-). Its bone structure and muscle coverage provide great mobility through its joints. Its structure is able to sustain the anatomic structure (maintain a biped posture). It also enables walking.



general distribution of the human body

Despite of having various apparatuses, systems and other functional structures that in its turn contain specific organs and elements, the human body presents a general and basic structure, with specific functions assigned to each one of its parts. Thus, while some are responsible of bipedal posture, making possible all movements and locomotion, others act as receptacles and house organs and structures with vital functions.



AN OVERVIEW OF THE HUMAN BODY

EXTERNAL PROJECTION of INTERNAL ORGANS (I)

MALE SEX. ANTERIOR VIEW

internal organs

The internal organs are sited inside the cavities of the human body, so all of them are housed and fill up the organism. The human body contains a large amount of organs and each one of them plays a specific role. Moreover, their shapes adapt and therefore one organ perfectly fits another one to take advantage of the available space without interfering in the normal functioning of the adjoining organ.

larynx

The larynx, specifically the thyroid cartilage, is projected on the anterior and central regions of the neck, where it forms a shape called the laryngeal prominence.

thyroid gland

Located in the anterior section of the neck. It is not prominent. It is adherent to anterior tracheal surface.

heart

Its external projection corresponds to the anterior side of the thorax, called region precordial, even though the vertex of the heart is projected on the left side of the anterior thoracic wall.

liver

The largest section of the liver corresponds to an area called right hypochondrium, in the right superior angle of the abdominal cavity, below the diaphragm.

gallbladder

Refers to a pear shaped bag which is located in the inferior section of the right lobe of the liver. In it, the bile which has been poured by the hepatic biliary tracts is stored. This bile ends up in the duodenum in order to help to emulsify the fats and to stimulate the movements of the digestive tube (peristalsis).

ascending colon

First section of the large intestine. It occupies the right lateral region of the abdominal cavity. It is projected on the right anterior side and in the right iliac fossa.

caecum

Initial section of the large intestine. It is projected on the lower right part of the abdominal wall, below the ileum opening, in the region which corresponds to the left iliac fossa.

vermiform appendix

Elongated diverticulum, narrow and in the shape of a worm (which is where the name comes from), which hangs from the caecum. This appendix communicates with the caecum.

urinary bladder

Organ in the shape of a bag, located in the lower central section of the abdomen. It is projected in this region, above and behind the symphysis of the pubis.

trachea

Refers to the lower extension of the larynx. It is a cylindrical and cartilaginous tube which is projected on the central section of the neck, through its anterior side, immediately below the laryngeal prominence.

lungs

The lungs are two organs, right and left, with a spongy consistency. Their external projection corresponds to the anterior, lateral and posterior walls of the thorax.

spleen

Lymph organ with an oval shape which projects on the upper left section of the abdomen, known as left hypochondrium.

stomach

Wide bag which is a section of the digestive tube. It is projected on the central, left, and upper regions of the abdomen, in the epigastrium.

transverse colon

Section of the large intestine, located between the ascending colon (where it starts), and the descending colon (where it continues). It is projected from right to left, like a band below the stomach, dividing the abdomen in two.

descending colon

Last section of the large intestine. In its inception, it is projected on the left lateral region of the abdominal cavity, in the anterior side. It subsequently occupies the retroperitoneal compartment.

small intestine

Long tube which sections from the stomach and curls inside the anterior central area of the abdominal cavity.

A

EXTERNAL PROJECTION of INTERNAL ORGANS (II)

MALE SEX. POSTERIOR VIEW

external projection
of the internal organs

Knowing the location of the different organs within the great cavities of the human body (cranial, thoracic, abdominal, and pelvic) is important. In case of an accident or a surgical intervention, the doctor needs to know exactly where to find each organ in order to access to these organs by a track.

