

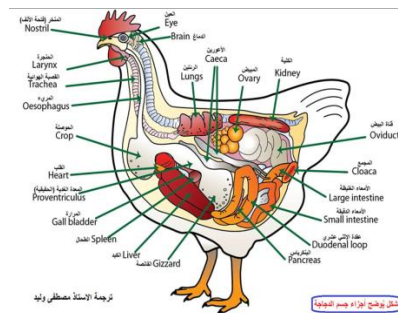
Chicken anatomy

General characteristics of chicken:

1. Vertebrates
2. Invariable blood
3. Body covered with Feather.

Skin characterize by:

1. Free from sweat gland
2. Free from fatty gland
3. Except preen gland in the back of the tail which secret fat to protect the feather.

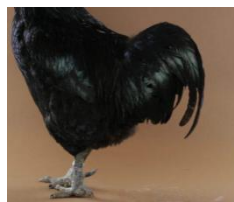
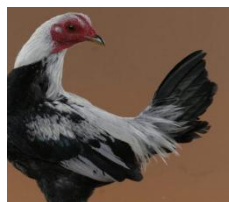


Feather

Grow from the outer layer of skin consists of a protein called creatine helps to protect the body from external shocks and vital for flight and thermoregulation.

Type of feathers on chicken body

1. Hackle Feathers.
2. Saddle Feathers.
3. Sickle Feathers.
4. Fluff.



The feather on the wings:

a) Primary Feathers: Longer wing feathers growing from the outer section

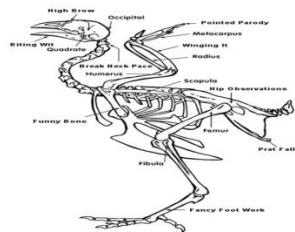
b) Secondary Feathers: Longer wing feathers growing from middle section

c) Axial Feathers :Short feather between primary and secondary feathers of the wing.



Skeletal system

It is characterized by: 1.Compact 2. Strong 3. Flexible 4. Light weigh 5. Hollow bones



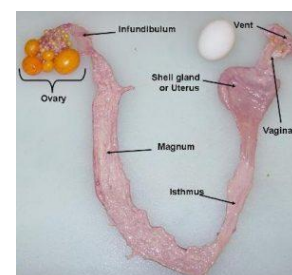
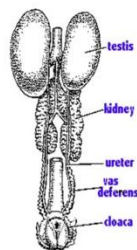
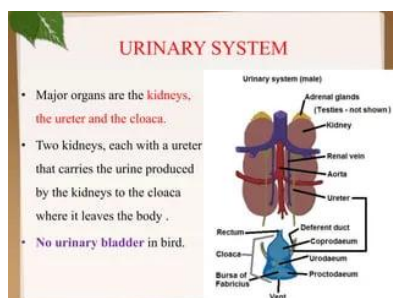
Secretory system

Birds have two (paired) of symmetrical kidneys which are formed from 3 lobes, renal tubule and nephrons **Functions of kidney:**

- 1.Re – absorption of water and sugar
- 2.Excrete of urea
- 3.Acid – base balance
- 4.Osmatic balance

- The final product for Nitrogen excretion in the body of the birds is uric acid .

- The chicken does not contain urinary bladder.

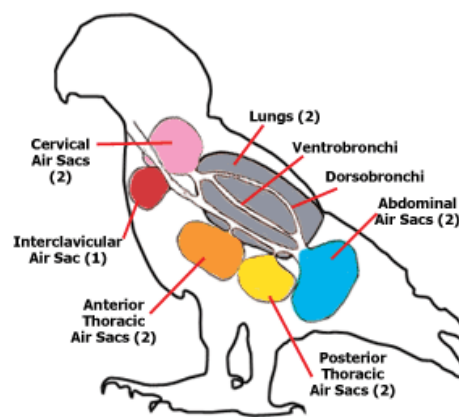


Respiratory system

Respiratory system Consists from: 1. Nasal cavities 2. Upper larynx 3. Lower larynx 4. Trachea 5. Bronchi 6. Lungs 7. Air sac

The avian respiratory systems also contain 9 total air sacs. All are paired except one(the clavicles)

1. Cervical
2. Clavicles
3. Cranial thoracic
4. Caudal thoracic 5. Abdominal



Respiratory system of bird

Air sacs of chicken (9 air sacs):

Cervical 2. Clavicles (1) 3. Cranial thoracic 4. Caudal thoracic 5. Abdominal

Digestive system

1. Beak
2. Pharynx
3. Esophagus
4. Crop main function is storage of foodstuffs if proventriculus is full
5. Proventriculus (true stomach)
6. Gizzard crushing and girding food.
7. liver , spleen and gall bladder
8. Small intestine consisting of :

A-Duodenum Look likes U shape, duodenum secrets yeast in order to digest (protein, fat and starch). The pancreas is located between the arms of the duodenum

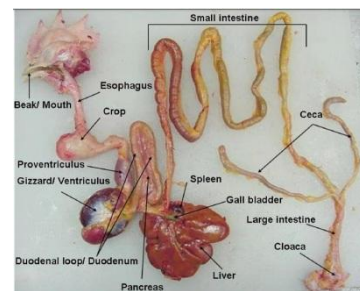
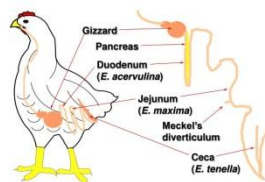
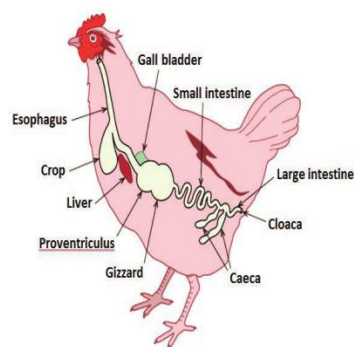
B. Jejunum It is the middle part of small. Anatomically positioned between the duodenum & Meckel's diverticulum (vestigial yolk stalk).

C. Ileum The last part of small intestine, it is connect small intestine with large intestine. Anatomically positioned between the Meckel's diverticulum & the ileo-cecal junction

9. Large intestine Much shorter in length compared to small intestine. Containing paired of caeca which help digest the fiber by the help of micro flora.

10. Rectum

11. Cloaca It is sexual, fecal and urination



external body parts

1-comb

*Comb is a fleshy growth. *both male and female have comb.

*most common shape "**single comb**"

2-Wattles

*The soft meat hanging from the two side of chicken beak is known as wattle.

The functions of wattle & comb is?

*Cooling *Indicating health *Indicating sexual maturity

3-Nostril

The nostril of chicken is near on the joint place of beak and comb.

4-Beak

Beak of chicken is on the front side of head.

Serve many purpose?(functions)

1)Eating 2)Feeding its young 3)As a weapon

5-EarLobes

*The hanging skin from chicken ear is known as **earlobe**.

*There is various colored earlobe of chicken.

*Ear lobes can help determine what color eggs your hen will lay.

6-Tail

Both cock and hen have a tail.

*The feather of tail of cock get curved to down when it became big sized and it looks like a **sickle**.

*Hens don't have sickle feather.

7-Vent

*a chicken's vent is the opening where she expels waste and lays her eggs.

*It's all one thing!

*"**Cloaca**" is the anatomical term for vent.



tail(sickle feather)



vent (fluff feather)

9-Spurs is a **sharp-Hornprotrusion** that can grow on the legs of chickens, and is used for **fighting and self-defense**.

•Although all chickens have the potential to grow spurs, large spurs are most common on **roosters**.

•Hens can and sometimes do have large spurs, but generally do not.



10- toes:3 forward 1 for back.

Immune system organs

Primary organs:-

- 1-Bursa of fabricius for production of B cell
- 2- Thymus for production of T cell

Secondary organs:-

- 1-spleen
- 2-gland of harder in the corner of eye
- 3-cecal tonsils in ceca
- 4-payer patches in small intestine