

THYROID GLAND

Objectives:

By the end of this lecture, the student should be able to:

1. Describe the histological structure of thyroid gland.
2. Identify and correlate between the different endocrine cells in thyroid gland and their functions.

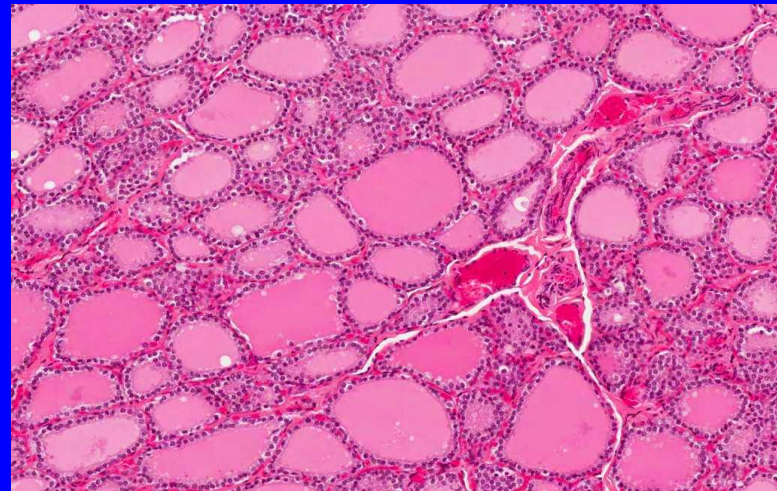
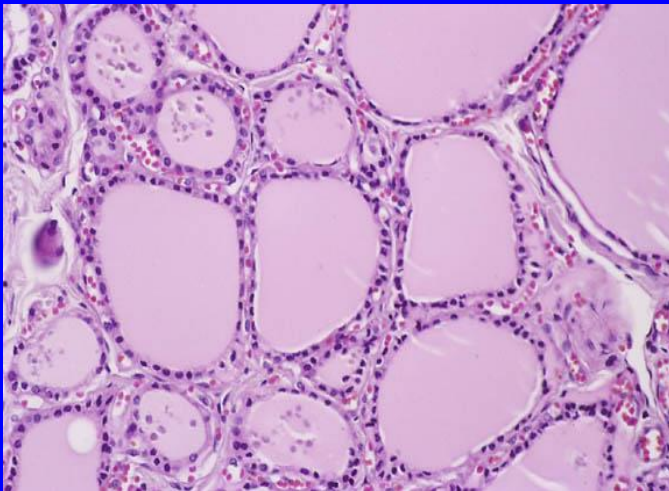
THYROID GLAND STROMA

1- Capsule: dense irregular collagenous C.T.

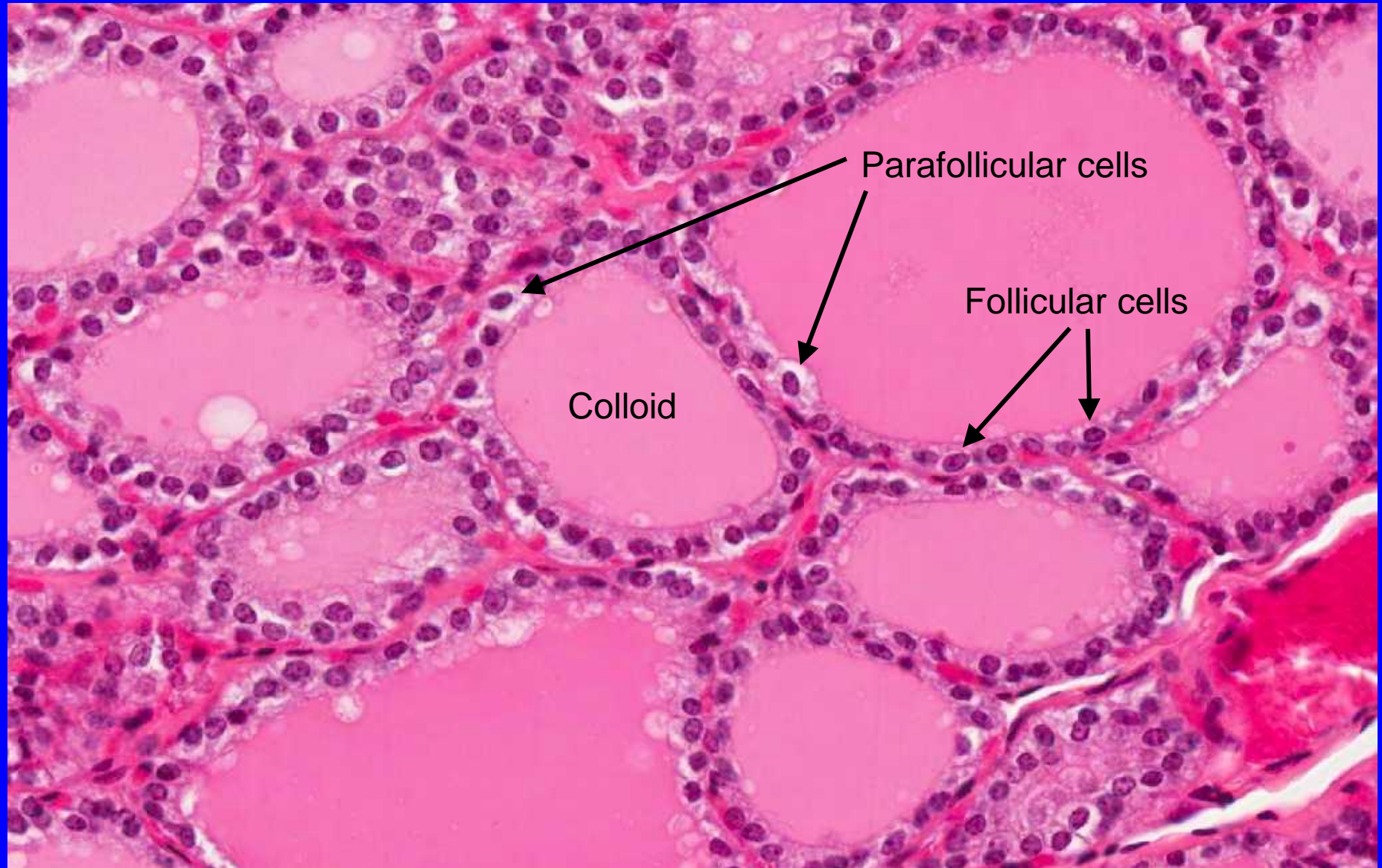
2- Septa (Interlobular septa): “ “ “ “ .

3- Reticular fibers:

Thin reticular C.T., composed mostly of reticular fibers with rich capillary plexus surrounds each thyroid follicle.



THYROID GLAND



PARENCHYMA OF THYROID GLND

THYROID FOLLICLES:

Are the structural and functional units of the thyroid gland.

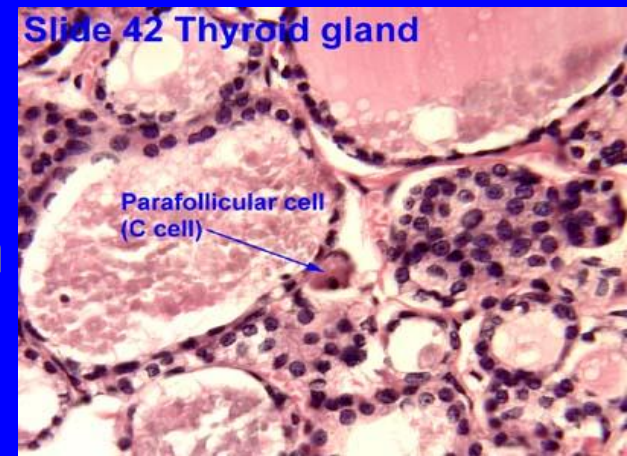
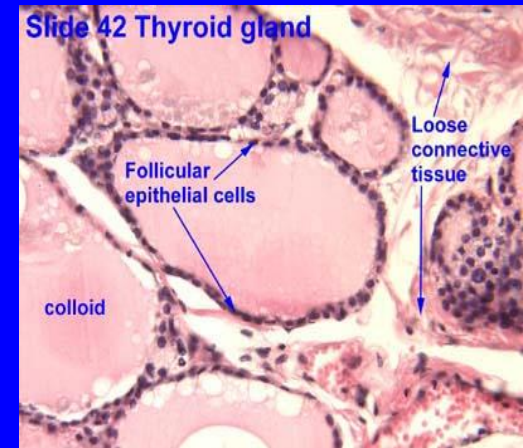
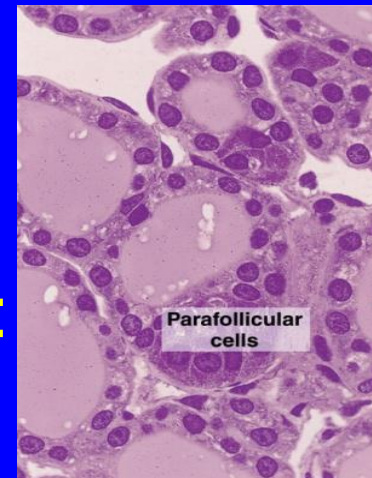
L/M:

1- Simple cuboidal epithelium:

- a- Follicular cells.
- b- Parafollicular cells.

2- Colloid: central colloid-filled lumen.

N.B. Each follicle is surrounded by thin basal lamina.



FOLLICULAR (PRINCIPAL) CELLS

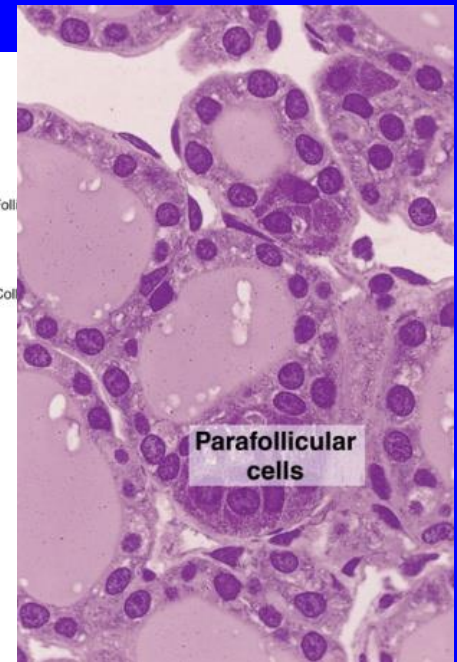
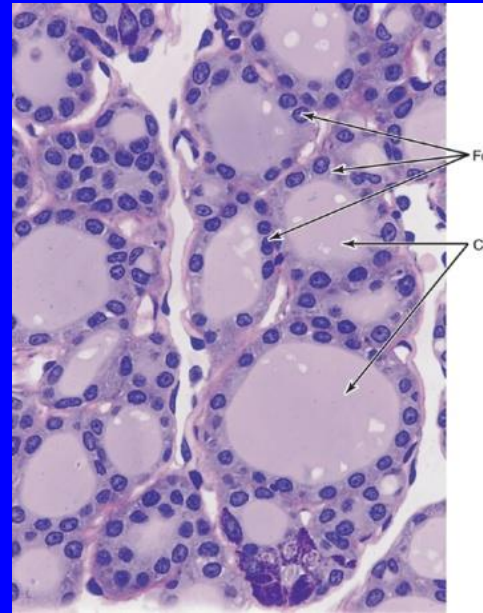
L/M:

Simple cuboidal cells

Round and central nucleus with prominent nucleoli.

Basophilic cytoplasm.

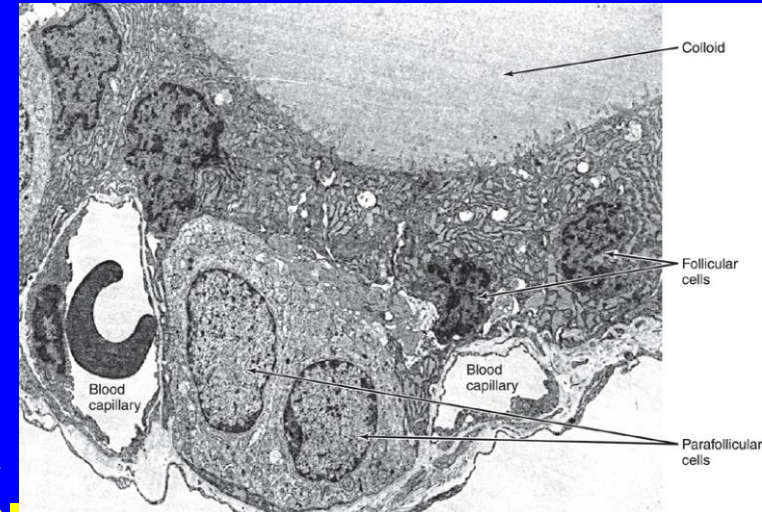
Apical surface reaches the lumen of the thyroid follicle.



FOLLICULAR (PRINCIPAL) CELLS

E/M:

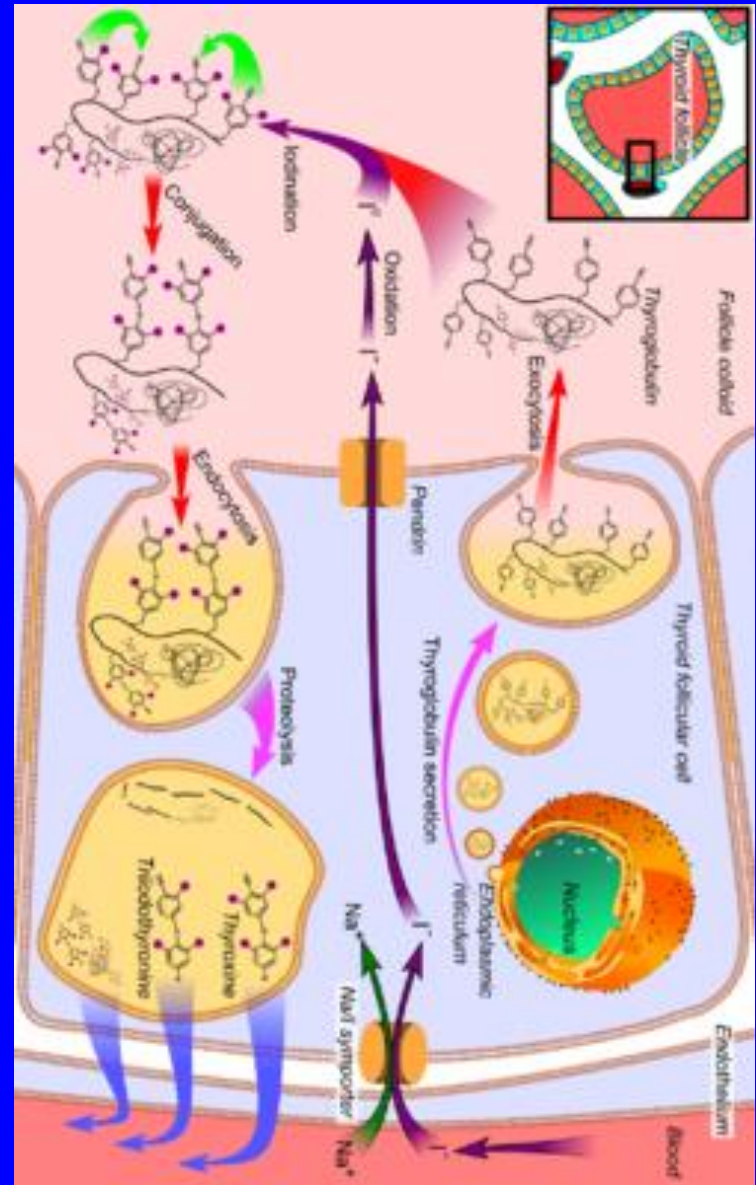
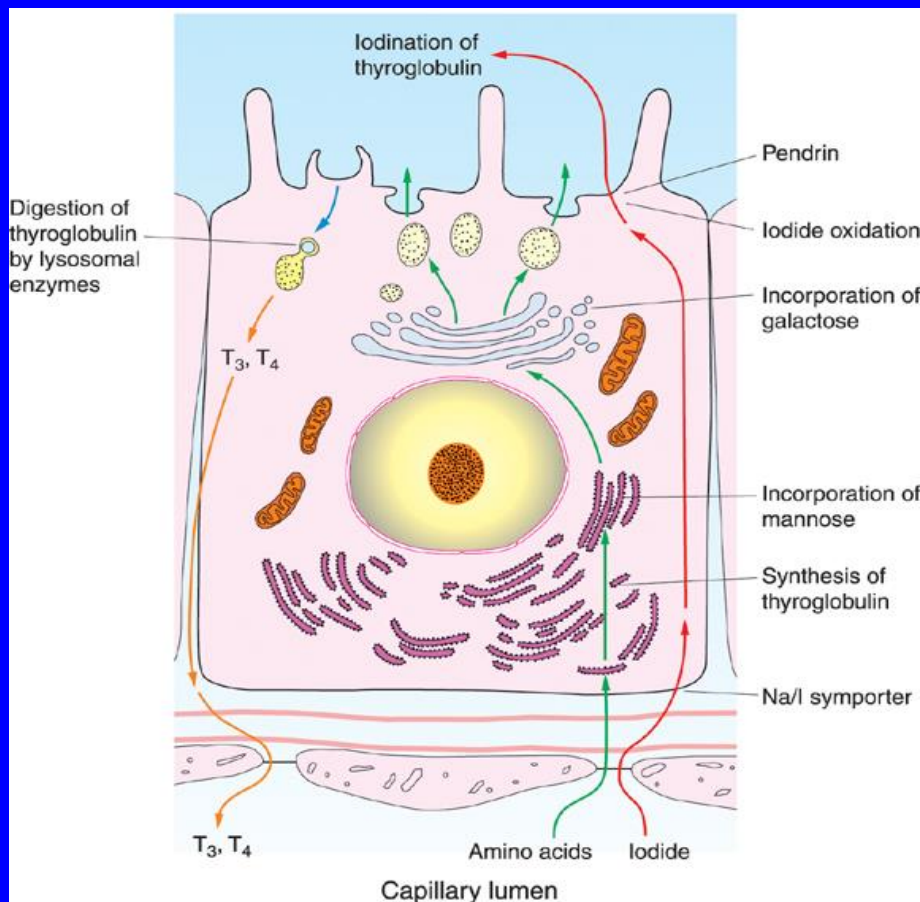
- Mitochondria.
- RER
- Supranuclear Golgi Complex.
- Numerous apically-located lysosomes.
- Numerous dispersed small vesicles:
contain newly formed thyroglobulin.
- Numerous apical short microvilli.



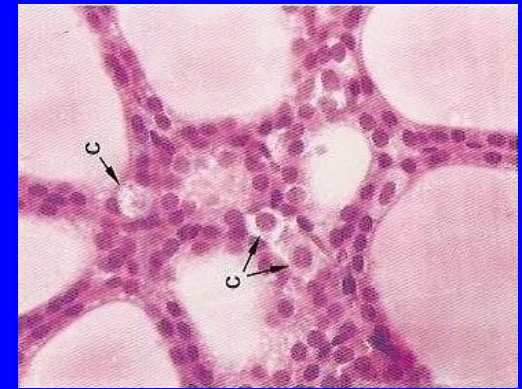
FOLLICULAR (PRINCIPAL) CELLS

Function:

Synthesis of thyroid hormones (T4 & T3).

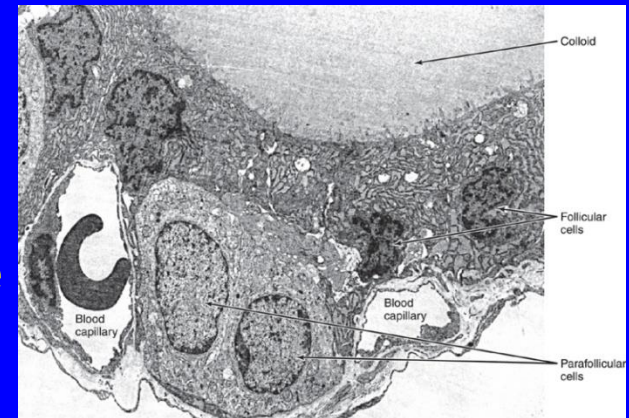


PARAFOLLICULAR CELLS (CLEAR CELLS) (C-CELLS)



L/M:

- Pale-stained cells (Clear Cells).
- Are found singly or in clusters in between the follicular cells.



- Their apices *do not* reach the the lumen of the follicle.
- Are larger than follicular cells (2-3 times).
- Only 0.1% of the epithelial cells.
- Have round nucleus

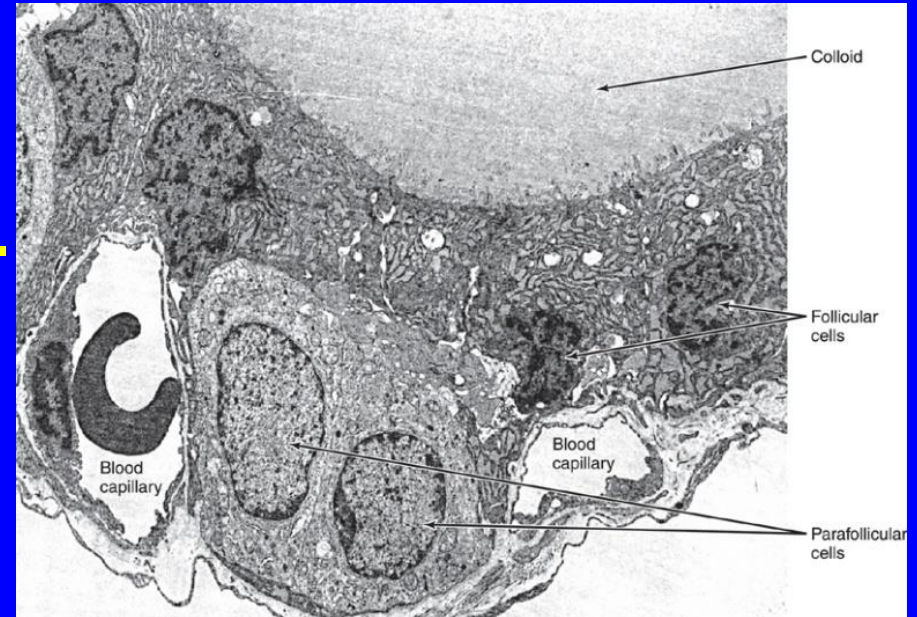
PARAFOLLICULAR CELLS (CLEAR CELLS) (C CELLS)

E/M:

- Mitochondria.
- RER (moderate).
- Well-developed Golgi.

Function:

Secrete calcitonin.



BEST WISHES