4) SUPRARENAL/ADRENAL GLANDS
- Located at sup. poles of kidneys
- Gland is surrounded by a capsule that extend into parenchyma < Cortex
- Cortex is
  - Zona glomerulosa
    - Beneath capsule
    - Comp. of small pyramidal/Columnar cells
    - Arranged in rounded/narrow clusters
    - Sinusoidal capillaries
    - Cells have rounded pale staining cytoplasm
  - By dehydrated slides of adrenal gland
  - Cells have abundant lipid droplets
  - Secrete mineral corticoid (principally aldosterone)
  - Seen as: fibrous trabeculae (CT)
- Zona fasciculata
  - Thickest layer of suprarenal cortex
  - Comp. of large polyhedral cells
  - Arranged in narrow columns and cords
  - Sinusoidal capillaries
  - Cells have rounded pale staining cytoplasm
  - Cytoplasm is large and pale due to
    - Abundant lipid droplets
    - Secrete glucocorticoid, primarily cortisol
- Zona reticularis
  - Thinnest layer
  - Comp. of small cells
  - Arranged in anastomosing/irregular network
  - Cytoplasm of cords & clumps
  - Sinusoidal capillaries
  - Cells have dark staining nuclei
  - Less cytoplasm, fewer lipid droplets
  - Brown lipofuscin pigment sometimes seen in cytoplasm

5) ENDOCRINE PANCREAS
- Islets of Langerhans, more abundant
  - In tail of pancreas
  - Alpha cells - glucagon in periphery
  - Beta cells - insulin in centre
  - Delta cells - somatostatin
  - Scattered G cells - gastrin
  - PP cells - pro-opiomelanocortin

6) GI ENDOCRINE CELLS
- Gastrointestinal, secrete CCK, serotonin, enteroglucagon
- Scattered in mucosa of GI
- Pancreas & endocrine pancreas

7) ENDOCRINE CELLS IN LOWER RESPIRATORY
- Scattered in respiratory epithelium
- Secrete calcitonin, serotonin, etc.

8) PINAL GLAND/PINEAL BODY
- Cone-shaped midline projection fr roof of diencephalon
- Capsule, septa dividing gland into incomplete lobules

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**Table: Chromaffin Cells vs. Sympathetic Ganglion Cells**

<table>
<thead>
<tr>
<th>Chromaffin Cells</th>
<th>Sympathetic Ganglion Cells</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large cells, arranged in clusters &amp; short cords</td>
<td>Scattered throughout CT</td>
</tr>
<tr>
<td>Num. fenestrated capillaries</td>
<td></td>
</tr>
<tr>
<td>Deep brown granules visible in cytoplasm</td>
<td></td>
</tr>
<tr>
<td>Secrete epinephrine</td>
<td></td>
</tr>
<tr>
<td>Nor epinephrine</td>
<td></td>
</tr>
</tbody>
</table>

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**Pinealocytes (P)**
- Highly modified neurons arranged in clusters and cords
- Prominent nuclei
- Granular cytoplasm
- Highly branched processes
- Deposited in concentric layers around non-vascularized folds
- Secrete melatonin & serotonin

**Neuroglial Cells (N)**
- Similar to astrocytes, dispersed between clusters of pinealocytes
- Cells have round nucleus
- Pigment (ca & Mg phosphate)
- Deposited in concentric layers around non-vascularized folds
- Secrete melatonin & serotonin