•ANATOMY OF THE LARGE INTESTINE

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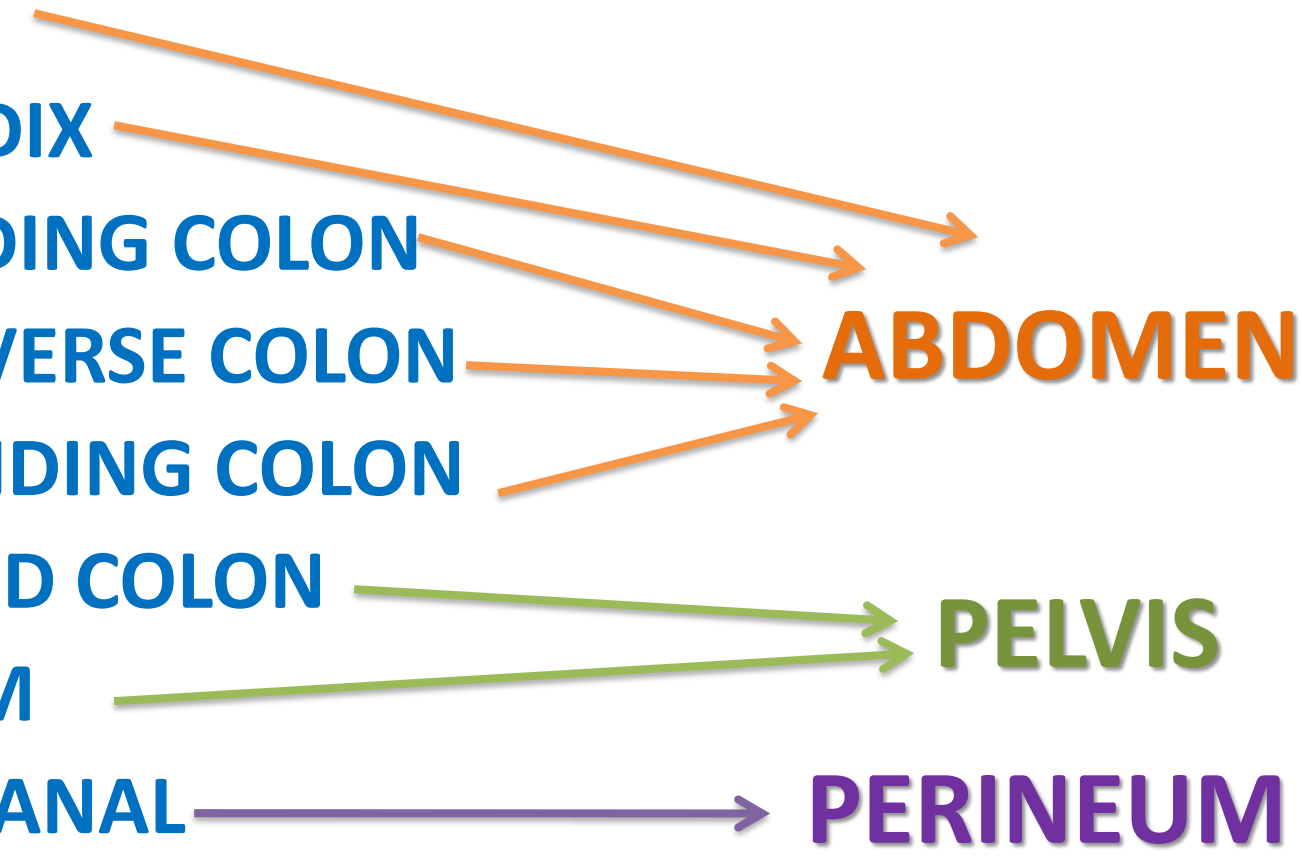
OBJECTIVES

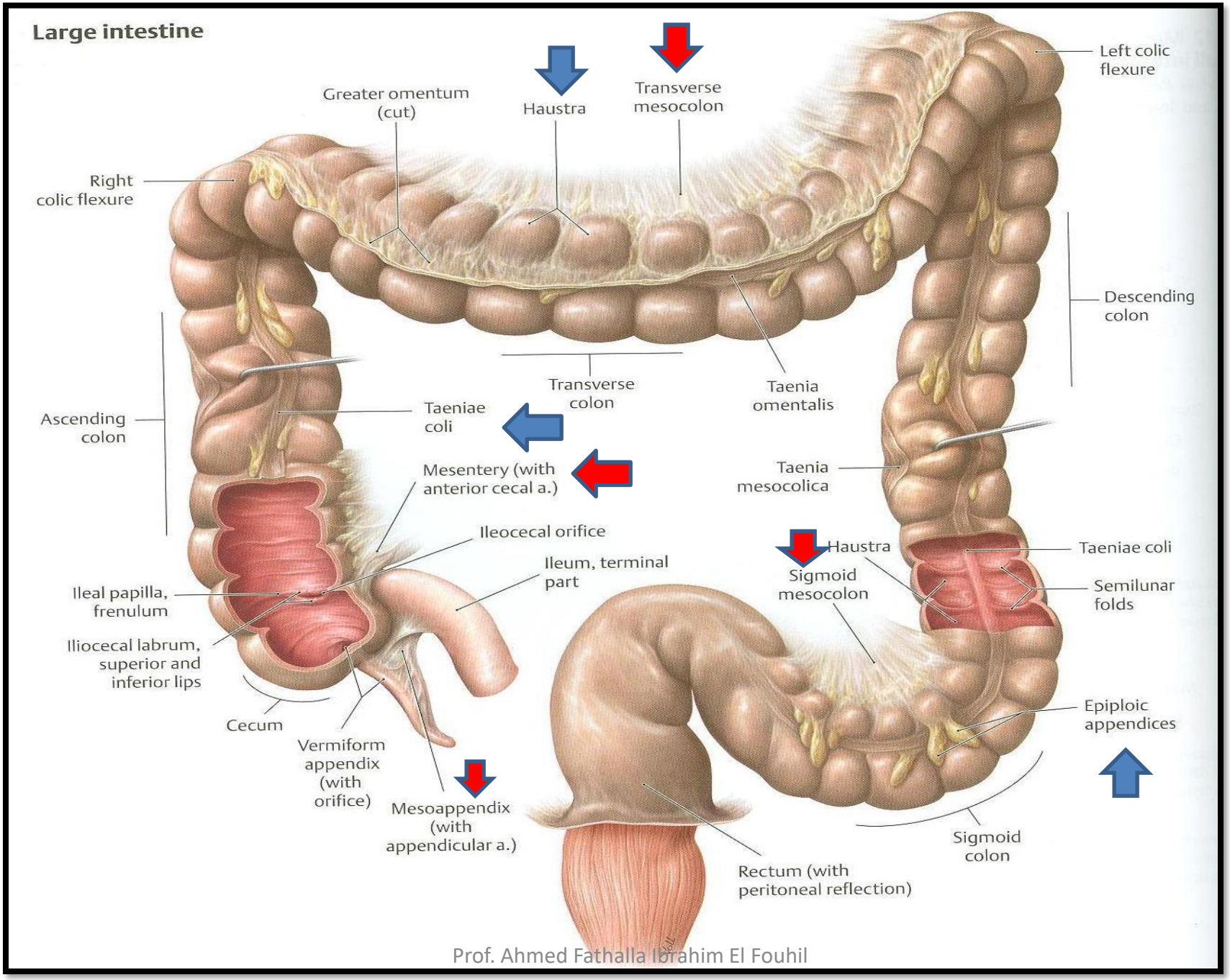
At the end of the lecture, students should:

- **List the different parts of large intestine.**
- **List the characteristic features of colon.**
- **Describe the anatomy of different parts of large intestine regarding: *the surface anatomy, peritoneal covering, relations, arterial & nerve supply.***

PARTS OF LARGE INTESTINE

- CECUM
- APPENDIX
- ASCENDING COLON
- TRANSVERSE COLON
- DESCENDING COLON
- SIGMOID COLON
- RECTUM
- ANAL CANAL




Large intestine
Left colic flexure
Greater omentum (cut)
Haustra
Transverse mesocolon
Right colic flexure
Descending colon
Transverse colon
Taenia omentalis
Ascending colon
Taeniae coli
Mesentery (with anterior cecal a.)
Taenia mesocolica
Ileocecal orifice
Haustra
Taeniae coli
Ileum, terminal part
Sigmoid mesocolon
Semilunar folds
Ileal papilla, frenulum
Iliocecal labrum, superior and inferior lips
Epiploic appendices
Cecum
Vermiform appendix (with orifice)
Mesoappendix (with appendicular a.)
Sigmoid colon
Rectum (with peritoneal reflection)

CHARACTERISTICS OF COLON
(NOT FOUND IN RECTUM & ANAL CANAL)

1. **Teniae coli:** 3 longitudinal muscle bands
2. **Sacculations (haustra):** teniae coli are shorter than large intestine
3. **Epiploic Appendices :** short peritoneal fold filled with fat

PERITONEAL COVERING

- **PARTS WITH MESENTERY:**

1. Transverse colon
2. Sigmoid colon
3. Appendix
4. Cecum

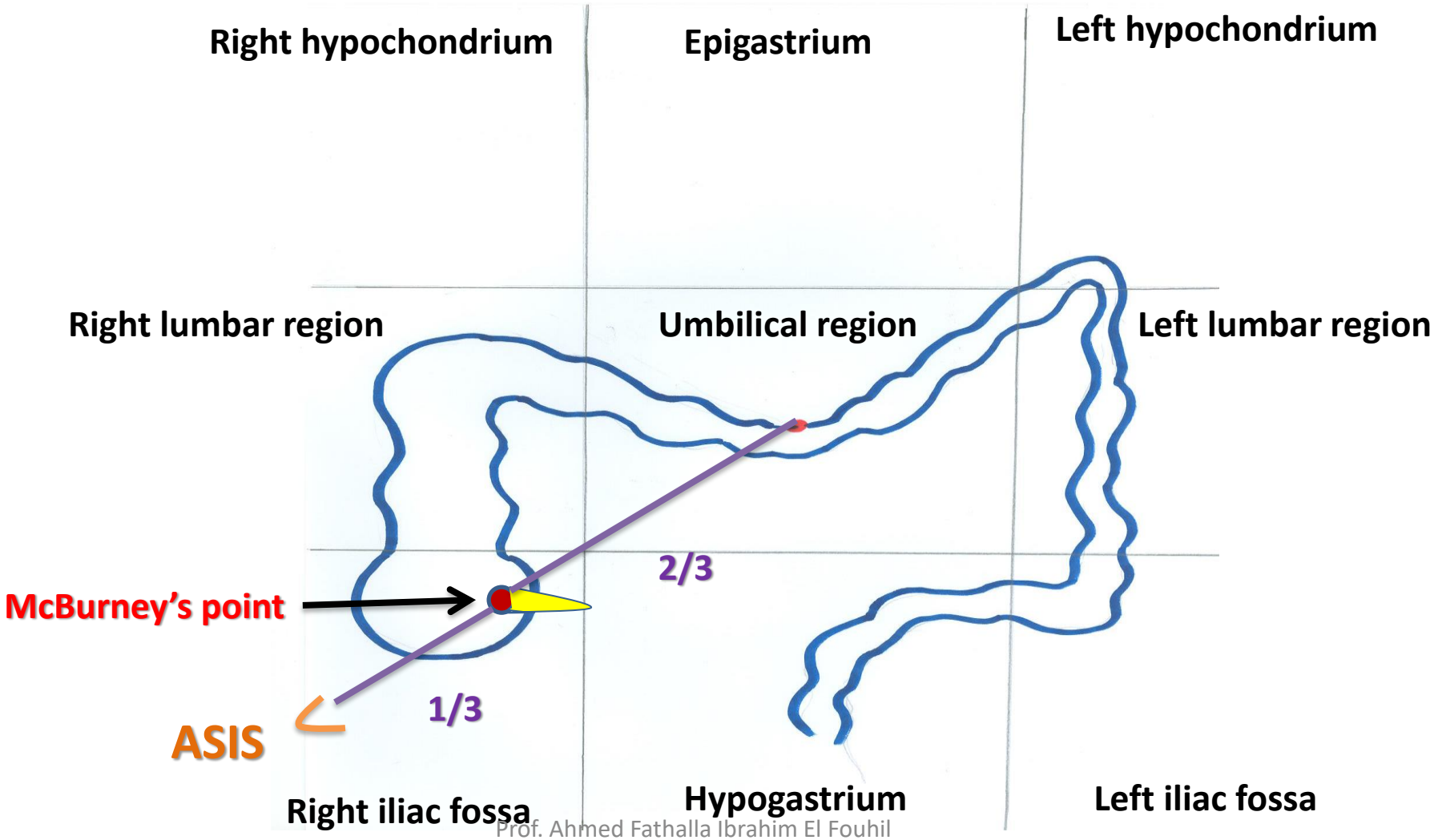
- **RETROPERITONEAL PARTS:**

1. Ascending colon
2. Descending colon
3. Upper 2/3 of rectum

- **PARTS DEVOID OF PERITONEAL COVERINGS:**

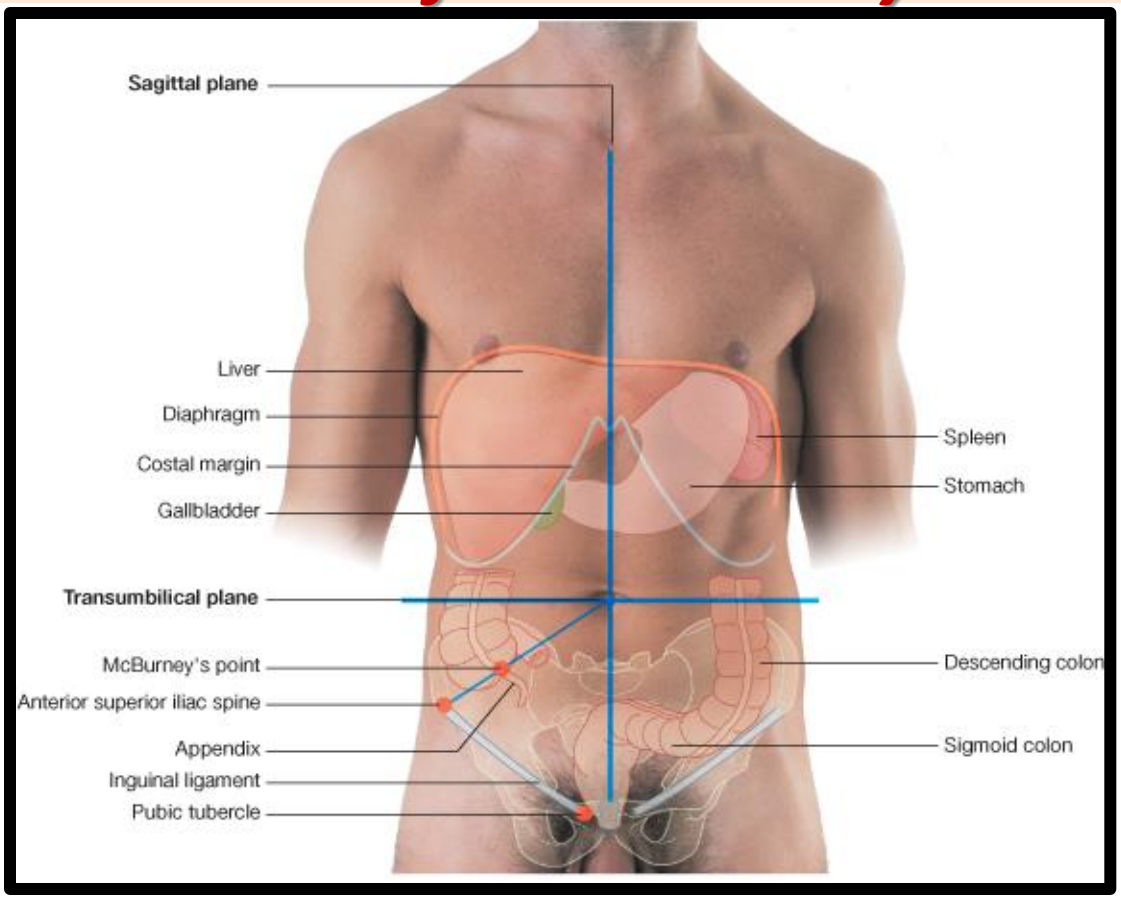
1. Lower 1/3 of rectum
2. Anal canal

SURFACE ANATOMY



APPENDIX

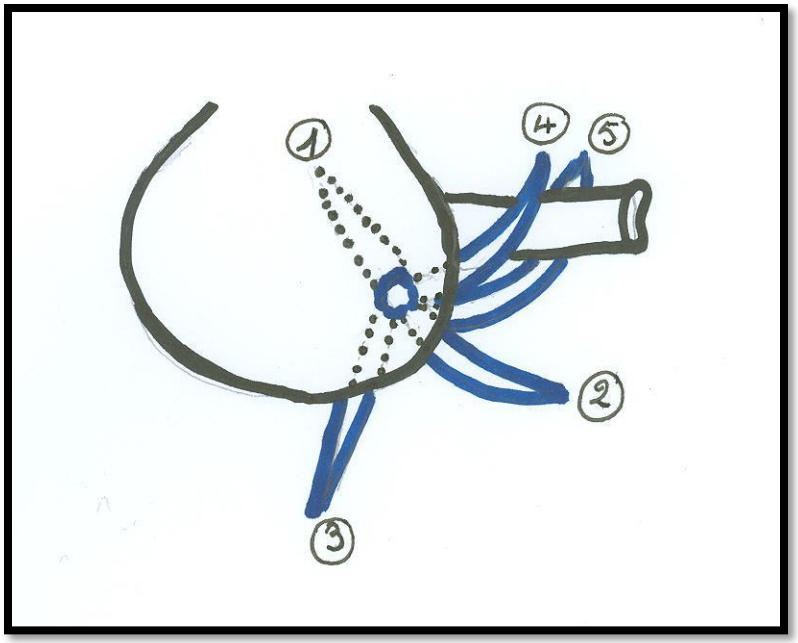
Surface Anatomy

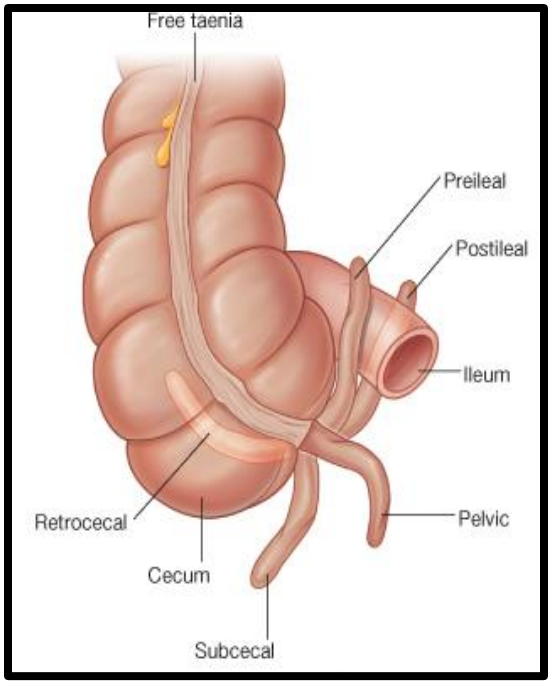


The base of appendix is marked by Mc'Burney's point:

A point at the junction of lateral 1/3 & medial 2/3 of a line traced from right anterior superior iliac spine to umbilicus

APPENDIX





- **Opening:** at posteromedial aspect of cecum, 1 inch below ileo-cecal junction
- **Positions:**

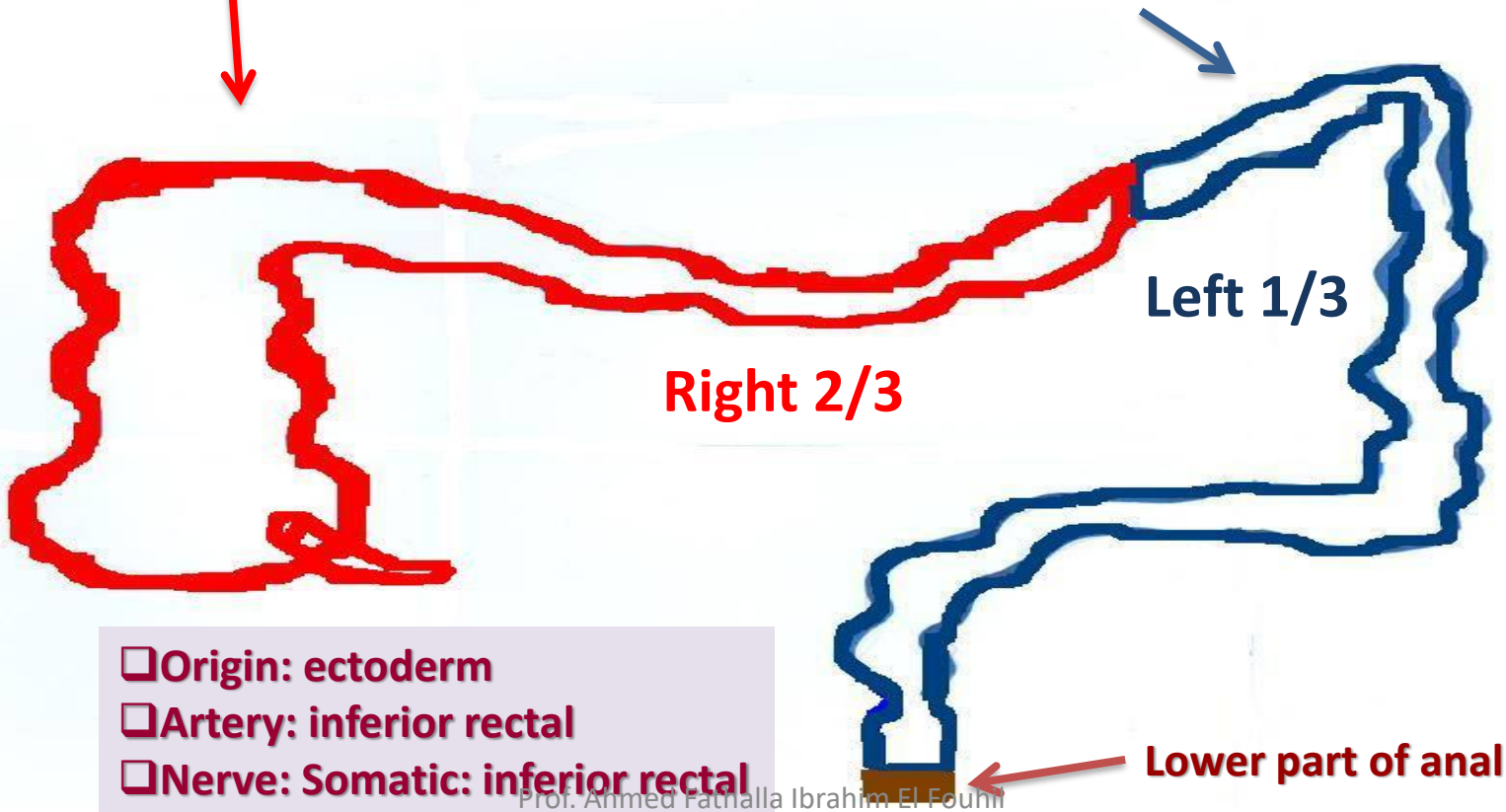
  1.Retrocecal: most common

  2.Pelvic 3.Subcecal 4.Preilieal 5.Postileal: least common

RELATION BETWEEN ORIGIN & SUPPLY

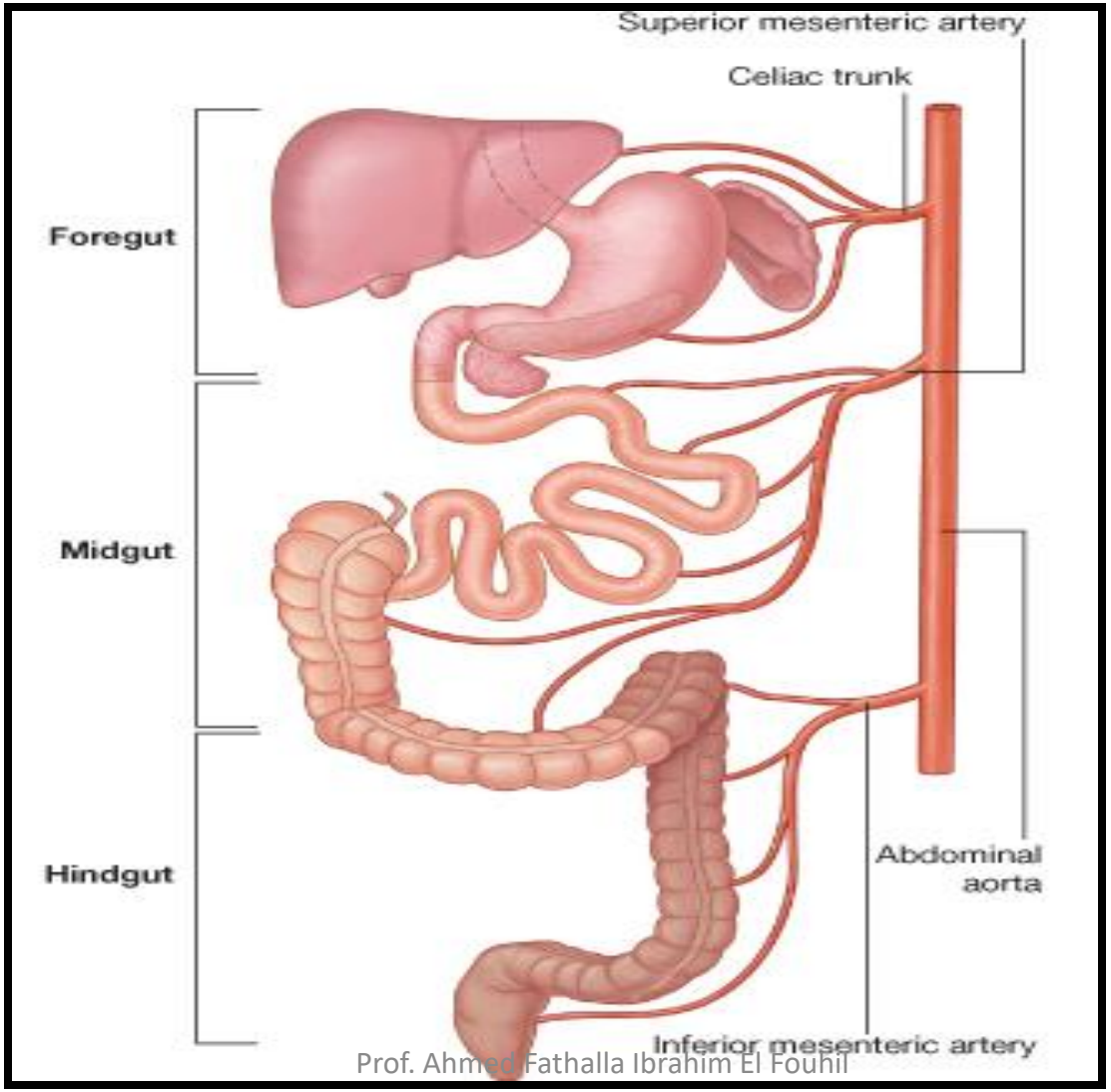
- Origin: Midgut (endoderm)
- Artery: Superior Mesenteric
- Nerve: Autonomic:
  Sympathetic + vagus

- Origin: Hindgut (endoderm)
- Artery: Inferior Mesenteric
- Nerve: Autonomic:
  Sympathetic + pelvic splanchnic nerves

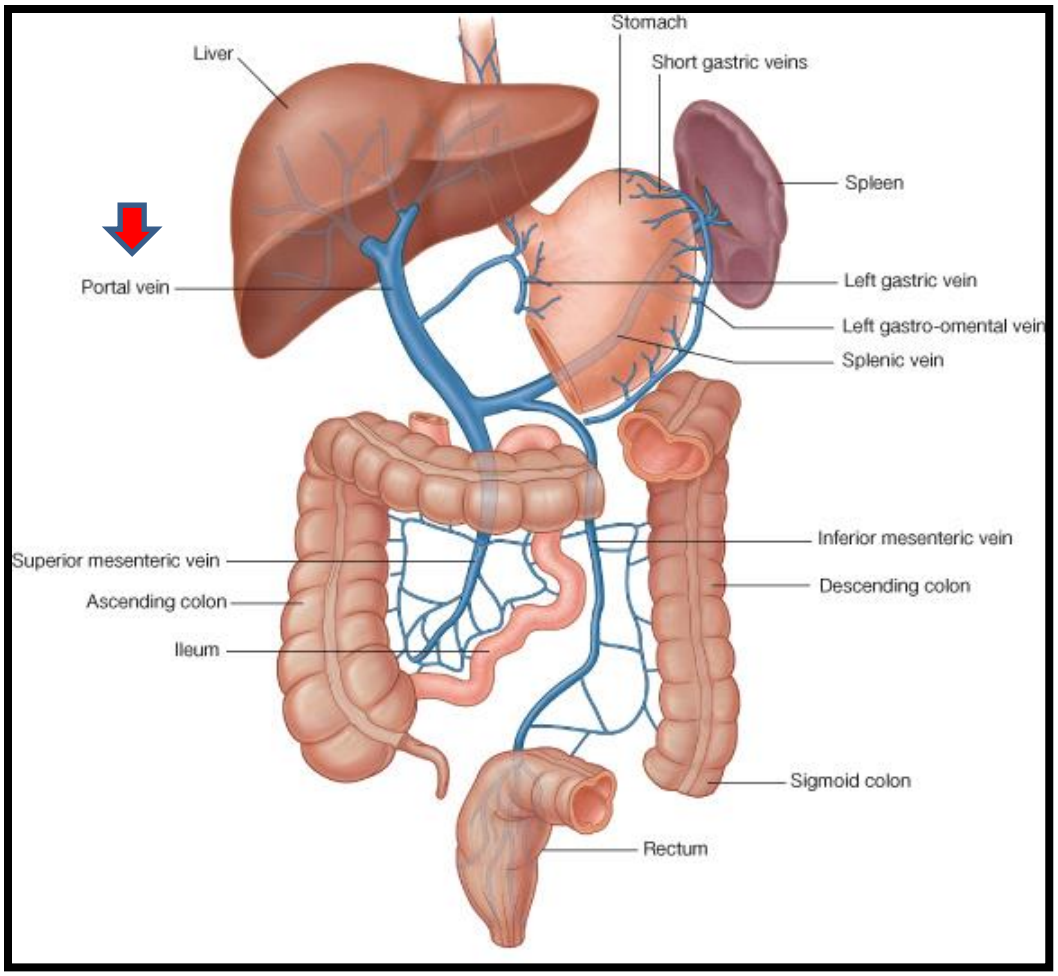


- Origin: ectoderm
- Artery: inferior rectal
- Nerve: Somatic: inferior rectal

RELATION BETWEEN EMBRYOLOGICAL ORIGIN OF GUT & ITS ARTERIAL SUPPLY



VENOUS DRAINAGE OF GUT



- Veins draining gut form the portal circulation
- All veins finally end into portal vein which enters the liver

CECUM – ASCENDING & DESCENDING COLONS (ANTERIOR RELATIONS)

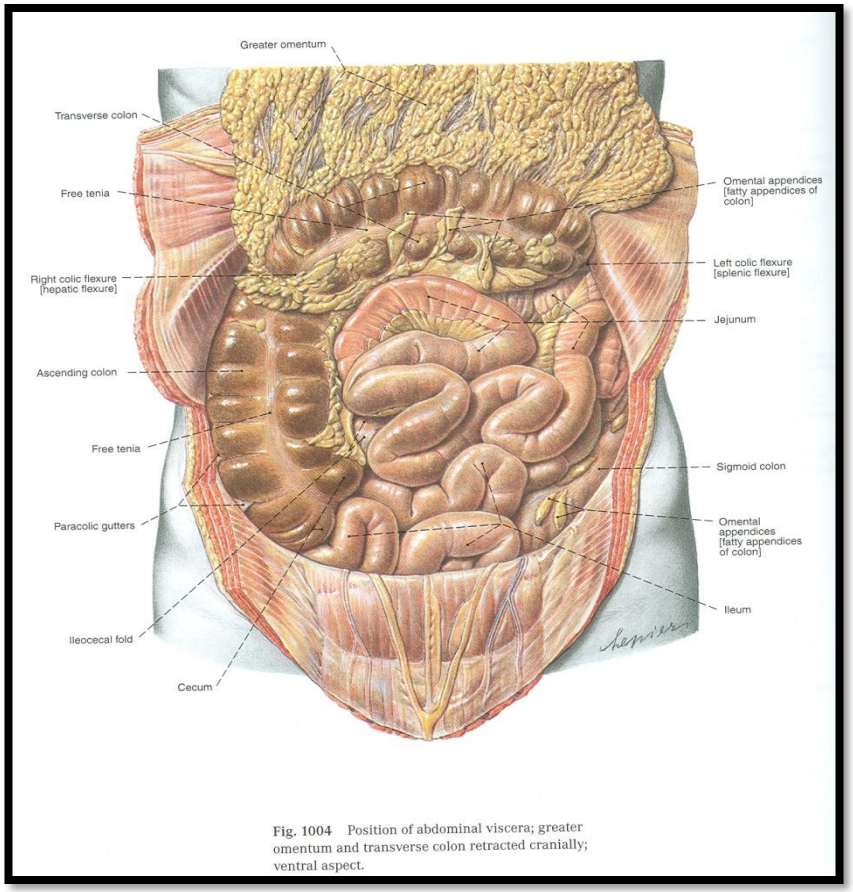
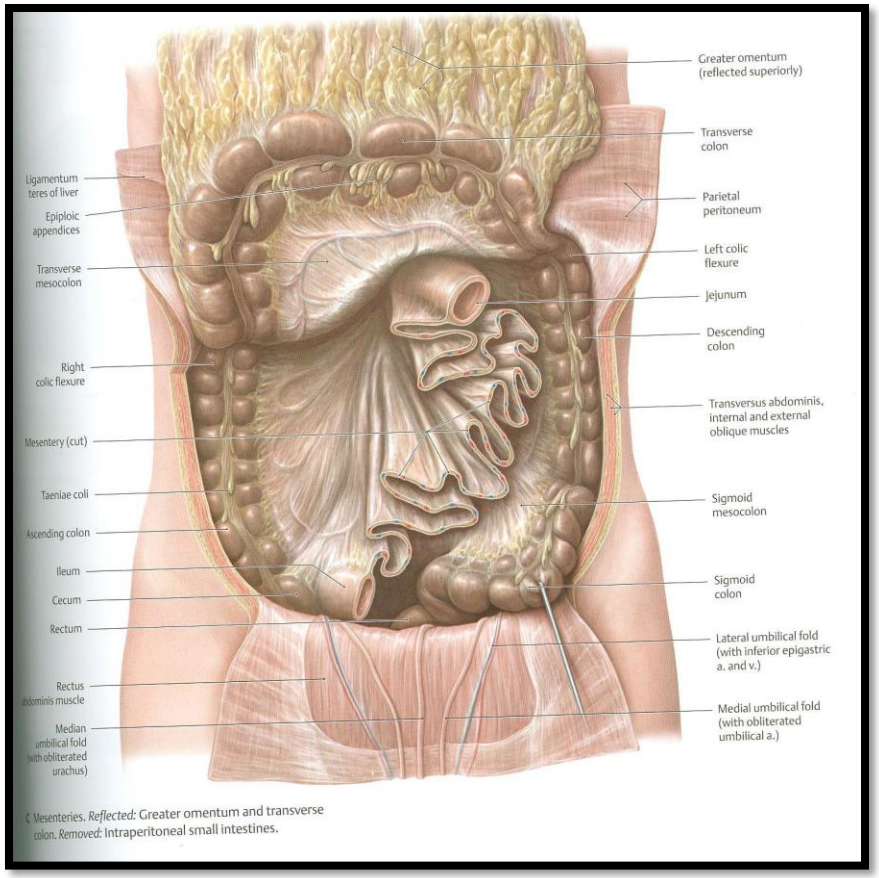
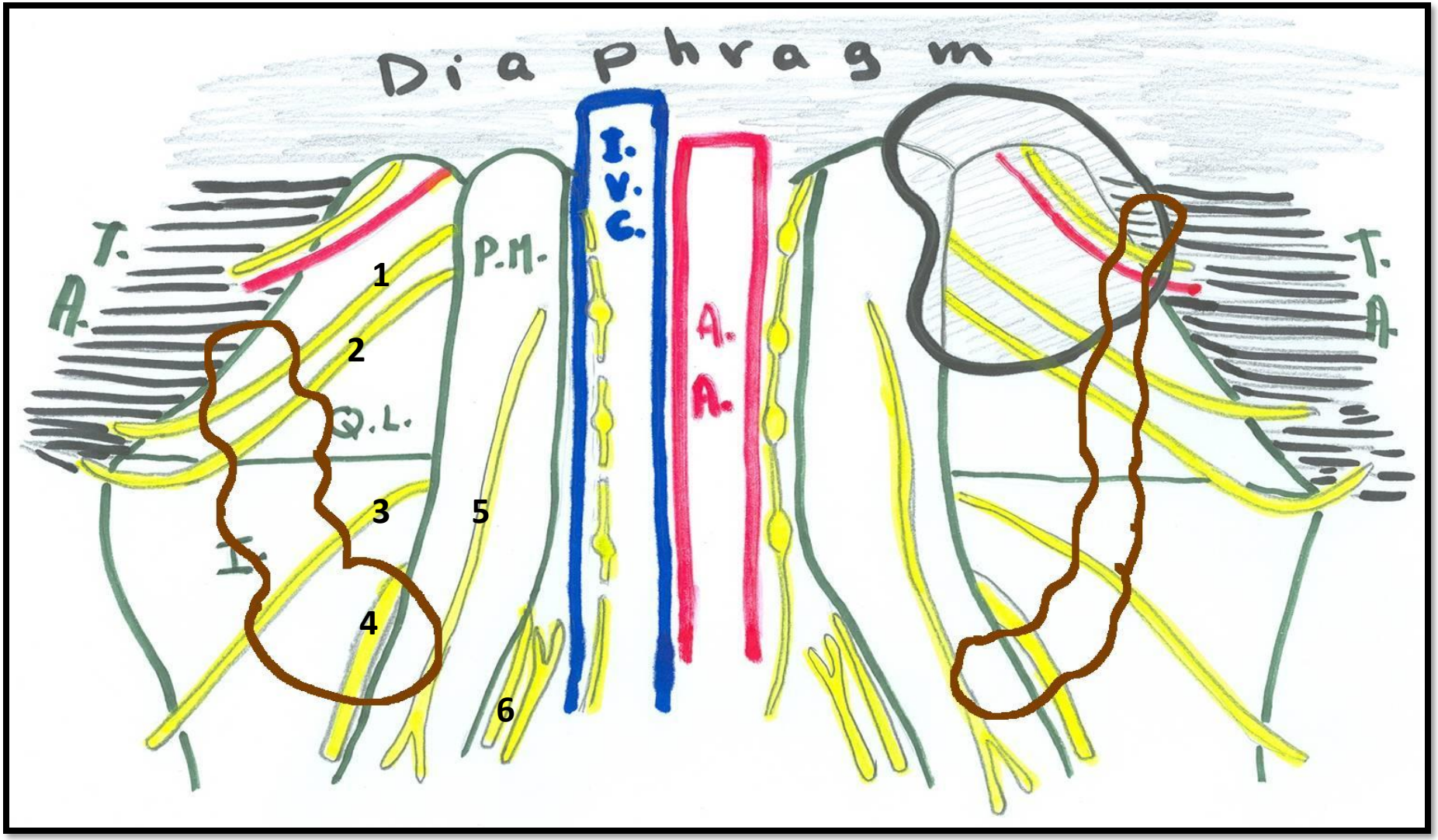


Fig. 1004 Position of abdominal viscera; greater omentum and transverse colon retracted cranially; ventral aspect.



C Mesenteries. *Reflected:* Greater omentum and transverse colon. *Removed:* Intraperitoneal small intestines.

- Coils of small intestine
- Anterior abdominal wall
- Greater omentum



1: Iliohypogastric nerve; 2: Ilioinguinal nerve; 3: lateral cutaneous nerve of thigh
4: Femoral nerve; 5: Genitofemoral nerve; 6: Obturator nerve
P.M.= psoas major; Q.L.=quadratus lumborum; I.=iliacus;
T.A.= transversus abdominis; I.V.C.=inferior vena cava; A.A.=abdominal aorta

CECUM – ASCENDING & DESCENDING COLONS (POSTERIOR RELATIONS)

❑Cecum:

1. Right psoas major
2. Right iliacus

❑Ascending colon:

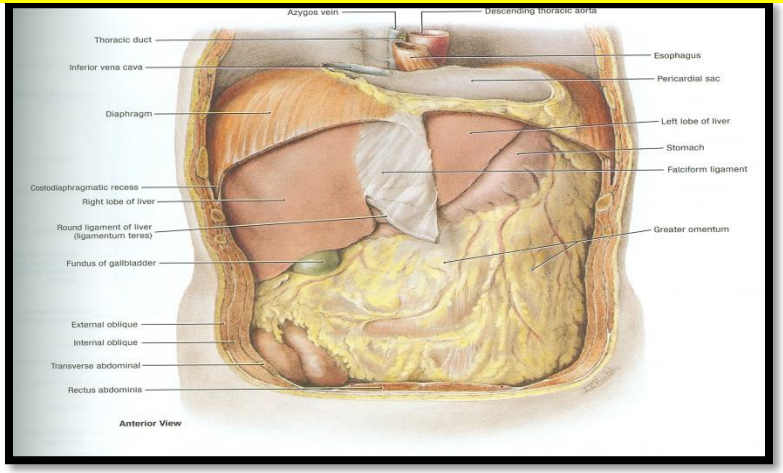
1. Right iliacus
2. Right quadratus lumborum

❑Descending colon:

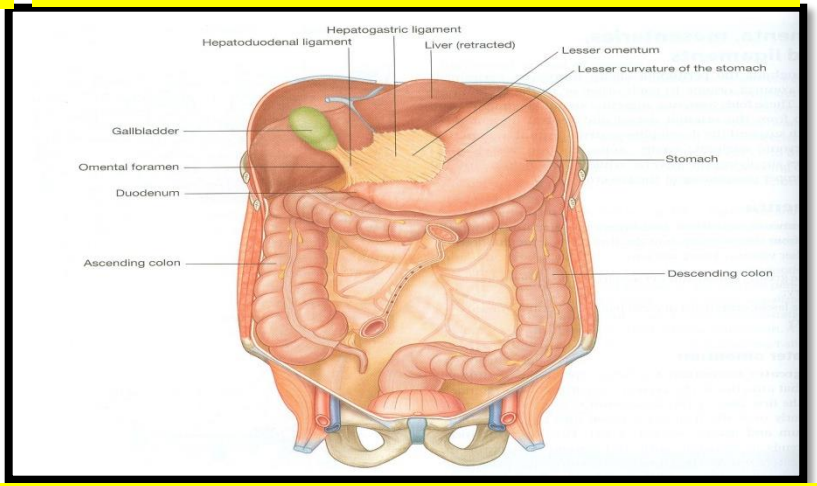
1. Left kidney
2. Left quadratus lumborum
3. Left iliacus
4. Left psoas major

RALATIONS OF TRANSVERSE COLON

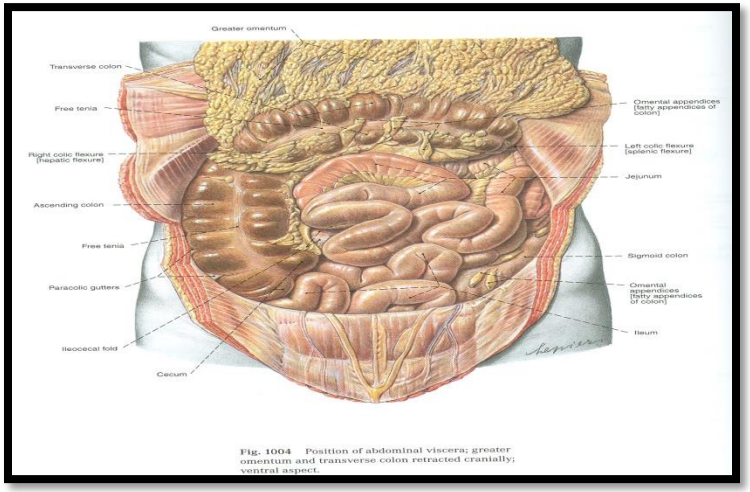
Anterior: greater omentum, anterior abdominal wall



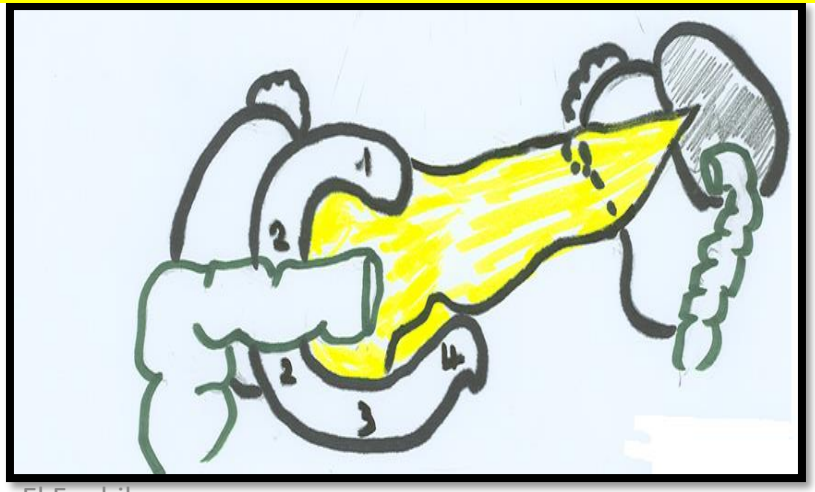
Superior: liver, gall bladder, stomach



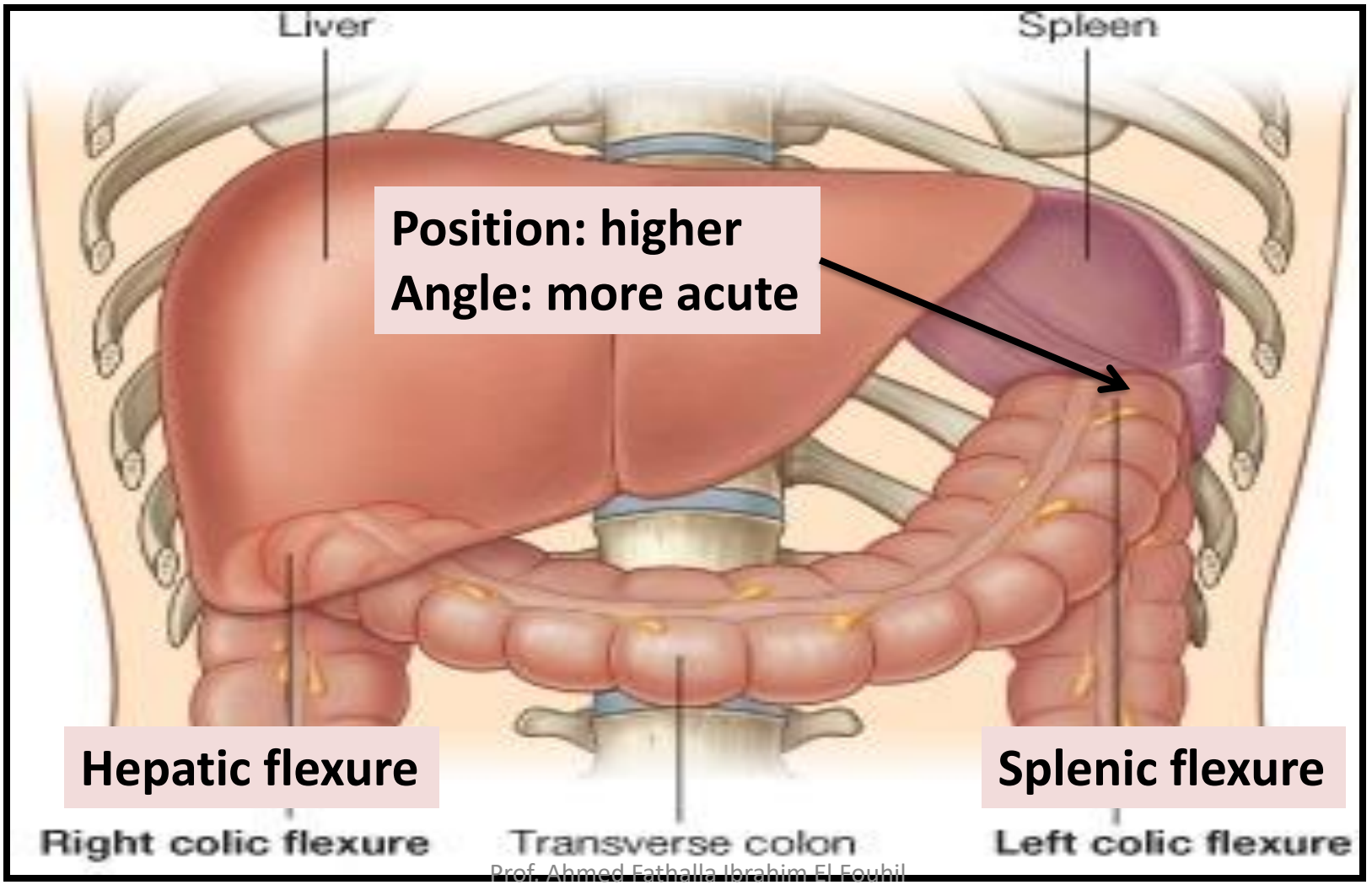
Inferior: coils of small intestine



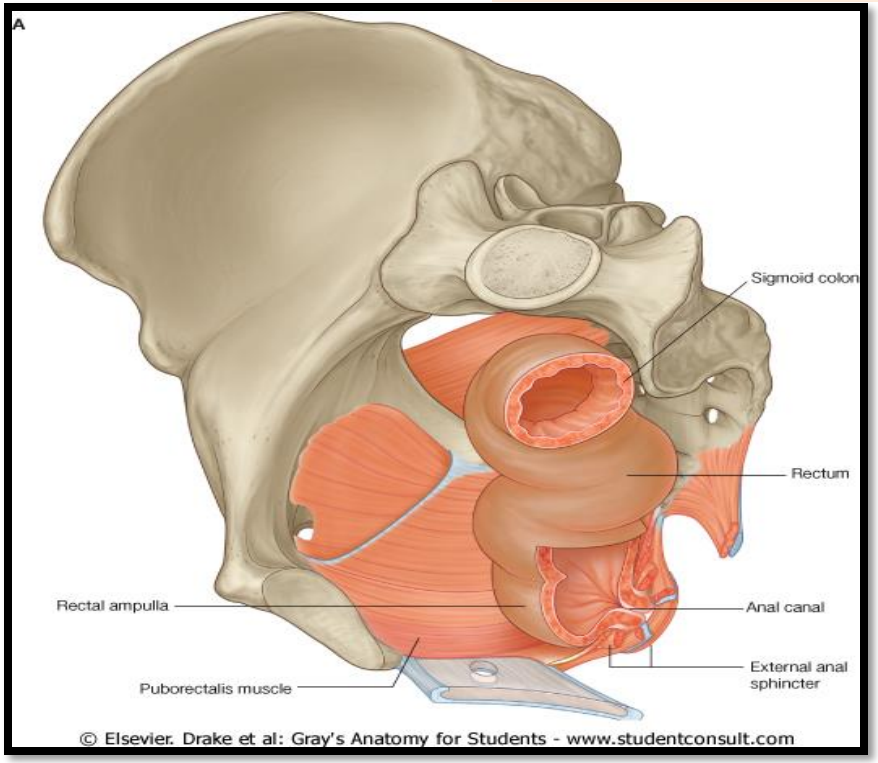
Posterior: 2nd part of duodenum, head of pancreas, coils of small intestine

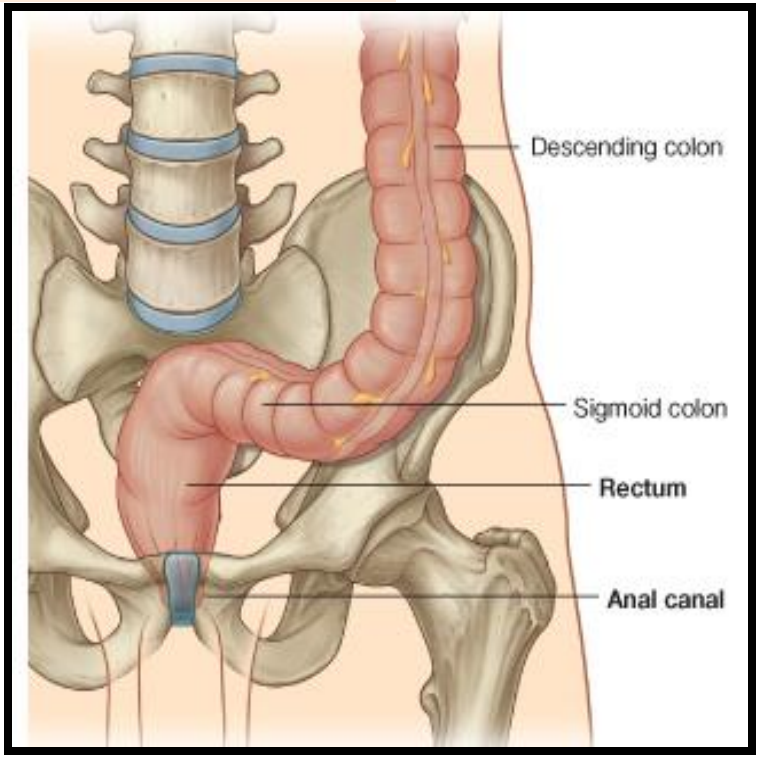


COLIC FLEXURES



RECTUM





- **Beginning:** as a continuation of sigmoid colon at level of S3.
- **Termination:** continues as anal canal, one inch below & in front of tip of coccyx. Its end is dilated to form the rectal ampulla.
- **Length:** 13 cm(5 inches)

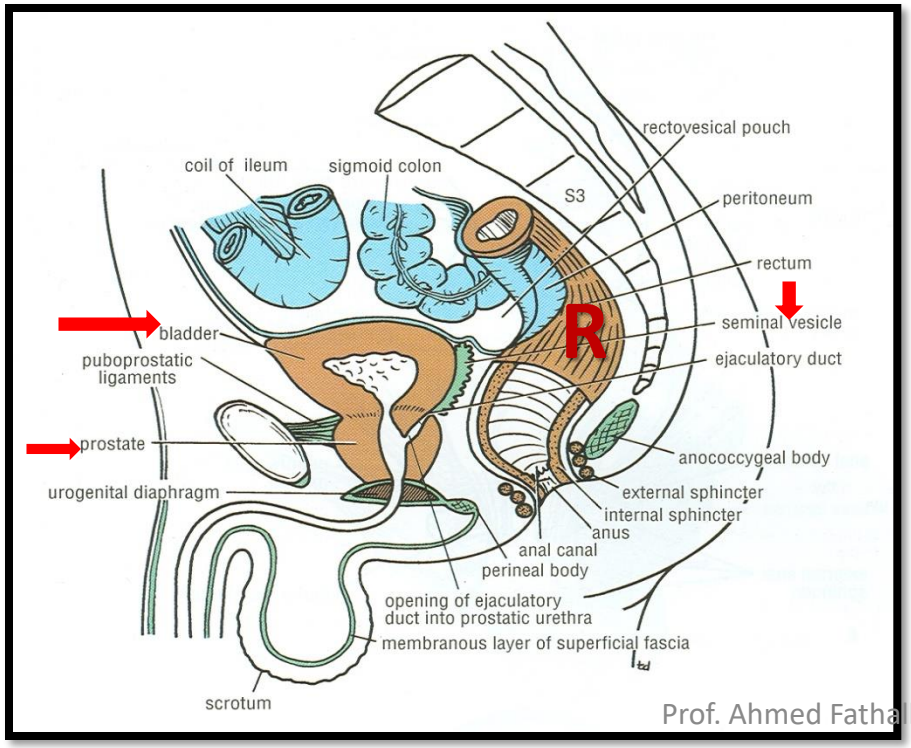
RELATIONS OF RECTUM IN PELVIS

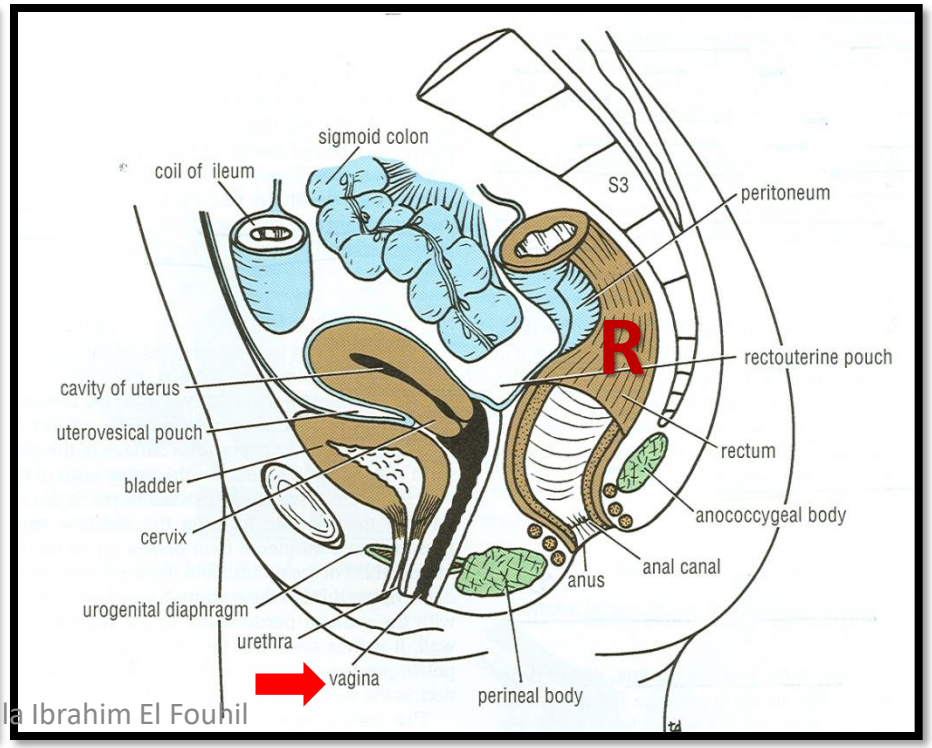
MALE PELVIS

- **Anterior:** seminal vesicles, posterior surfaces of urinary bladder & prostate gland
- **Posterior:** sacrum & coccyx

FEMALE PELVIS

- **Anterior:** posterior wall of vagina
- **Posterior:** sacrum & coccyx





QUESTION 1

- In which one of the following regions lies <u>McBurney's point</u>?

1. Right iliac fossa
2. Hypogastrium
3. Right lumbar region
4. Umbilical region

QUESTION 2

- Which one of the following parts of large intestine is found in the pelvis?

1. Transverse colon
2. Anal canal
3. Rectum ⬅
4. Cecum


THANK YOU