Large intestine: Transverse Colon
Large intestine: Transverse Colon

Part 3: Transverse Colon:

Originates embryologically from both midgut and hindgut.

Approximately 50cm

longest & most mobile portion of Colon.

Starts at Hepatic Flexure & ends at Splenic Flexure

Continues as Descending Colon.
Large intestine: Transverse Colon

Location:

Mainly in URQ & ULQ.

Travels inferomedially from R Hypochondrium, across abdomen & superolaterally into L Hypochondrium.

Curves sharply back on itself to form the L Colic (Splenic) Flexure inferior to the lower end of the Spleen.

Most of the Transverse Colon sags below the level of the Iliac Crests, often into the True Pelvis.
Fig. 26-1. General relations of abdominal viscera. In A, most of the small intestine and transverse colon, as well as the sigmoid colon and rectum, has been removed. The liver and spleen are visible above the right and left flexures of the colon, respectively. The transpyloric and the right and left lateral planes are indicated. In B, the position of the kidneys and ureters is shown. In C, which is a posterior view, the kidneys and spleen are represented. The right twelfth rib is shorter here than the left. Q represents the portion of the quadratus lumborum not under cover of S, the erector spinae.
Large intestine: Transverse Colon
Large intestine: Transverse Colon

Intraperitoneal:

Mainly covered by Peritoneum

Suspended by Mesentary (Transverse Mesocolon)

Great freedom of movement / mobility.

Attached to Pancreas but separable.
Large intestine: Transverse Colon

Relationships:

Superiorly:
Liver & Gallbladder
Greater Curvature of Stomach
Inferior end of Spleen
Tail of Pancreas.

Inferiorly:
Small Intestine.

Anteriorly:
Greater Omentum & Ant. Abd. Wall.
Large intestine: Transverse Colon

Posteriorly:

Duodenum (descending portion) & Coils of Small Intestine
Head of Pancreas
Aorta, IVC & associated large vessels
Medial portions of bilateral Kidneys.

N.B. Lumbar Lordosis “pushes” Transverse Colon anteriorly.

Splenic Flexure:
Anterior to L Kidney & inferior to Spleen
Higher than Hepatic Flexure, more acutely angled & less mobile.
May be anchored to diaphragm by Phrenicocolic Ligament.
Transverse Colon Innervation

Proximal 2/3 Transverse Colon:
- PNS: CNX Vagus N
- SNS: T6-9 via Thoracic Splanchnic N
  Both via Celiac & Superior Mesenteric Ganglia

Distal 1/3 Transverse Colon:
- PNS: S2-4 via Pelvic Splanchnic N
- SNS: L1-2 via Lumbar Splanchnic N & Inferior Mesenteric Ganglion

Fig. 27-11. Functional components of the nerve supply of the colon. Sympathetic fibers are shown as continuous black lines, parasympathetic fibers as dashed black lines, and sensory fibers in blue. Copyright
Large intestine: Descending Colon
Large intestine: Descending Colon

Part 4: Descending Colon

Approximately 30cm in length
Narrowest portion of Colon so far.

Starts at Splenic Flexure & ends at Sigmoid Colon, at the level of the Pelvic Brim.

Located in LUQ & LLQ.

Anterior & Bilateral Peritoneal covering.
Retroperitoneal.
No Mesentery present (77-100%).
Large intestine: Descending Colon

Relationships:

Anteriorly:
Coils of Small Intestine.

Posteriorly:
Diaphragm, Iliacus, Psoas (Lateral Border of), Quadratus Lumborum & aponeurotic Origin of Transversus Abd.
Lower Pole of L Kidney.
L Common Iliac Vessels.

Medially:
Coils of Small Intestine.
Fig. 27-11. Functional components of the nerve supply of the colon. Sympathetic fibers are shown as continuous black lines, parasympathetic fibers as dashed black lines, and sensory fibers in blue. Copyright

Descending Colon Innervation

Descending Colon:
- PNS: S2-4 via Pelvic Splanchnic N
- SNS: L1-2 via Lumbar Splanchnic N & Inferior Mesenteric Ganglion
Large intestine: Sigmoid Colon

Part 5: Sigmoid Colon:

(L. S-Shaped)

Approximately 40cm in Length.

Starts at level of Pelvic Brim from distal Descending Colon & ends Anterior to S3 segment.

Located in L Iliac region, True Pelvis, but position is variable and may enter the LLQ of the Abd. Cavity.
Large intestine: Sigmoid Colon

Travels inferiorly from Pelvic Brim, curves sharply superomedial, then (commonly Anterior to L SI Jt. / L Ureter) sharply curves inferomedially to become the Rectum at level of S3.

Attached loosely to the Pelvic Wall by a mesentery (Sigmoid / Pelvic Mesocolon)

Totally surrounded by Peritoneum. Intraperitoneal

Sigmoid Mesentery:
Longest at Superior Apex & shortest at each end. Central portion very mobile. Junctions are fixed.
Large intestine: Sigmoid Colon

Relationships:

Superior:  
Coils of Small Intestine.

Anterior / Inferior:  
Bladder (Male & Female) & Uterus (Female)  
Both with intervening Coils of Small Intestine.

Posterior:  
L. Piriformis, L. SI Jt.  
L. Ureter  
Common / External??? Iliac Vessels,  
L. Sacral Plexus of Ns.
Sigmoid Colon
Innervation

Sigmoid Colon:
PNS: S2-4 via
Pelvic Splanchnic N

SNS: L1-2 via
Lumbar Splanchnic N
& Inferior Mesenteric Ganglion

Fig. 27-11. Functional components of the nerve supply of the colon. Sympathetic fibers are shown as continuous black lines, parasympathetic fibers as dashed black lines, and sensory fibers in blue. Copyright
Large intestine: Rectum to Anus
Large intestine: Rectum to Anus

Rectum:
(L. Straight)

Approximately 12cm in length
Connects the Sigmoid Colon to the Anal Canal & Anus.
Similar width to Sigmoid (4cm) initially but dilates terminally to form Rectal Ampulla.

Starts anterior to S3 curving forwards, often forms a loop to the left, and ends approximately in line with & 2-3 cm anterior to the tip of the Coccyx.

Located centrally in the True Pelvis.
Large intestine: Rectum to Anus

Proximal 2/3: Covered by peritoneum Bilaterally & Anteriorly. Distal 1/3: Only covered Anteriorly & folds back onto the prostate or vagina and the bladder.

No Mesentery. Retroperitoneal.

Acts as temporary storage site or faeces prior to entering Anal Canal for elimination. Stretch receptors stimulate the urge to defaecate.

When full Peristalsis forces faeces into the canal whilst the internal (involuntary) and external (voluntary / Pudendal N) sphincters open.
Large intestine: Rectum to Anus

Relationships:

Superior:
Coils of Small Intestine.

Inferior:
Levator Ani, Coccygeus & Rectal Vessels

Anterior (direct):
Rectovesical (male) & Rectouterine (female) Pouches.

Anterior (indirect):
Seminal Ducts, vas deferens & Prostate (men)
Vagina & uterus (female)
Bladder (both).
Large intestine: Rectum to Anus

Posterior (direct):
Superior Rectal A.
NRs of S3-5
Sympathetic Trunk
Lateral & Medial Sacral Blood Vessels.

Posterior (indirect):
Midline: Sacrum, coccyx & anococcygeal body.
Bilateral: Piriformis, coccygeus & Levator ani.

Lateral:
Coils of Intestine.
Large intestine: Rectum to Anus

Arterial Supply: Branches of IMA & both Internal Iliac Arteries.
Venous Drainage: Internal and External Hemorrhoidal veins.

Anal Canal:
Approximately 4cm in Length & Terminal portion of GIT.
Starts from Rectum & travels inferoposteriorly to end at Anus.
Located in Lower Pelvis.

Surrounded by internal (involuntary) and external (voluntary / Pudendal N) muscular sphincters.
Large intestine: Rectum to Anus
Blood Supply & Drainage
Large intestine: Rectum to Anus
Innervation