

# RECTUM

Rectum is distal part of large gut.

# Situation

- ✧ Rectum is situated in posterior part of lesser pelvis, in front of lower 3 pieces of sacrum and coccyx.
- ✧ It is placed between sigmoid colon above and anal canal below.
- ✧ The 3 cardinal features of large intestine, e. g. sacculations, appendices epiploicae and taenia, are absent in rectum.

# Extent

- ✧ Rectum begins as continuation of sigmoid colon at level of 3 sacral vertebra.
- ✧ Rectosigmoid junction is indicated by lower end of sigmoid mesocolon.
- ✧ Rectum ends by becoming continuous with anal canal at anorectal junction.
- ✧ Junction lies 2 to 3 CM in front of and little below the tip of coccyx.
- ✧ In male, junction corresponds to apex of prostate.

# Course and Direction

Two anteroposterior curves

- ✧ The sacral glacier of rectum follows the concavity of sacrum and coccyx.
- ✧ The perineal glacier of rectum is backward bend at anorectal junction.

Three lateral curves

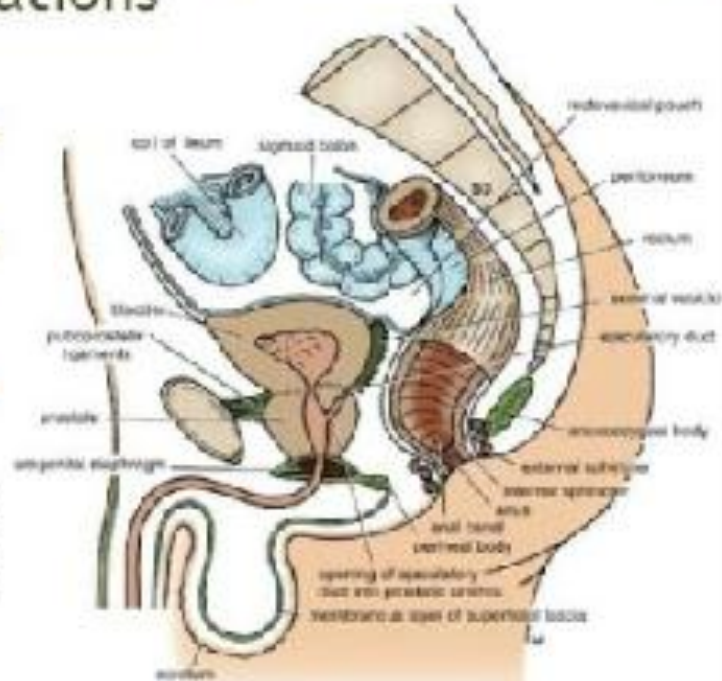
- ✧ The upper lateral curves of rectum is convex to right.
- ✧ The middle lateral curve is convex to left and most prominent.
- ✧ The lower lateral curve is convex to right.

# Relation

## Peritoneal Relations

- Superior 1/3rd of the rectum
  - Covered by peritoneum on the anterior and lateral surfaces
- Middle 1/3rd of the rectum
  - Covered by peritoneum on the anterior surface
- Inferior 1/3rd of the rectum
  - Devoid of peritoneum
  - Close proximity to adjacent structure including bony pelvis.

Note: - Distal rectal tumors have no serosal barrier to invasion of adjacent structures and are more difficult to resect given the close confines of the deep pelvis.



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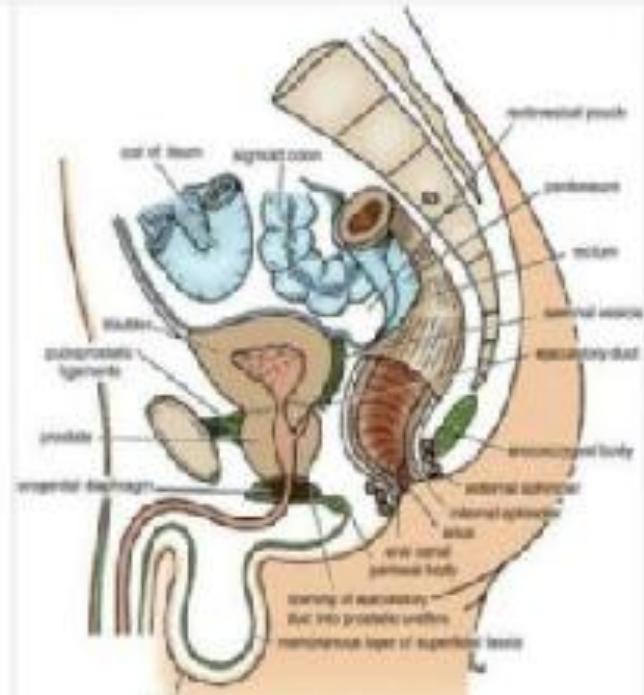
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- Posteriorly

- Sacrum and coccyx; piriformis, coccygeus, and levatores ani muscles; the sacral plexus and the sympathetic trunks

- Anteriorly (male)

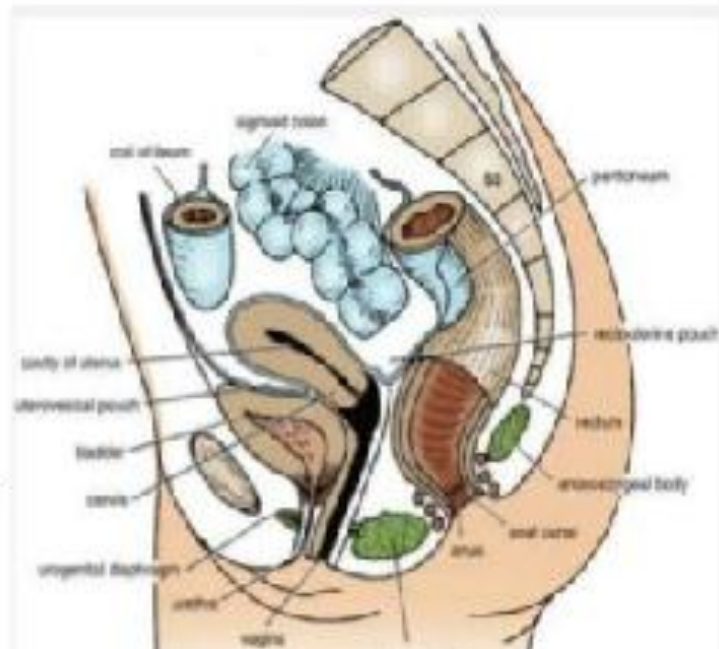
- Upper 2/3 - sigmoid colon and coils of ileum that occupy the rectovesical pouch
  - Lower 1/3 third - posterior surface of the bladder, to the termination of the vas deferens and the seminal



- Covered anteriorly
- Middle
- Covered anteriorly
- Inferiorly
- Devoid
- Close structure

Note: - Dissecting adjacent difficult confines

- Anteriorly (female)
  - Upper 2/3 - the sigmoid colon and coils of ileum that occupy the rectouterine pouch (pouch of Douglas)
  - Lower 1/3 - posterior surface of the vagina



# Mucosal fold

- ✧ longitudinal fold are transitory.
- ✧ present in lower part of empty rectum, and are obliterated by distension.
- ✧ Transverse or Horizontal fold or Houston valves or Plicae transversales are permanent and most marked when rectum is distended.
- ✧ (1) The first transverse fold lies near upper end of rectum, and projects from left wall situated 7.5 CM above anus.
- ✧ (2) The second transverse fold, largest and most

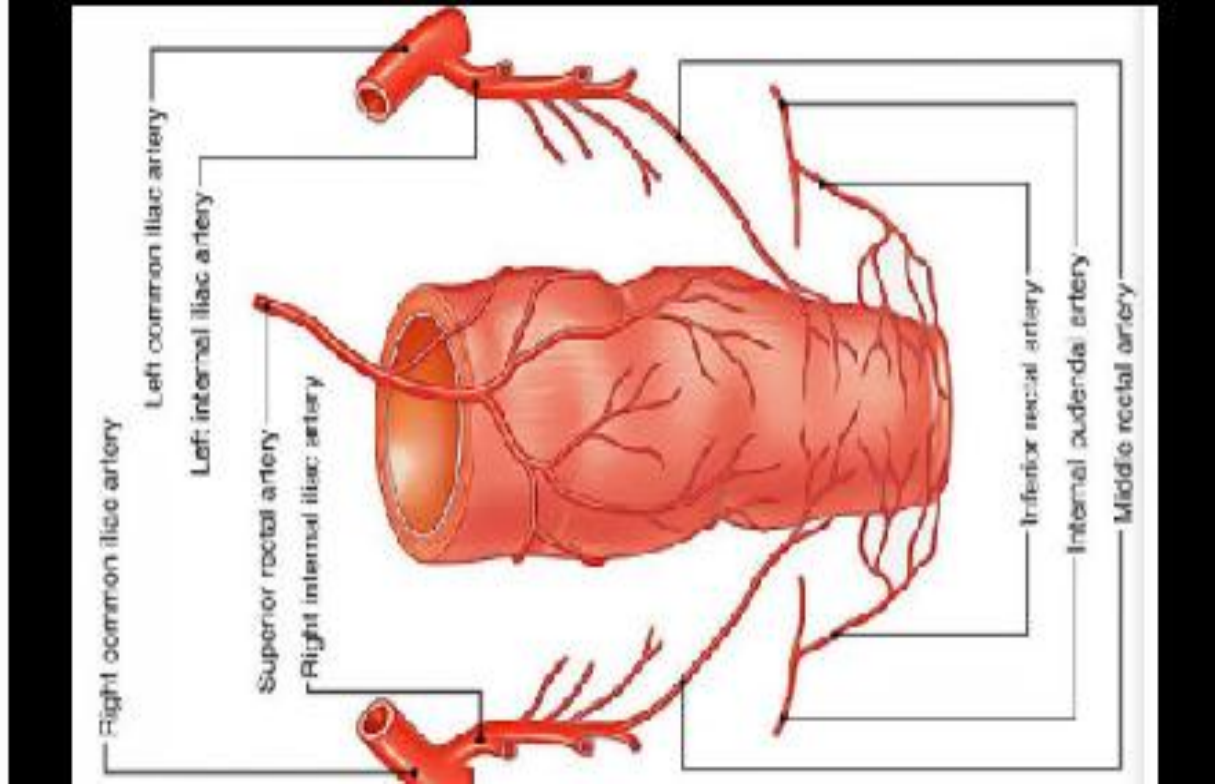


# Functional parts of rectum

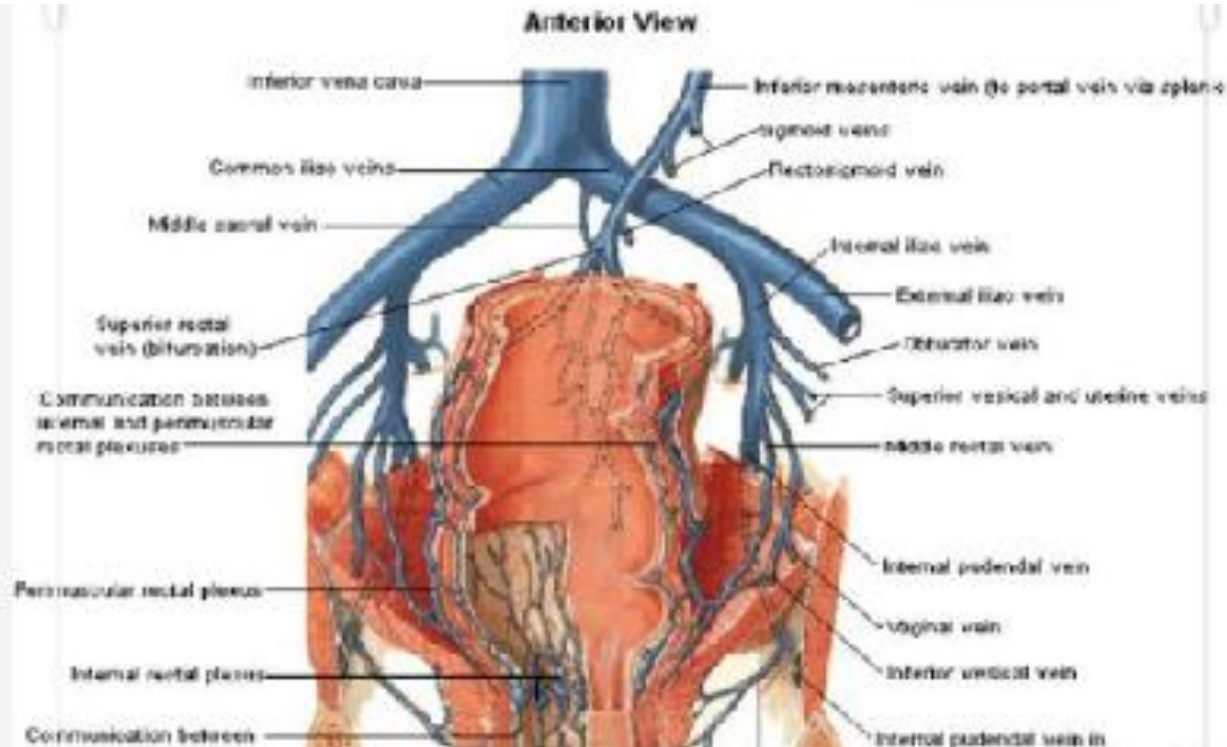
- ✧ The rectum has 2 developmental parts.
- ✧ The upper part related to peritoneum develop from the handful and lies above the 3 transverse fold of rectum.
- ✧ The lower part devoid of peritoneum develops from cloaca and lies below 3 transverse fold.
- ✧ The sigmoid colon is faecal reservoir and whole of rectum is empty in normal individuals, being sensitive to distension.

# Arterial supply

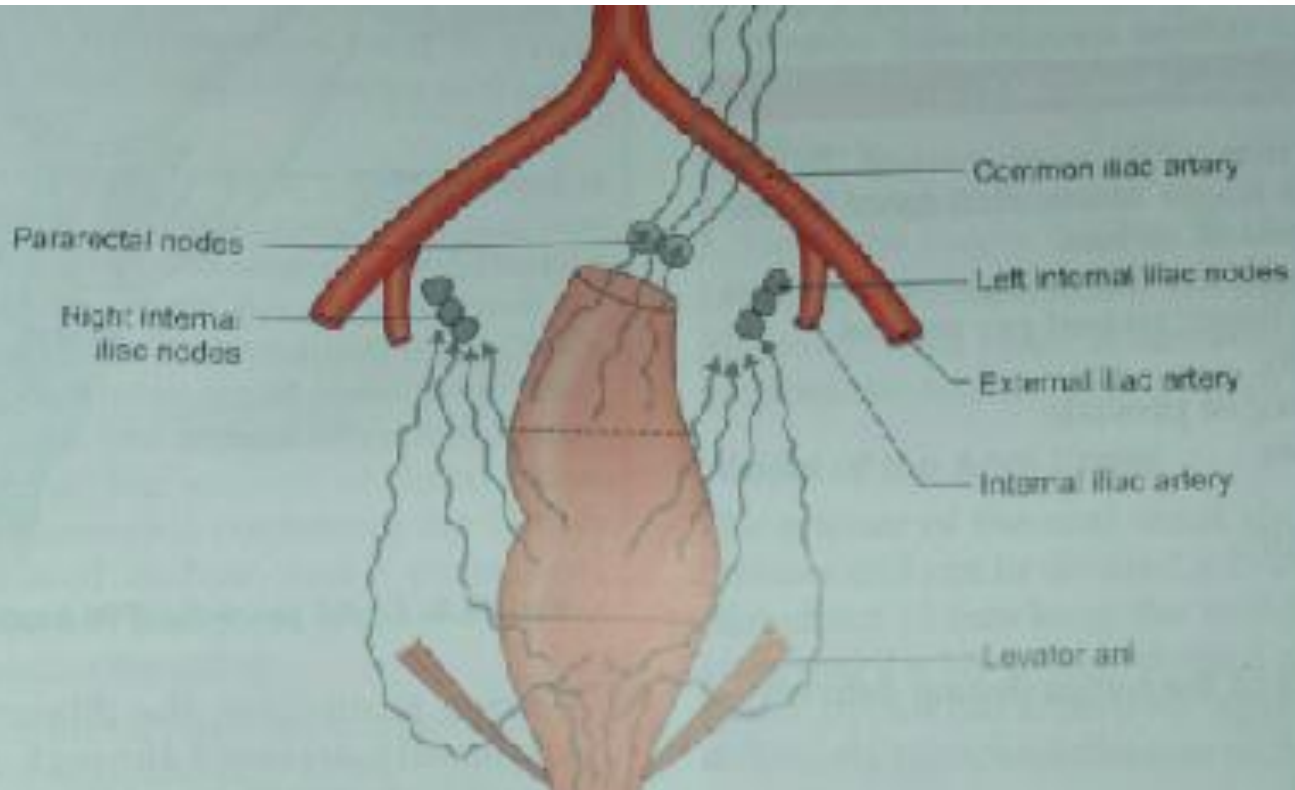
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# Venous drainage



# Lymphatic drainage



# Nerve supply

## Sympathetic

- ✧ L1 to L2
- ✧ These nerves are vasoconstrictor, inhibitory to rectum musculature and motor to internal sphincter

## Parasympathetic

- ✧ S3, S4, S2
- ✧ These nerves are motor to musculature of rectum and inhibitory to internal sphincter

# Supports of rectum

- ✧ Pelvic floor
- ✧ Fascia of waldeyer
- ✧ Lateral ligaments of rectum
- ✧ Rectovesical fascia of Denonvilliers
- ✧ Pelvic peritoneum
- ✧ Perineal body

# Clinical Anatomy

- ✦ Digital per rectum examination
- ✦ Proctoscopy and sigmoidoscopy
- ✦ Prolapse of rectum
- ✦ Neurological disturbances of rectum
- ✦ Carcinoma of rectum