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**MATRIC NUMBER; 18/MHS02/004**

**COURSE TITLE; GROSS ANATOMY OF PELVIC& PERINEUM**

**COURSE CODE; ANAL 212**

**ASSIGNMENT TITLE; ANAL CANAL**

**Question**

**Discuss the anal canal**

**The anal canal is the terminal segment of the large intestine between the rectum and anus, located below the level of the pelvic diaphragm. It is located within the anal triangle of perineum, between the right and left ischioanal fossa.As the final functional segment of the bowel, it function to regulate release of excrement by two muscular sphincter complexes. The aperture at the terminal portion of the anal canal is known as the anus.** 

In human the anal canal is approximately 2.5 to 4 long from the anorectal junction to the anus .it is directed downward and backward. It is surrounded by inner involuntary and outer voluntary sphincters which keep the lumen closed in the form of an anteroposterior slit.

The canal is differentiated from the rectum by transition along the the internal surface from endodermal to skin-like ectodermal tissue

Anal canal is traditionally divided into two segment upper and lower, separated by the pectinate line known as the dentate line

**Upper zone (zona columnaris)**

Mucosa is lined by simple columnar epithelium

Features longitudinal folds or elevation of tunical mucosa which are joined together inferiorly by folds of mucosa membrane known as anal valves

Supplied by the superior rectal artery (a branch of the inferior mesenteric artery)

**Lower zone**

Divided into two smaller zones separated by a white line known Hilton’s line

Zona hemorrhagia-lined by stratified squamous non keratinized epithelium

Zona cutanea-lined stratified squamous keratinized epithelium, which blends with the surrounding perianal skin

Supplied by the inferior rectal artery (a branch of the internal prudential artery)

The anal verge refers to the distal end of the anal canal, a transitional zone between the epithelium of the anal canal and the perianal skin. It should not be confused with the pectinate line between the upper and lower zones within the anal canal

**Relations**

The ischioanal fossa are on each side of the anal canal

The perianal space surrounds the canal below the white line

The submucous space of the canal lies above the white line between the mucous membrane and internal anal sphincter muscle

The eternal anal sphincter muscle is the voluntary muscle that surrounds and adheres to the anus at the lower margin of the anal canal .this muscle is in a state of tonic contraction, but during defecation, it relaxes to allow the release of feces.

Movement of the feces is also controlled by the involuntary controlled internal anal sphincter which is an extension of the circular muscle surrounding the anal canal. It relaxes to expel feces from the rectum and anal canal