

## **ANAL CANAL**

Terminal part of large intestine

Below pelvic diaphragm

Between the two ischiorectal fossae

Opens in anal triangle

Length 3.8 – 4 cm

From anorectal junction – anus

Surrounded by sphincter ani

## RELATIONS

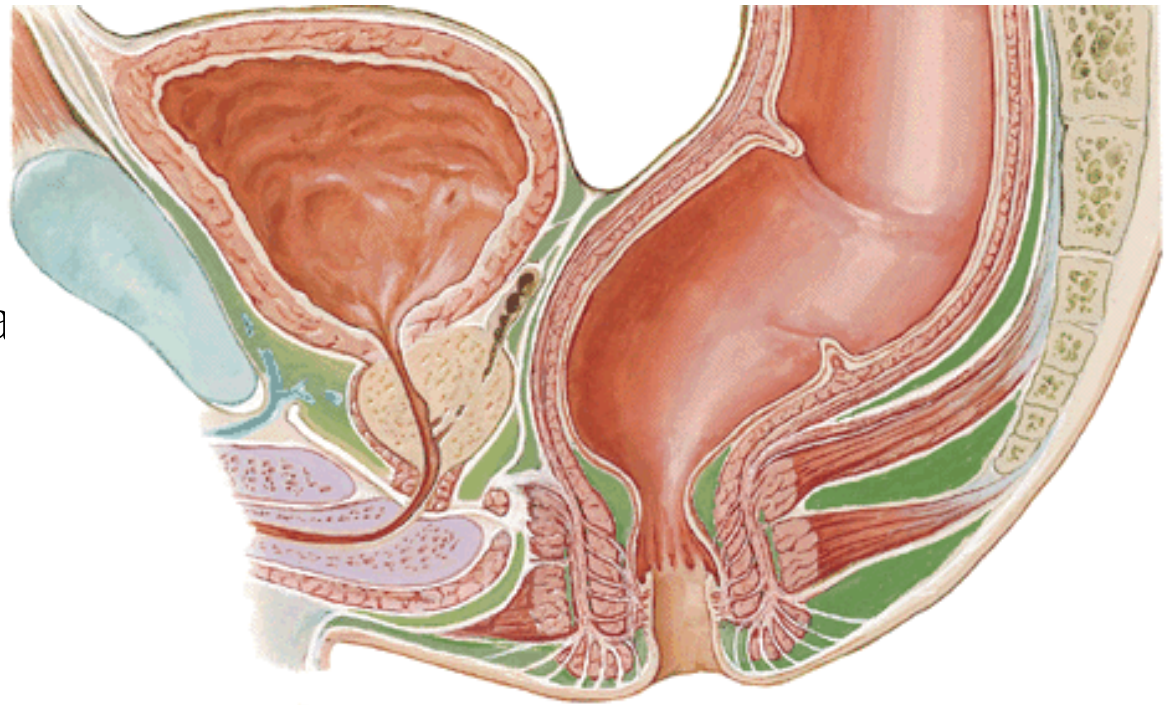
Anteriorly – Perineal body

Males – Bulb penis, urethra

Females – Posterior wall  
vagina

Posteriorly – anococcygeal  
raphe

Laterally – Ischiorectal fossa



## INTERIOR OF CANAL

Upper part – 15 mm

Lined simple columnar epithelium

Anal columns – permanent mucosal

6-10 in number

Reduplication of mucous membrane

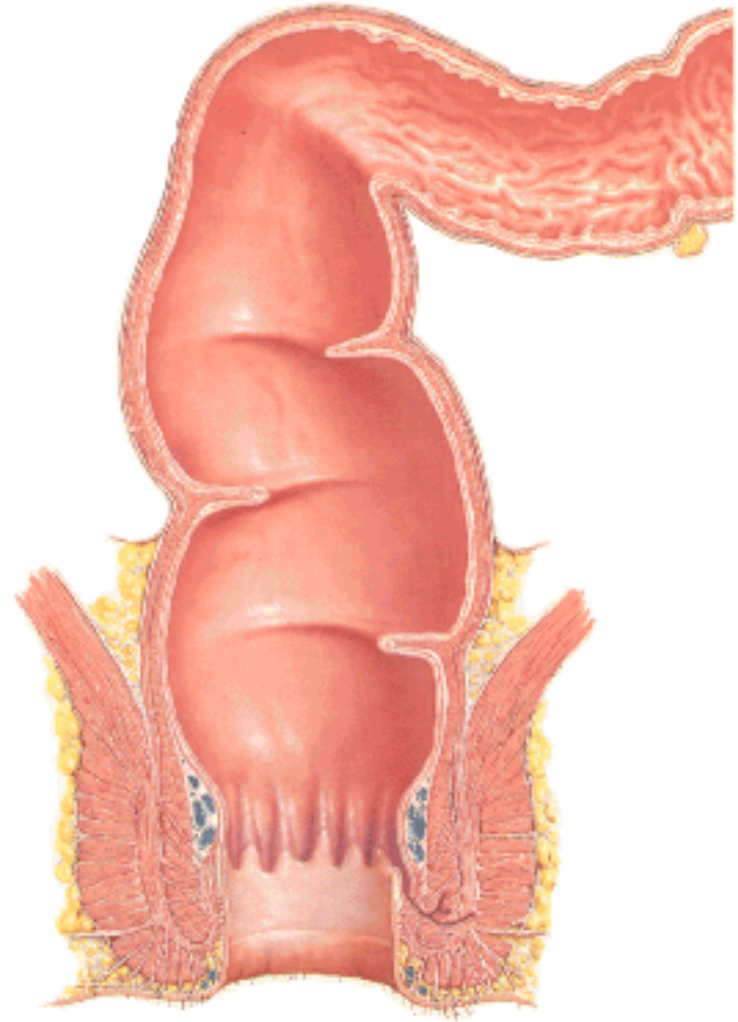
Superior rectal vessels

Anal Valves – Crescentic

Free margins – upwards

Wavy line – pectinate /dentate line

Torn – anal fissure

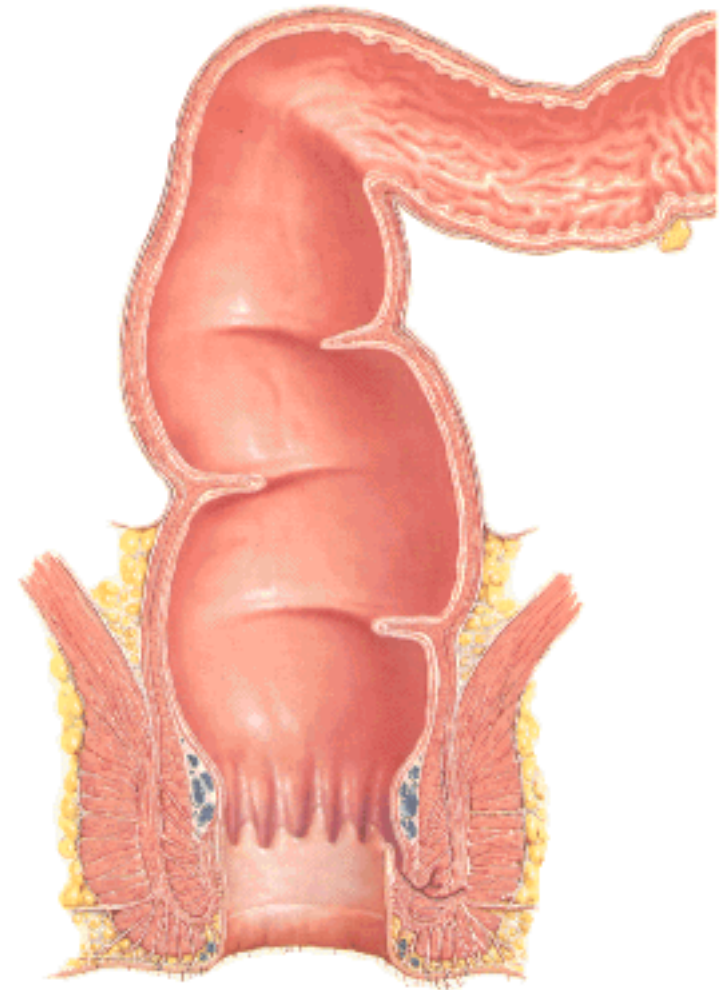


## **Anal papillae**

Epithelial processes projecting from the margin

**Anal Sinuses** – recesses above valves between columns

**Anal glands** – tubular in submucous coat



## INTERMEDIATE AREA

Transitional zone 15 mm

Non-keratinised stratified  
squamous

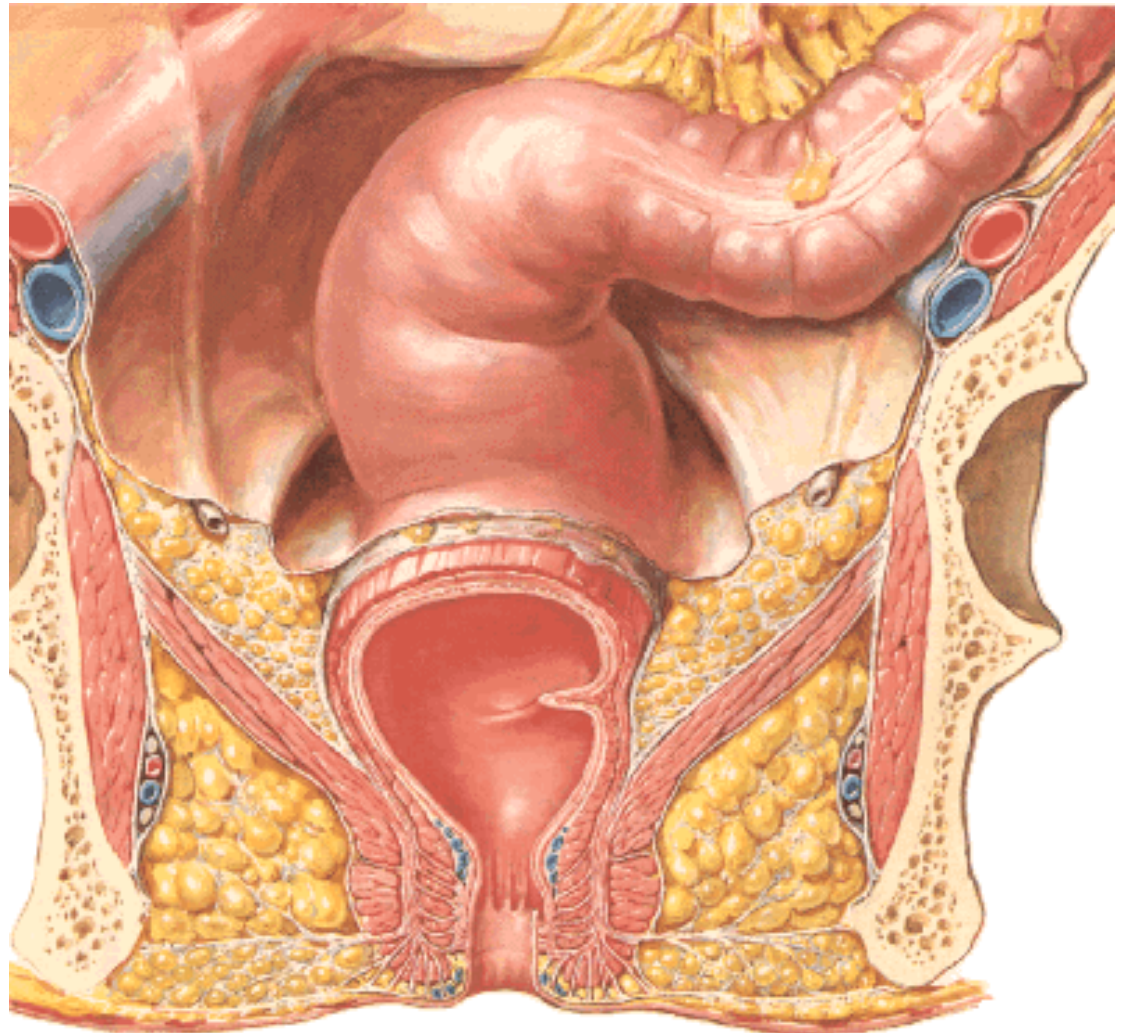
Surrounded by internal rectal  
venous plexus

Anal verge

Lower area 8 mm

Lined by skin

Corrugator cutis ani



## **PECTINATE LINE**

Mucocutaneous junction

Middle of internal anal sphincter

Development

- Arterial supply

- Venous drainage

- Lymphatic drainage

- Nerve supply

White line (Hilton)

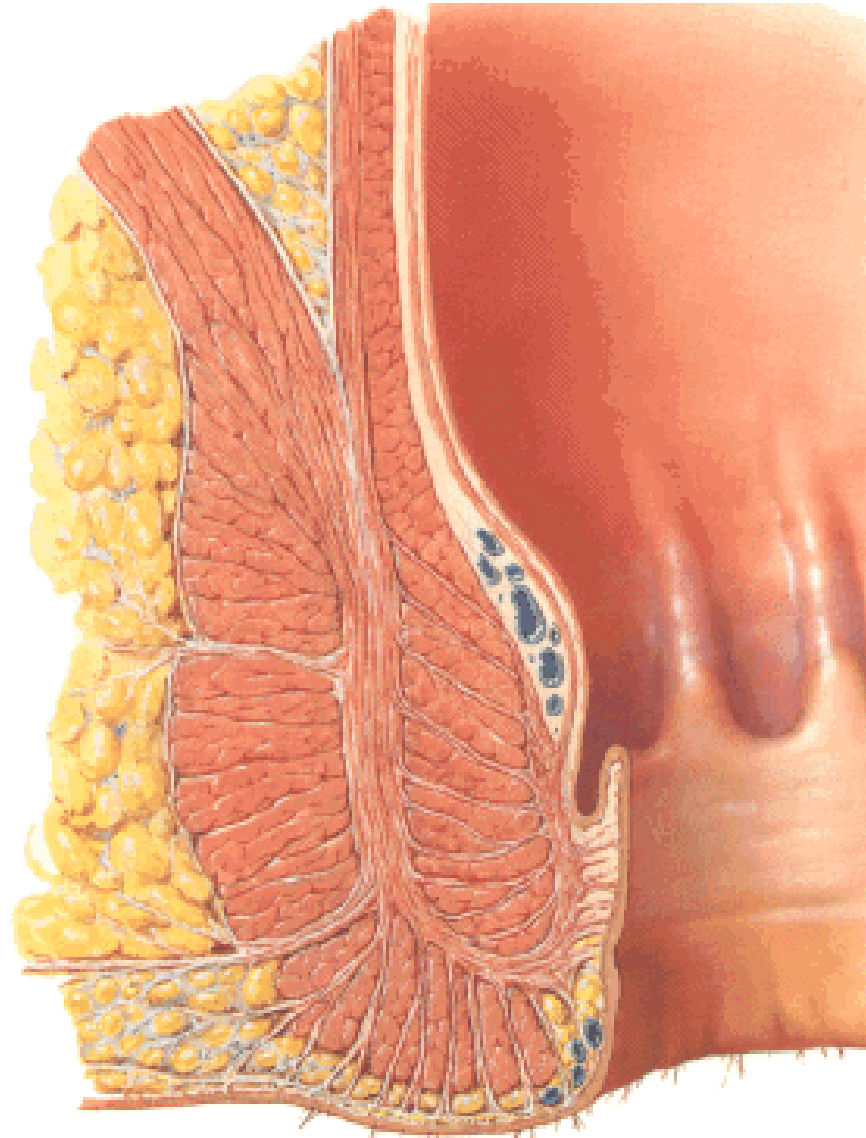
- Anal intersphincteric groove



# SPHINCTERS OF ANAL CANAL

## Internal anal sphincter

- Thickening of circular muscle
- Surrounds upper three fourths
- Superior hypogastric plexus; pelvic splanchnic nerves



## **EXTERNAL ANAL SPHINCTER**

Parts – subcutaneous, superficial, deep

Subcutaneous – flat band around anus

Superficial – Tip of coccyx, anococcygeal raphe – perineal body

Deep – No bony attachment

Inferior rectal branch – pudendal nerve





