

# **Makroskopische und mikroskopische Anatomie des Dickdarms und des Mastdarms**

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2018.

# Anteile des Dickdarms

## Intestinum crassum:

Caecum (Blinddarm)  
und  
Appendix vermiformis  
(Wurmfortsatz)

Colon ascendens

Colon transversum

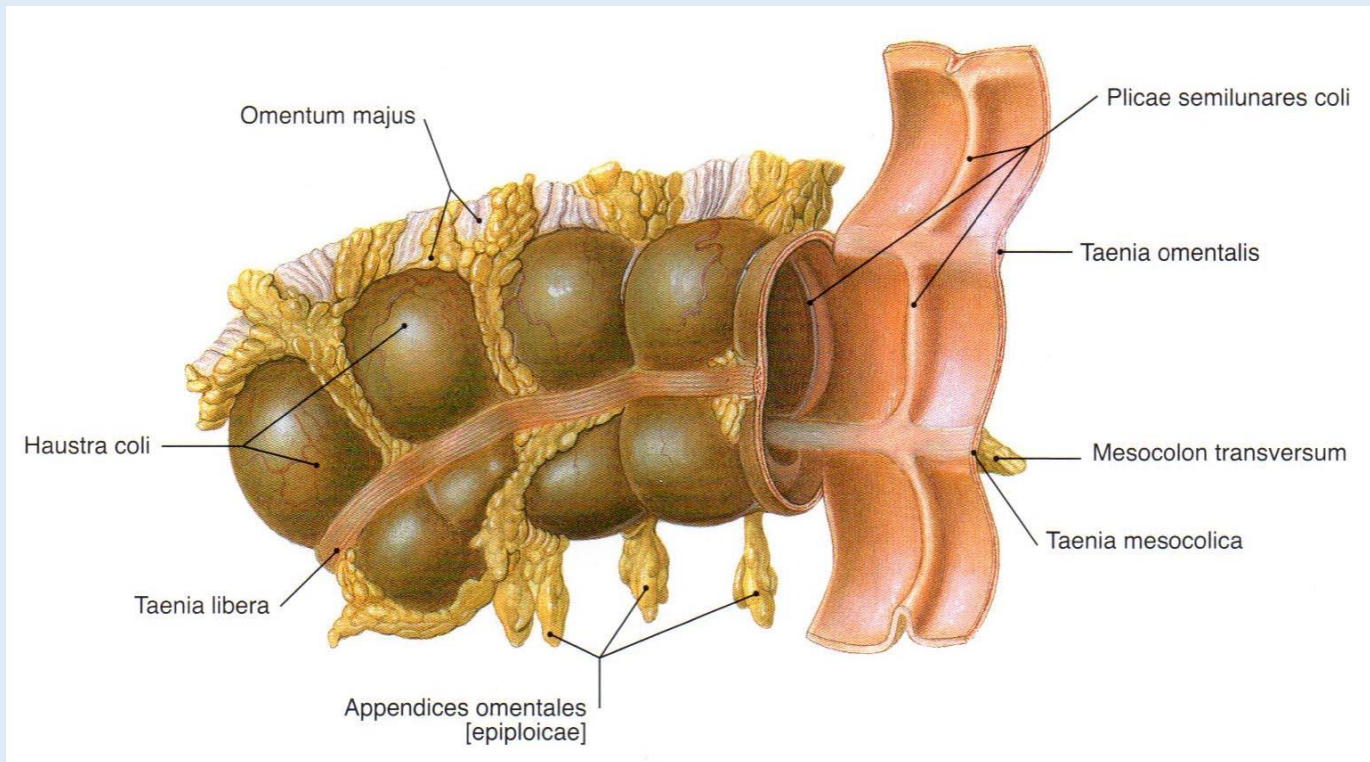
Colon descendens

Colon sigmoideum

Rectum



# Allgemeine Gestalt des Dickdarms



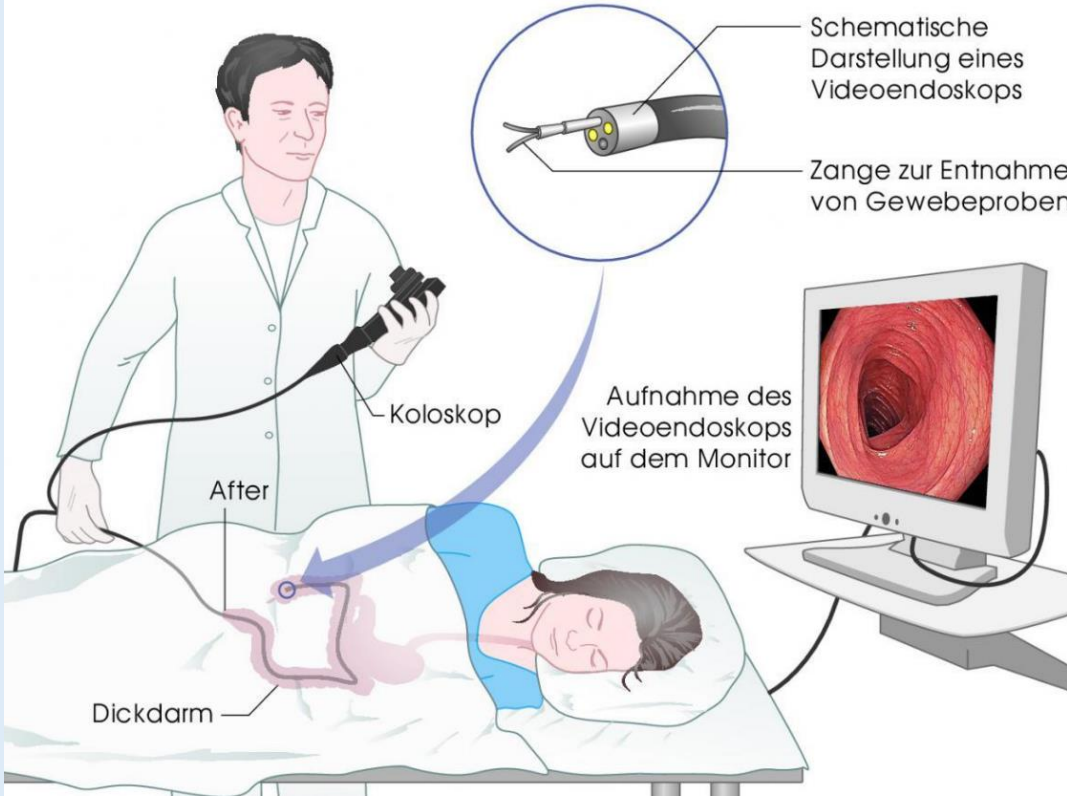
Sobotta

Außen: **Haustra coli** (äußerlich sichtbare Wölbungen der Colonwand)

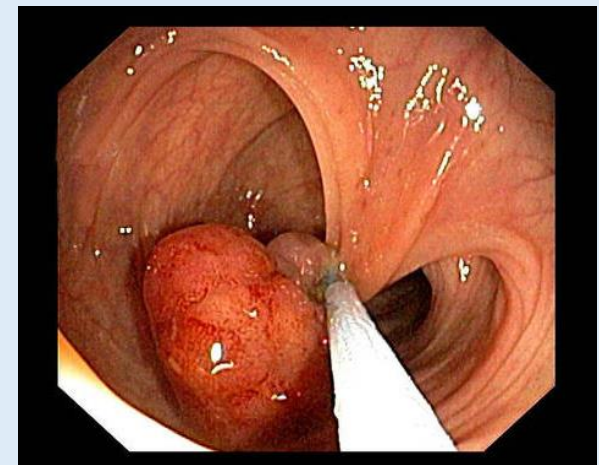
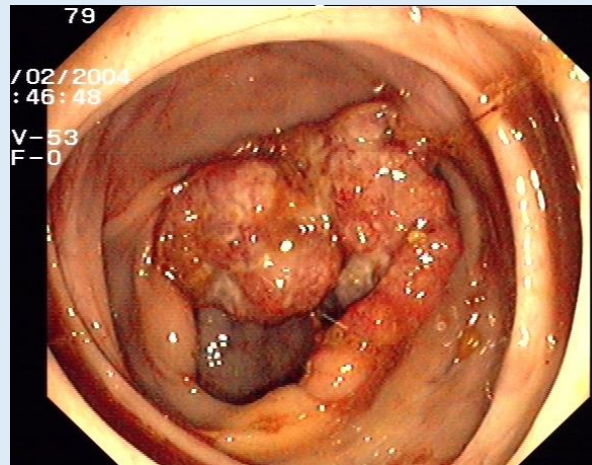
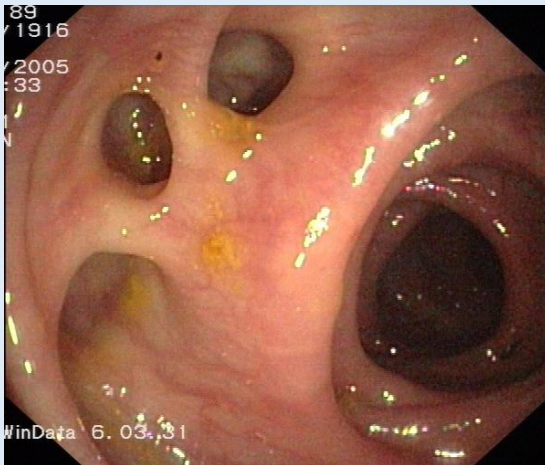
**Taenia coli** (längsverlaufende Streifen gebündelter Längsmuskelfasern)

**Appendices epiploicae** (Fettanhängsel aus läppchenförmigen Aussackungen der Tela subserosa des Bauchfells)

Innen: **Plicae semilunares coli** (halbmondförmige Falten)

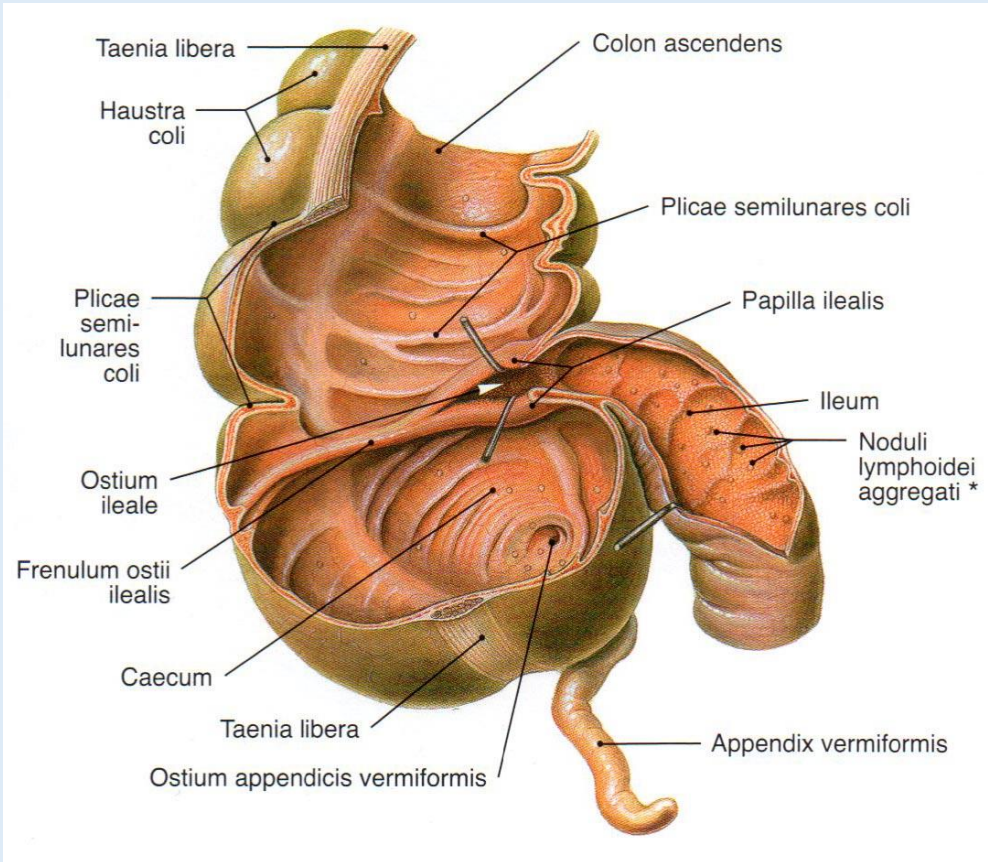


# Koloskopie



# Caecum

Bilder: Sobotta



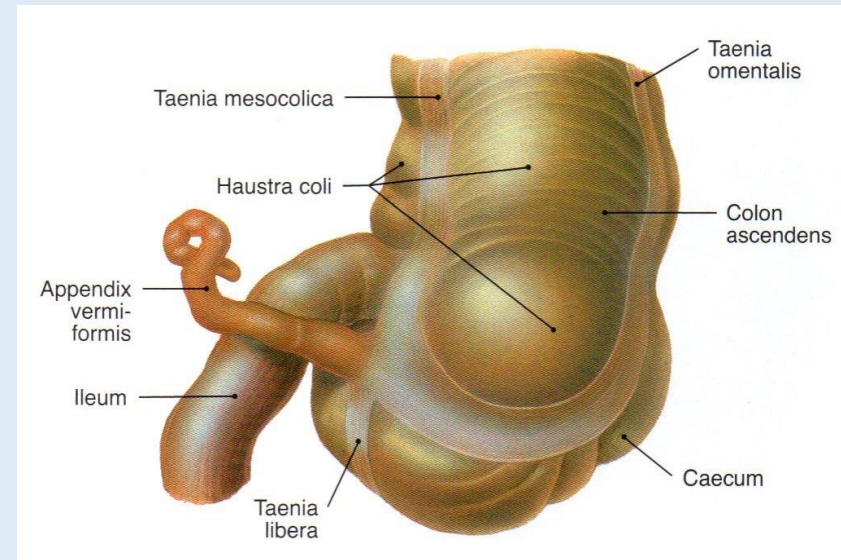
Ileum terminale



**Ostium ileocaecale:**

**Valva ileocaecalis (Bauhin-Klappe)**

**Ostium appendicis vermiformis**



**Taenia omentalis (Omentum majus)**

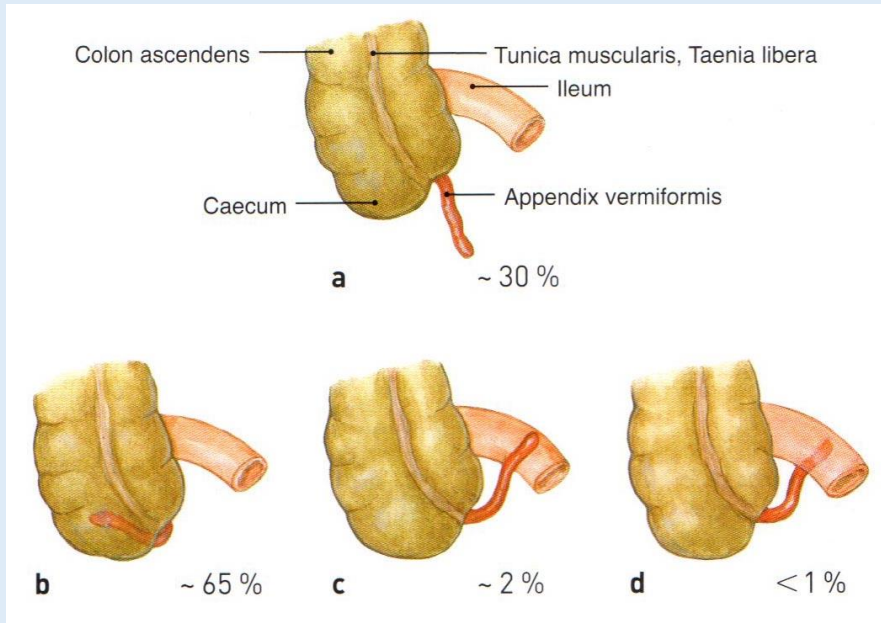
**Taenia mesocolica (Mesocolon transversum)**

**Taenia libera (frei)**



**Appendix vermiformis**

# Appendix vermiformis



Lagevarianten des Wurmfortsatzes:

- retrozäkal
- kaudal
- anterozäkal
- medial: prä- oder retroiliakal
- lateral

## McBurney-Punkt:

äußerer Drittelpunkt der Verbindungslinie  
Nabel – Spina iliaca anterior superior rechts

→ Basis des Wurmfortsatzes

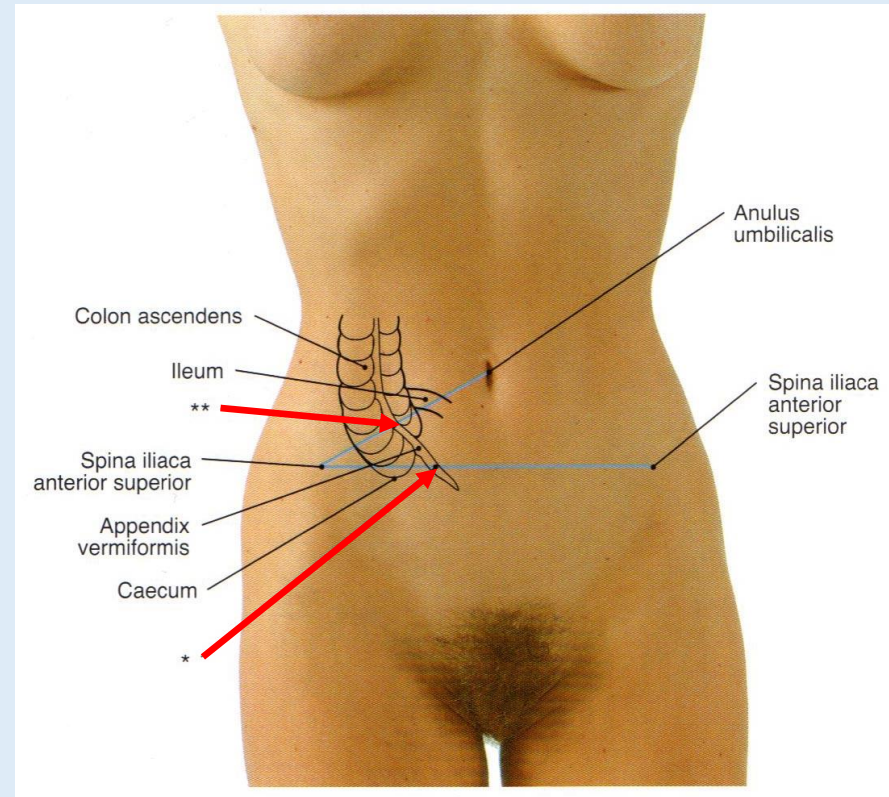
→ **Punctum maximum des Druckschmerzes bei Appendicitis acuta**

## Lanz-Punkt:

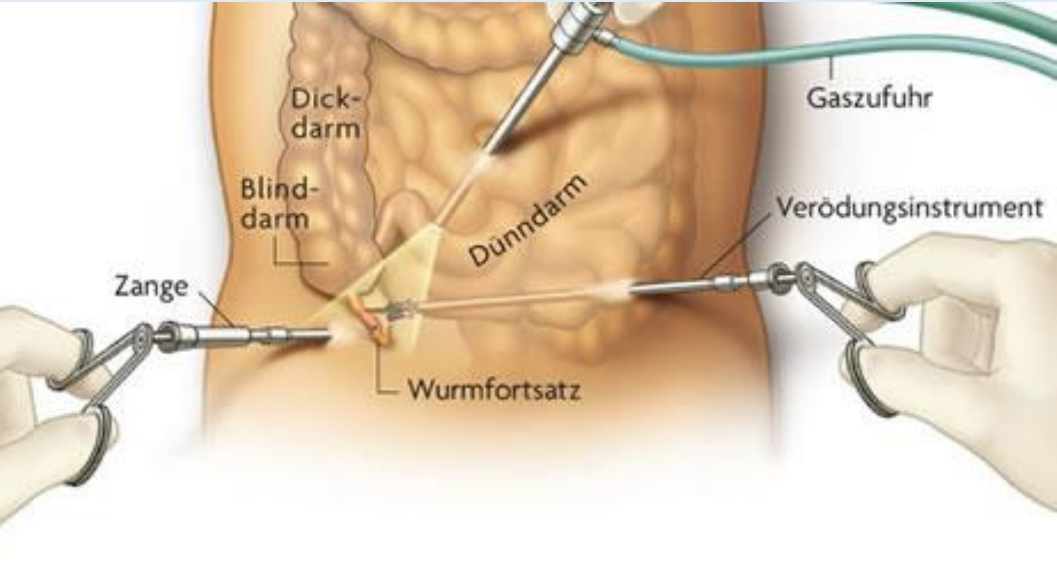
rechter Drittelpunkt der Verbindungslinie beider  
Spinae iliaca anterior superior

→ Spitze des Wurmfortsatzes

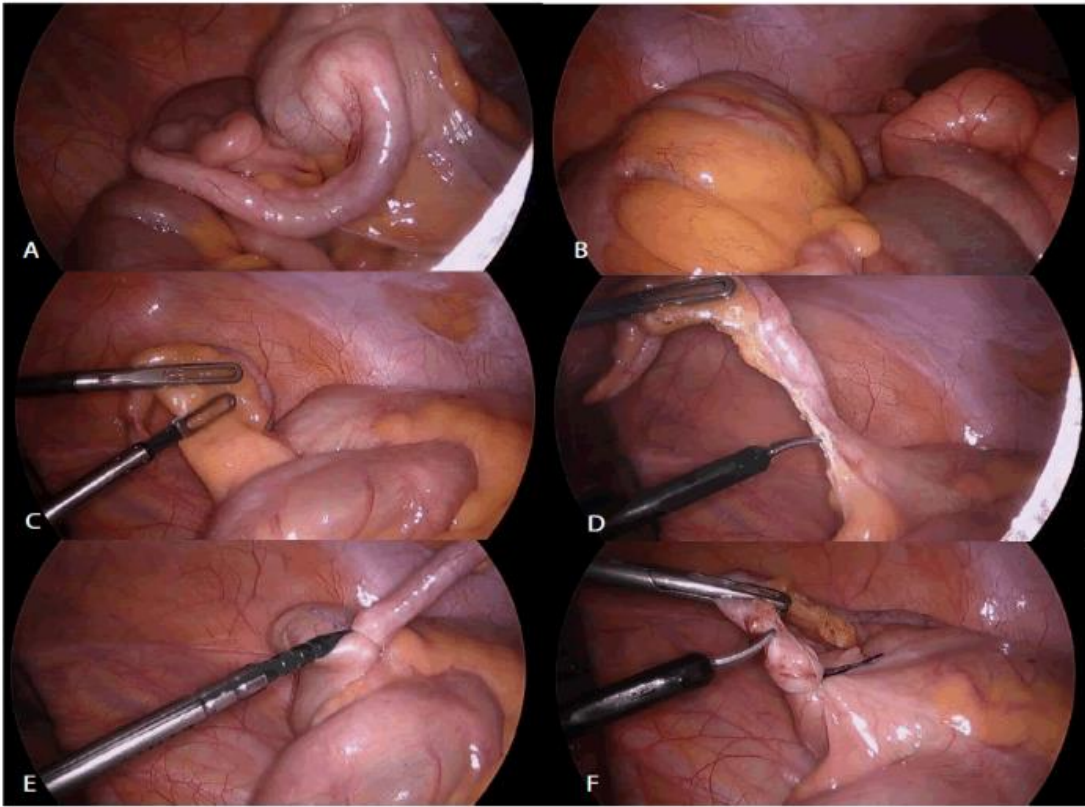
→ „Psoaszeichen“ bei Appendicitis acuta



# Laparoskopische Appendektomie

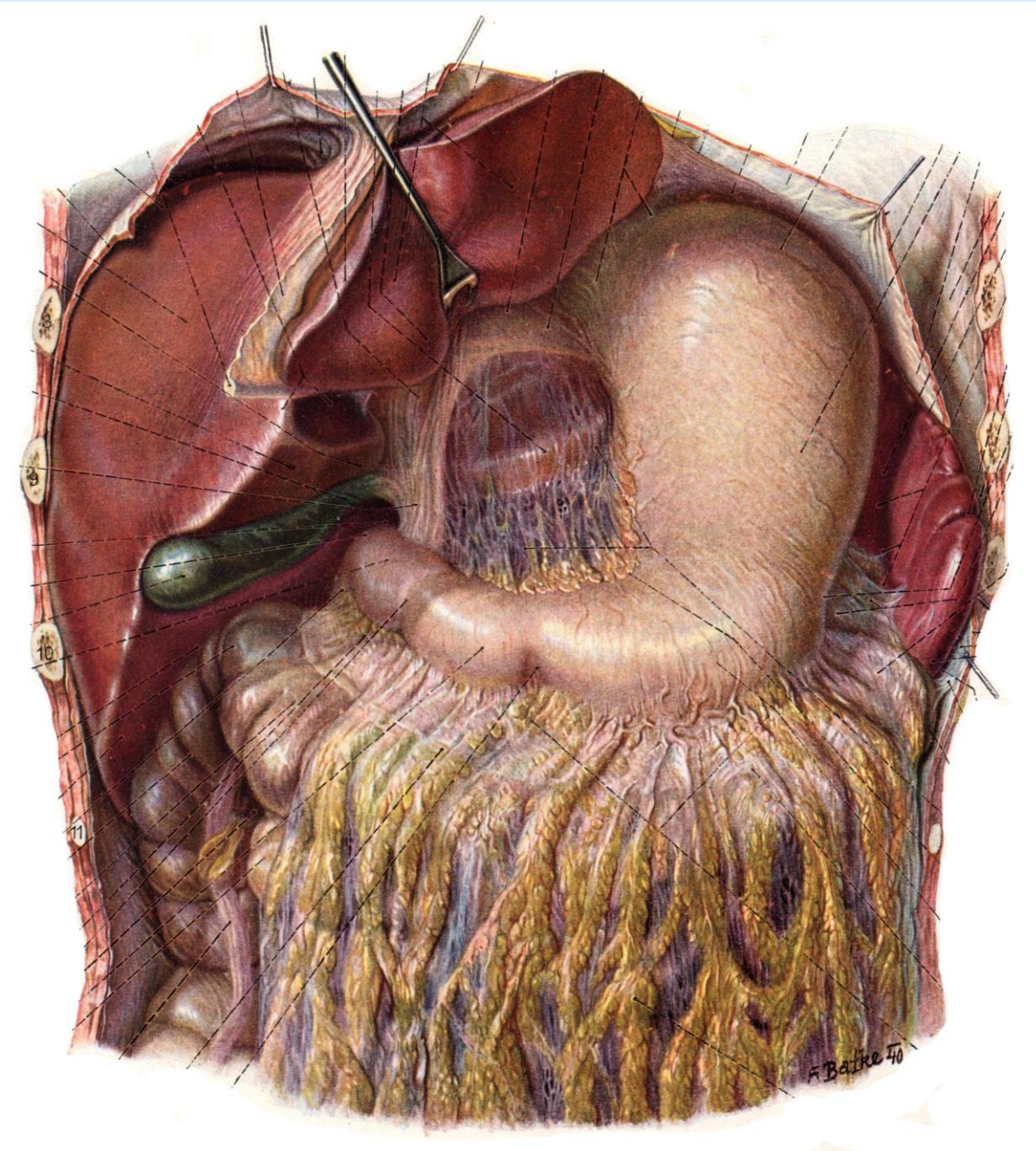


<https://www.apotheken-umschau.de>



<https://www.omicsonline.org>

# Colonabschnitte



Colon ascendens

**Flexura coli dextra  
(Flexura hepatica)**

Colon transversum

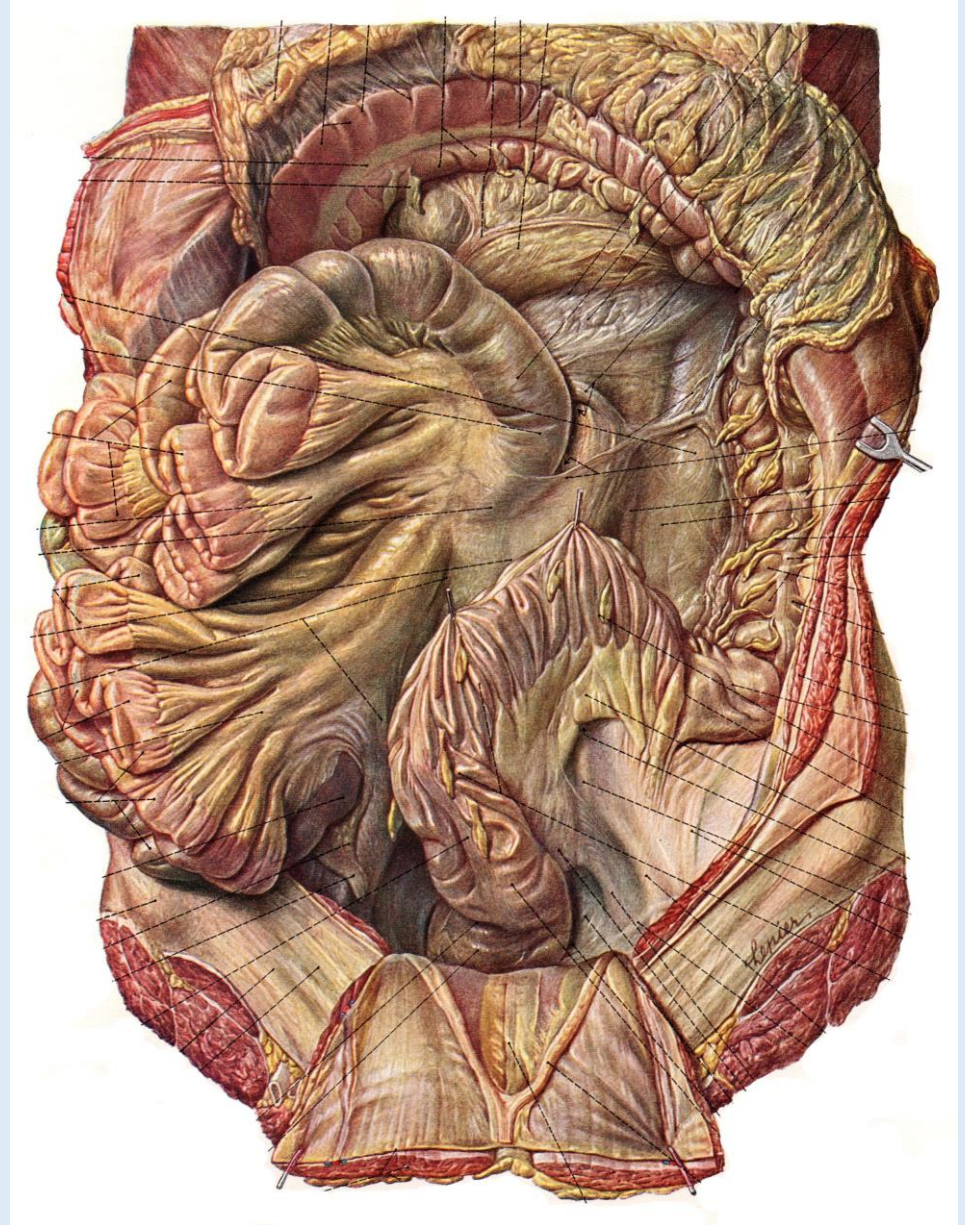
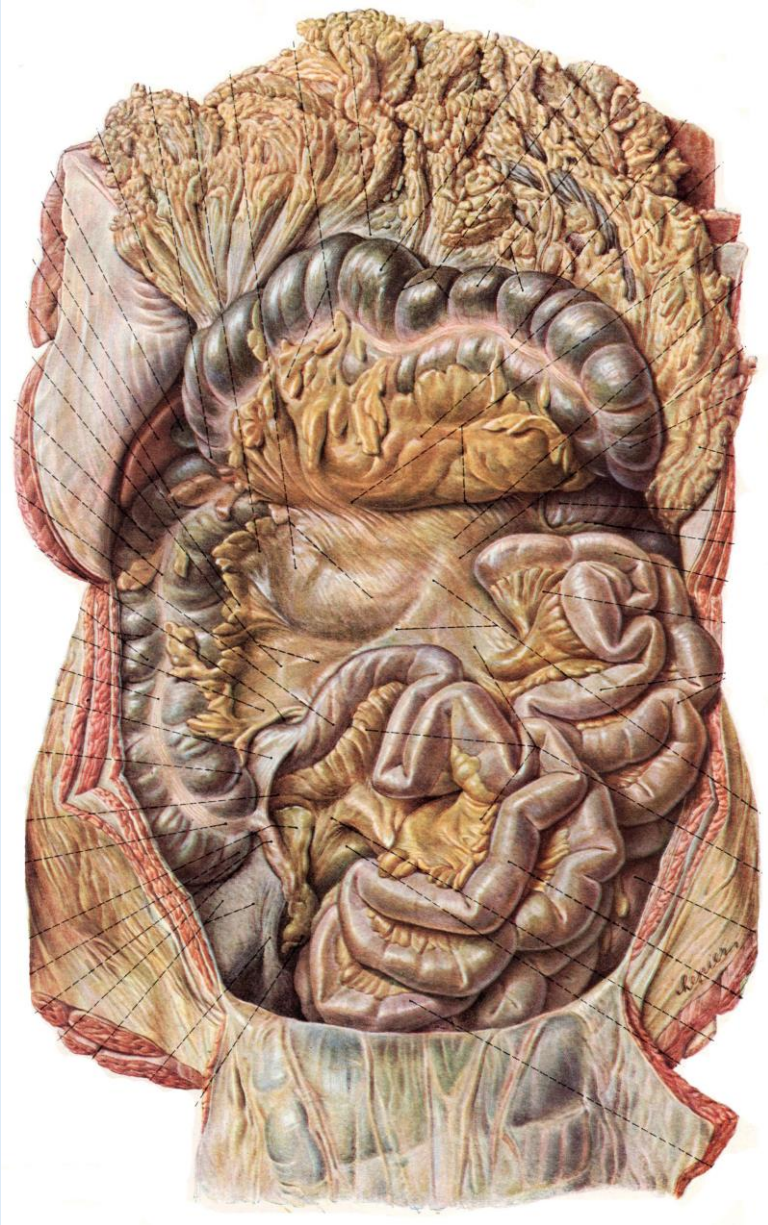
**Flexura coli sinistra  
(Flexura lienalis)**

Colon descendens

Colon sigmoideum



# Topographie des Dickdarms



# Topografie des Dickdarms

rosa: Leber

dunkelblau: Nieren

hellblau: linke Lunge

gelb: Magen

hellgrün: Bauchspeicheldrüse

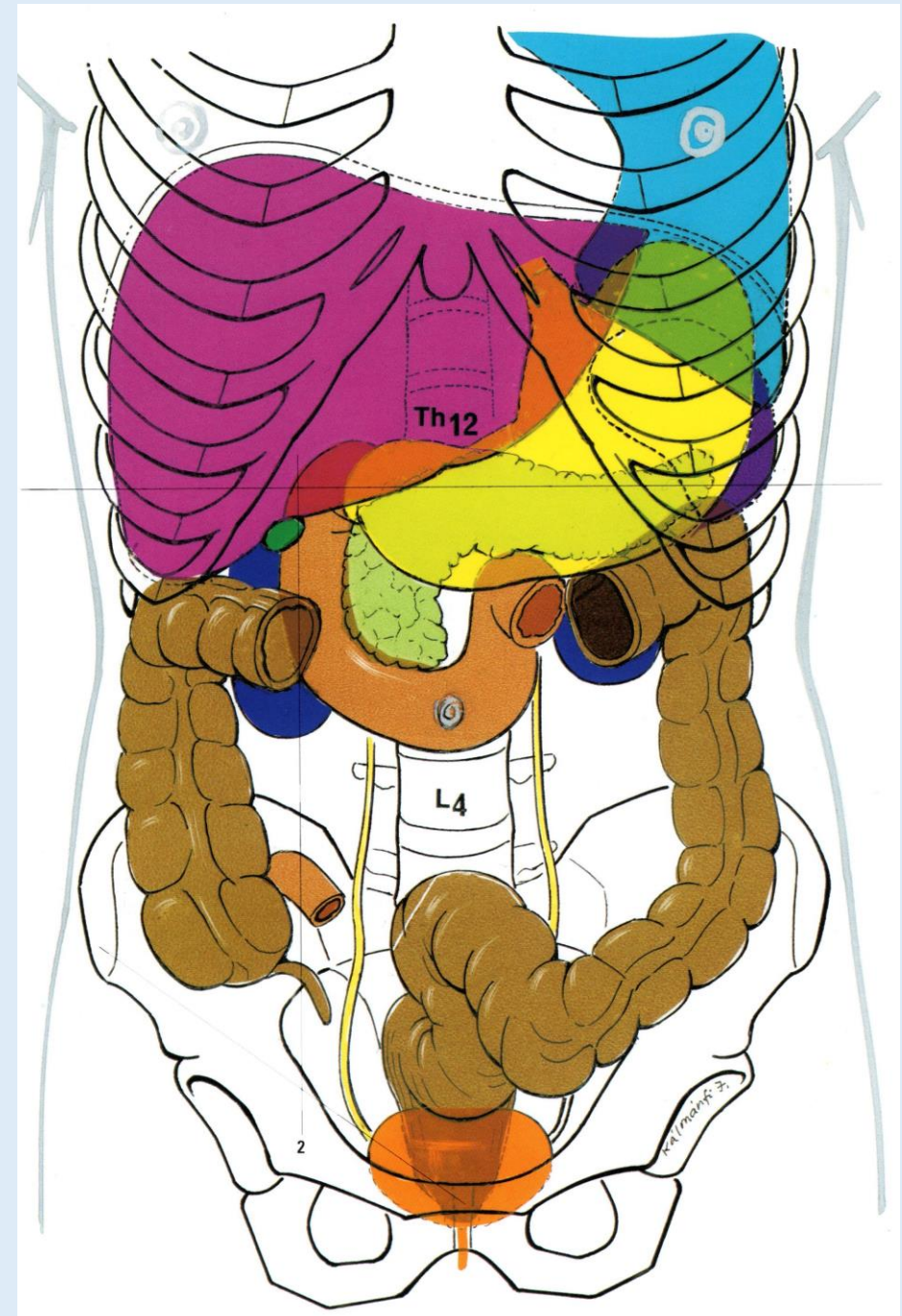
lila: Milz

hellbraun: Zwölffingerdarm

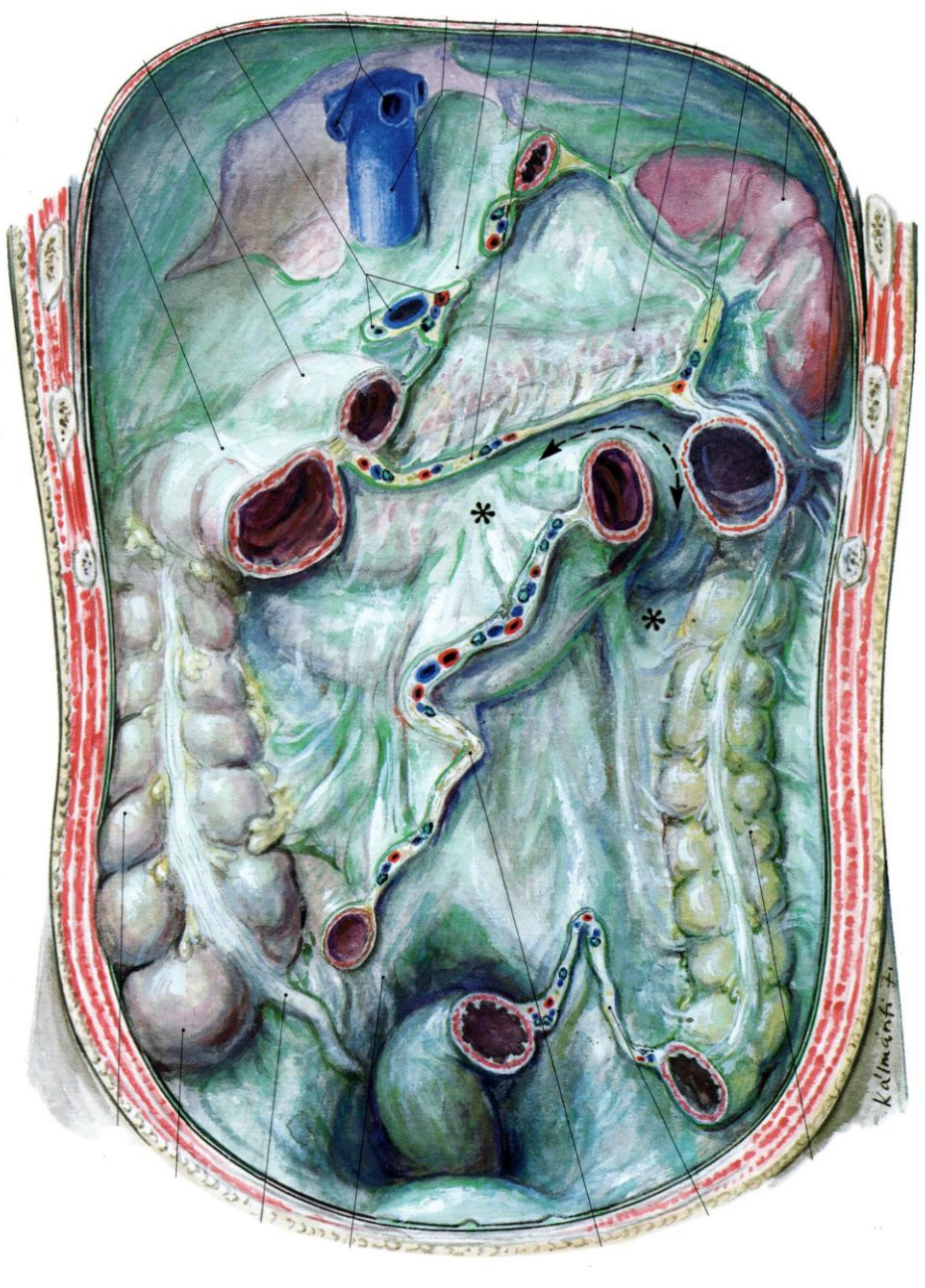
dunkelbraun: Dickdarm

orange: Harnblase

dunkelgrün: Gallenblase



# Bauchfellbedeckung des Dickdarms



Caecum: variabel

Appendix vermiformis: **intraperitoneal**  
→ Mesoappendix

Colon ascendens: sekundär **retroperitoneal**

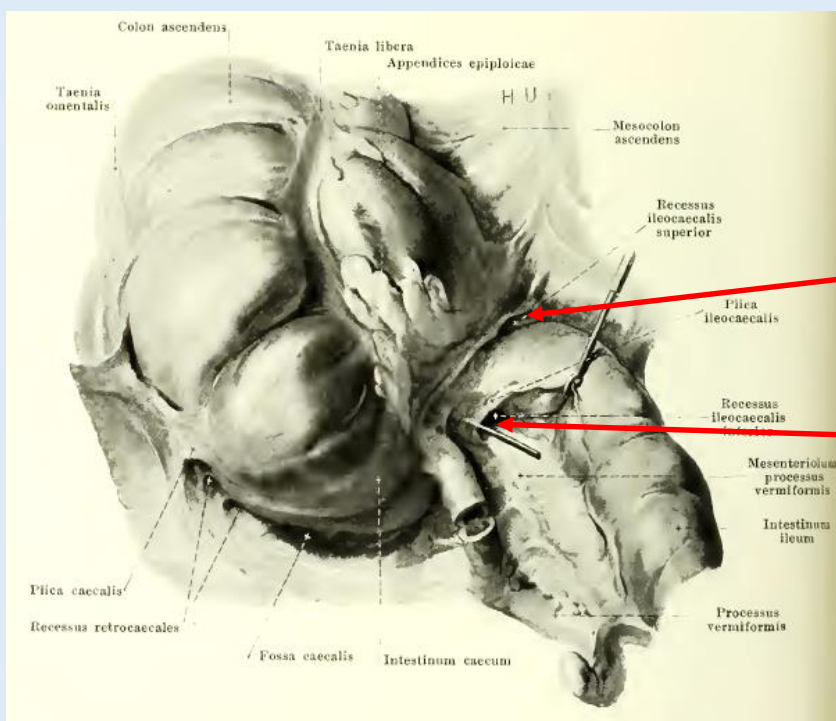
Colon transversum: **intraperitoneal**  
→ Mesocolon transversum

Colon descendens: sekundär **retroperitoneal**

Colon sigmoideum: **intraperitoneal**  
→ Mesosigmoideum

Oberer Drittel des Rectums: **intraperitoneal**

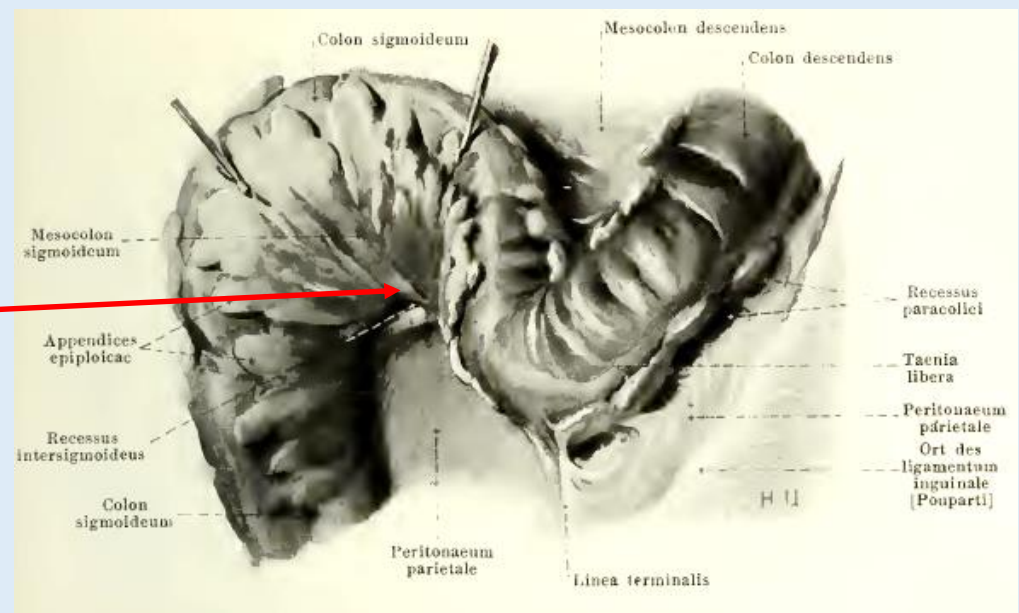
Mittlerer und  
unterer Drittel des Rectums: **infraperitoneal**

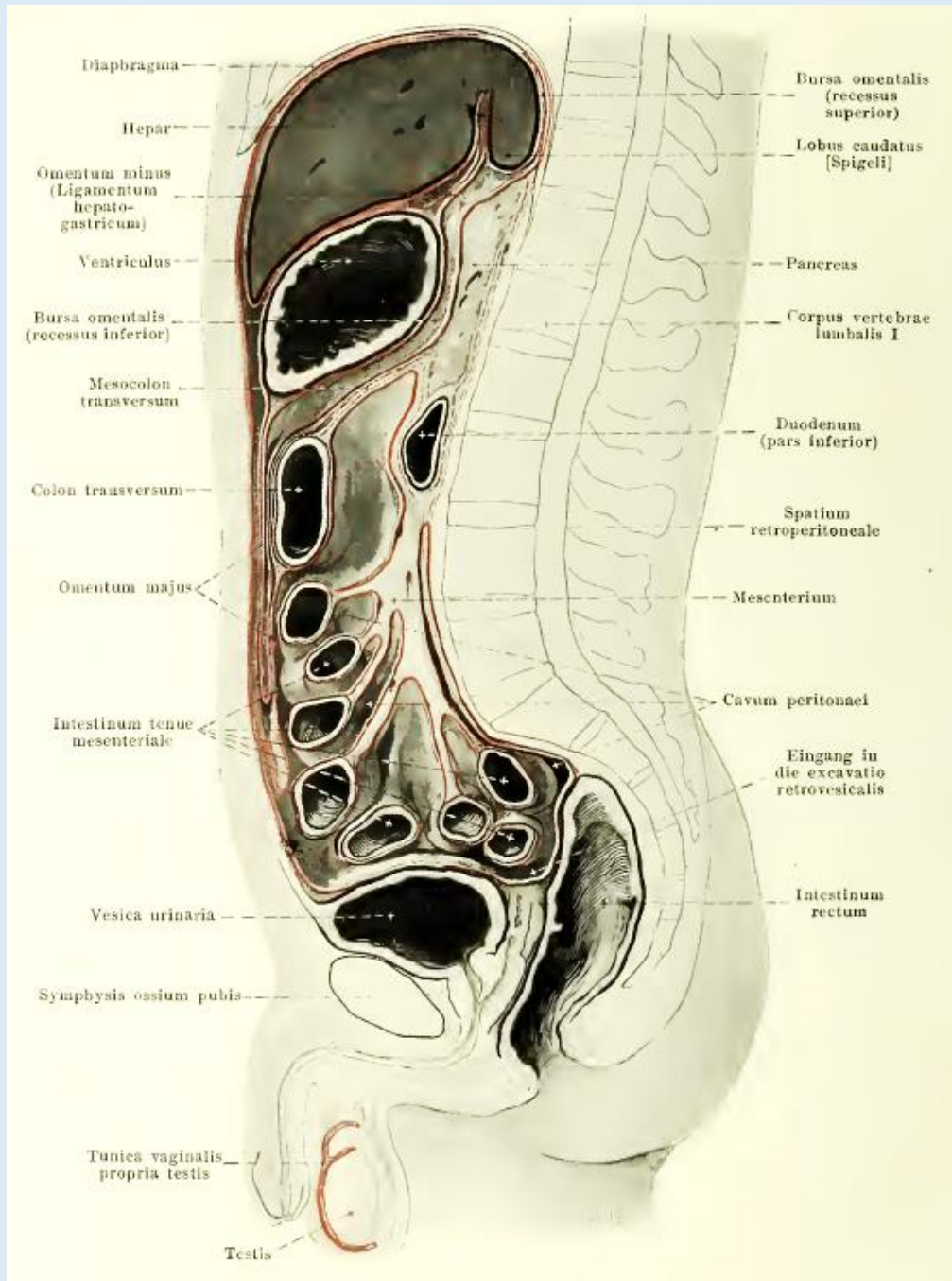


Recessus ileocaecalis superior

Recessus ileocaecalis inferior

Recessus intersigmoideus

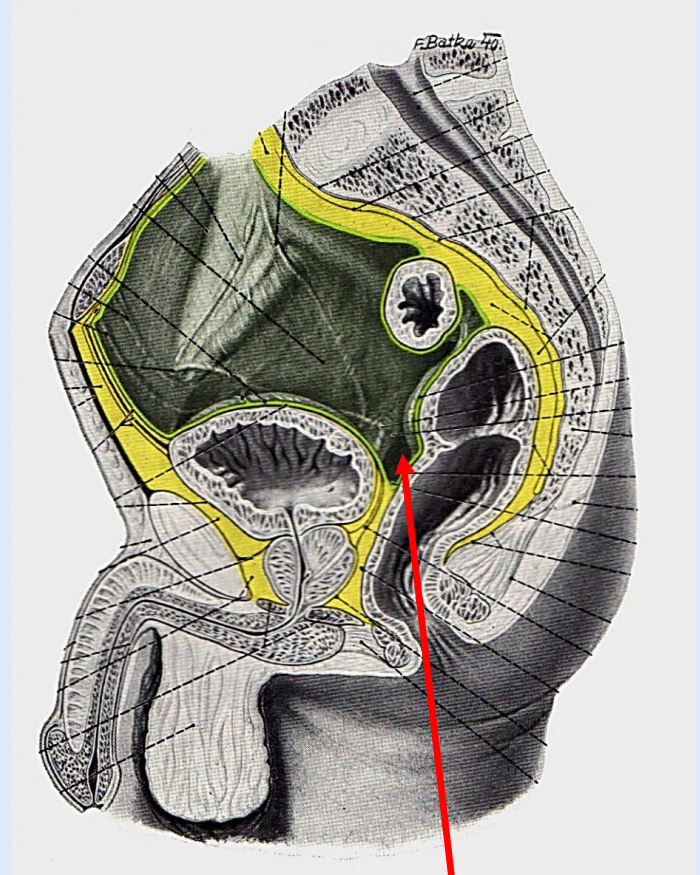
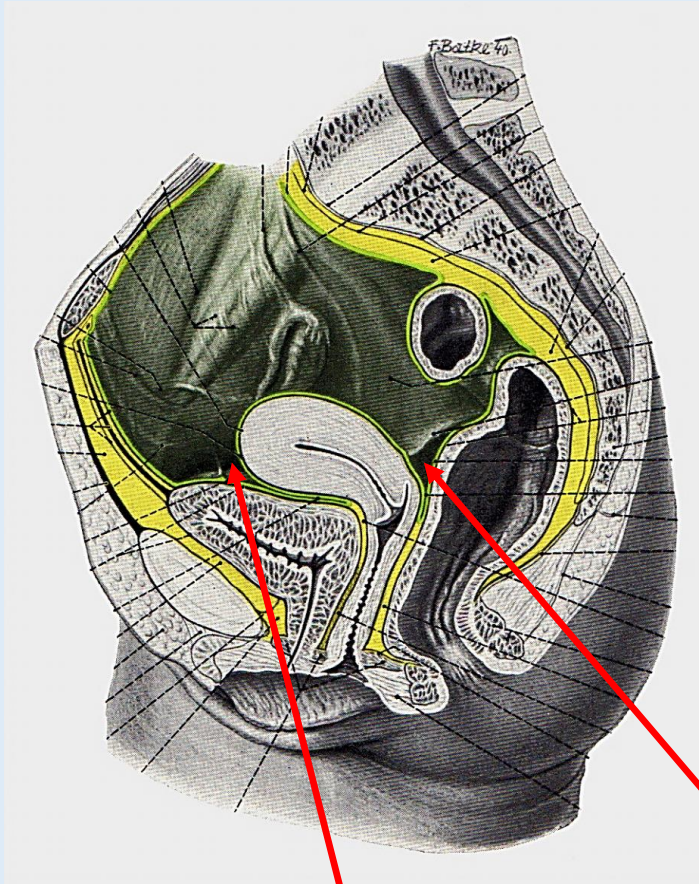




Bauchfellbedeckung  
des Dickdarms  
(median-sagittaler Schnitt)

# Topografie des Mastdarms im kleinen Becken

Bilder: Pernkopf

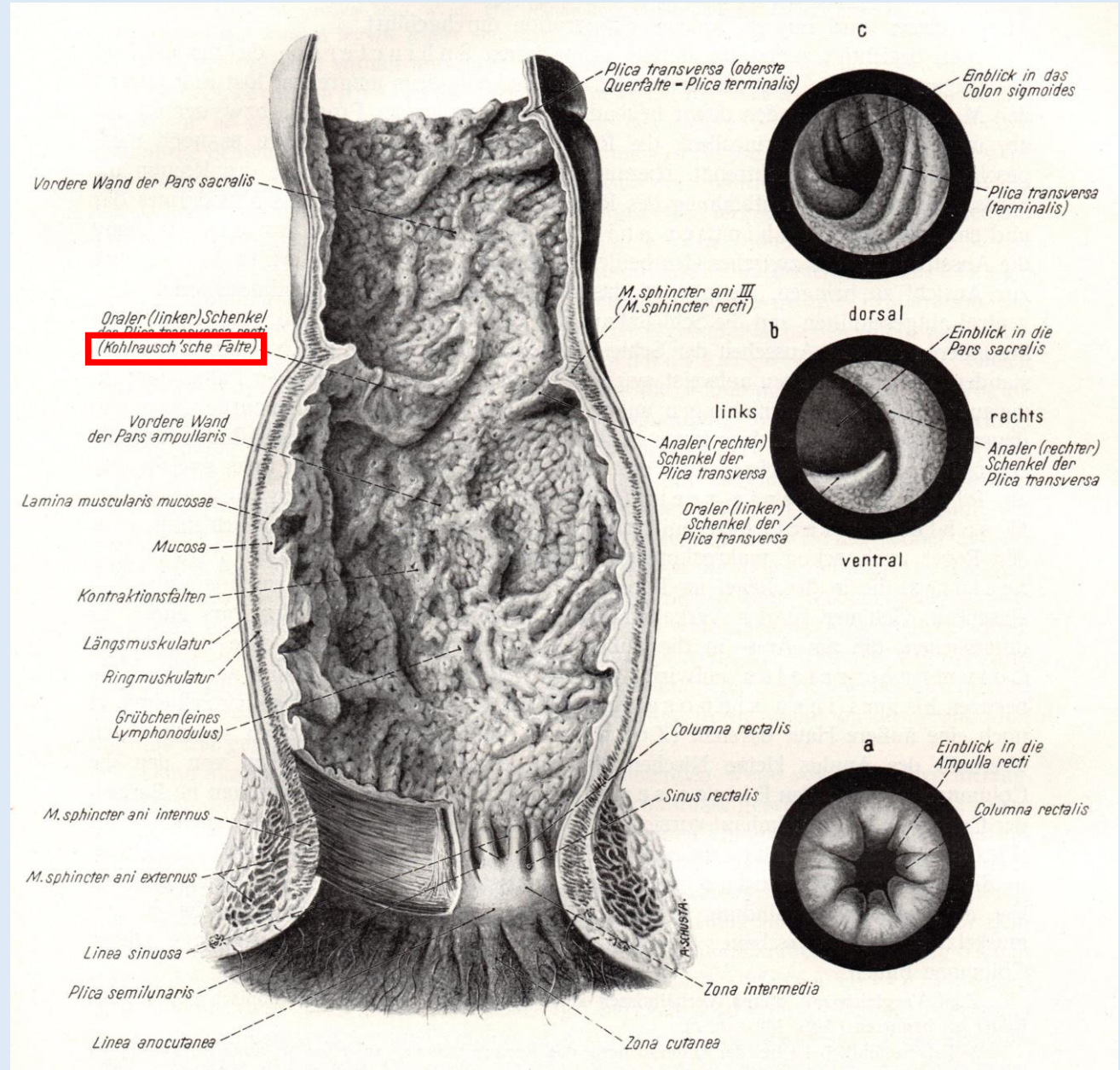


männlich: **Excavatio rectovesicalis**

weiblich: **Excavatio vesicouterina** und **Excavatio rectouterina (Douglas)**

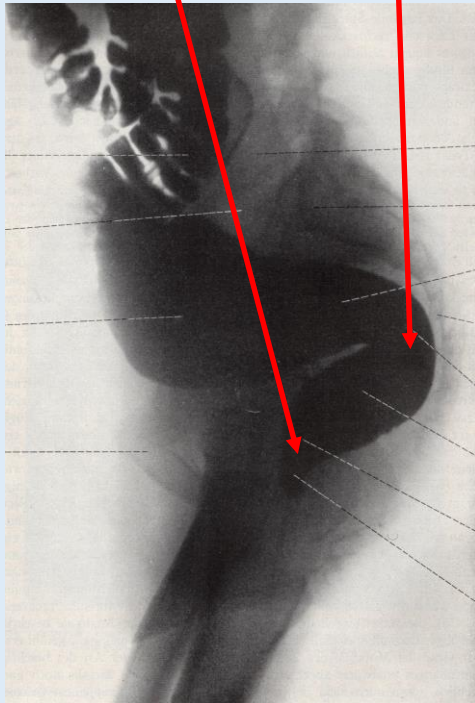
# Aufbau des Mastdarms

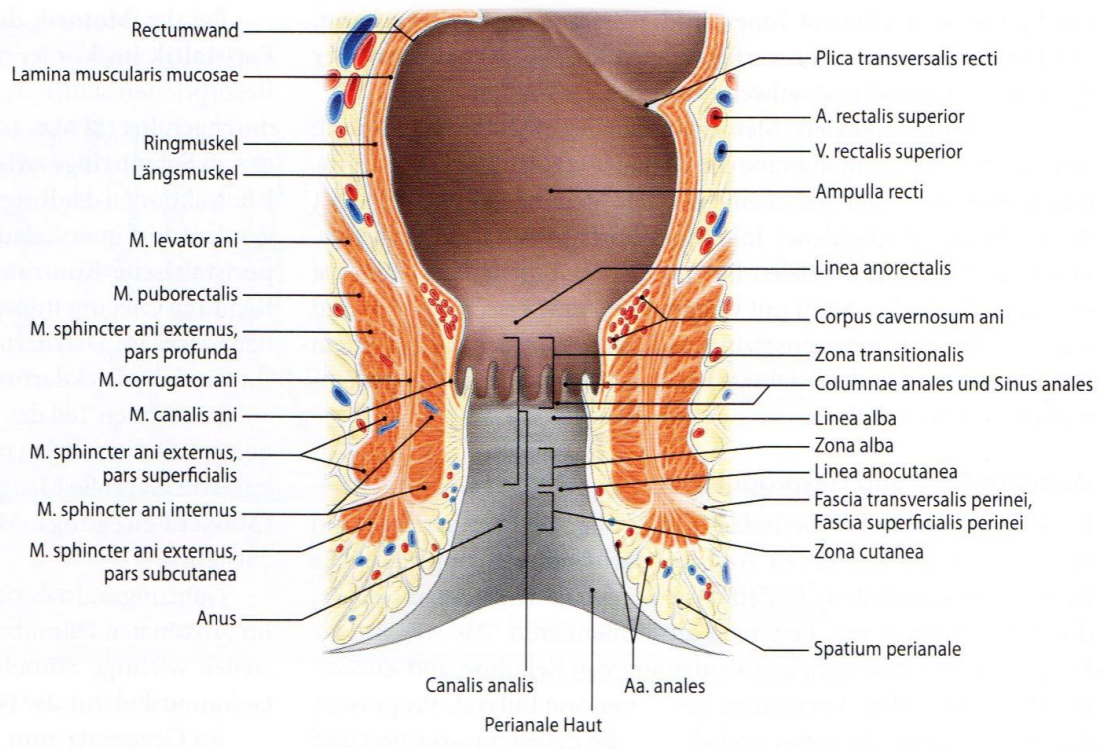
Bilder: Pernkopf



Flexura sacralis

Flexura perinealis





# Schleimhaut des Mastdarms

*Plicae transversales recti*

**Ampulla recti**

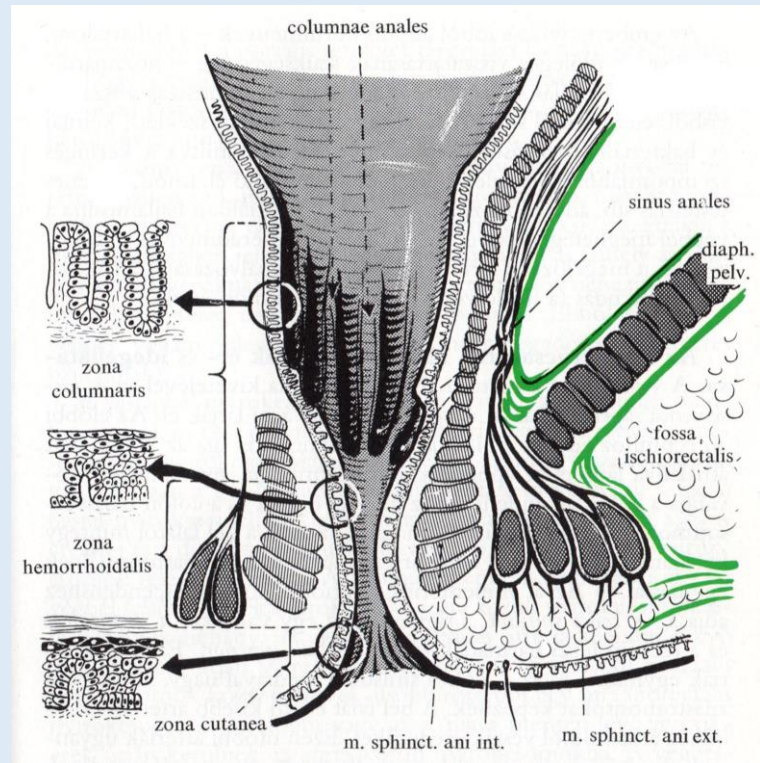
**Canalis analis**

**Endoderm**

Zona columnaris = Zona transitionalis  
(*Columnae anales /Morgagni/ und Sinus anales*)

**Ektoderm**

Zona haemorrhoidalis = Zona alba  
Zona cutanea





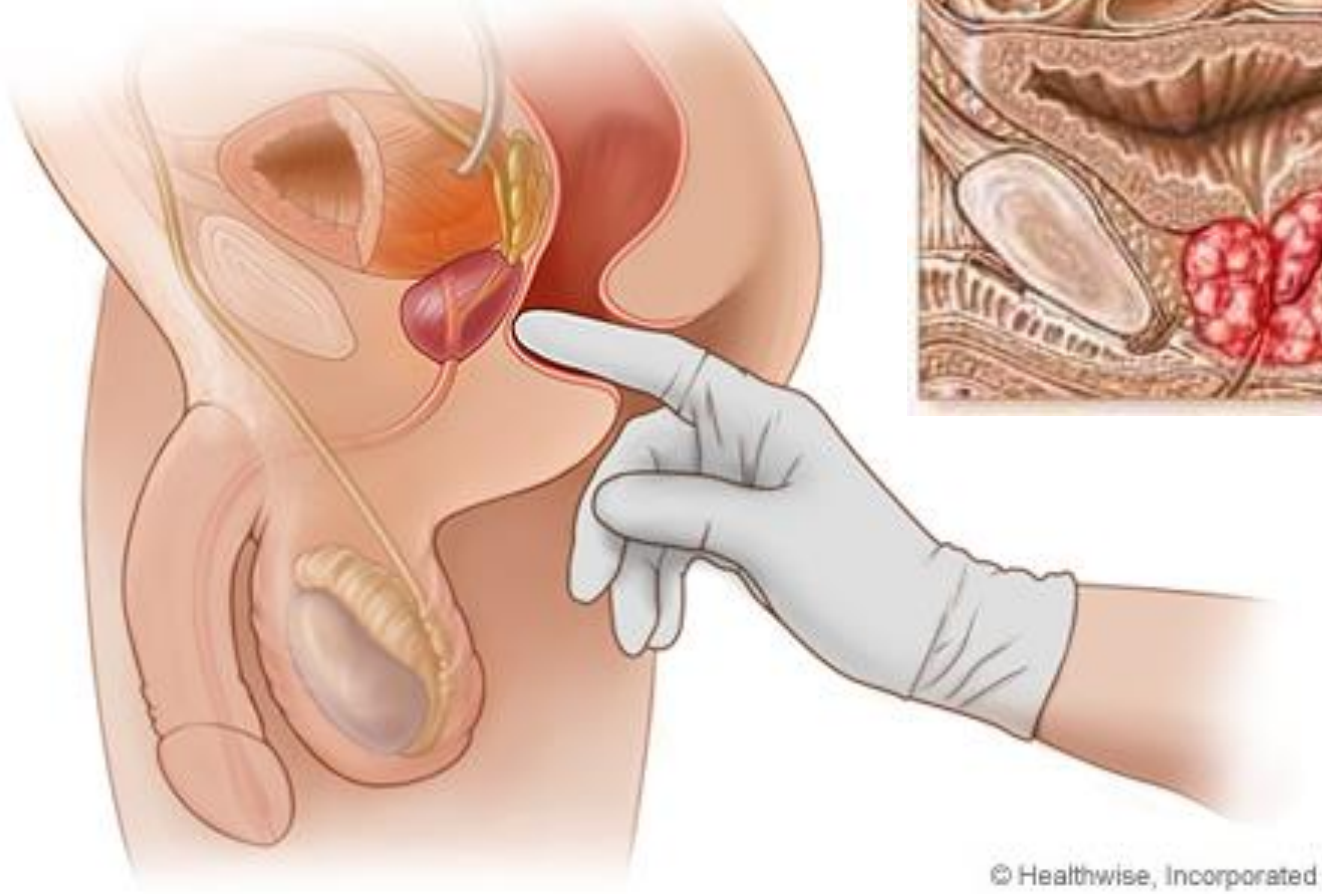
# Rectale digitale Untersuchung



Normal prostate



Prostate cancer



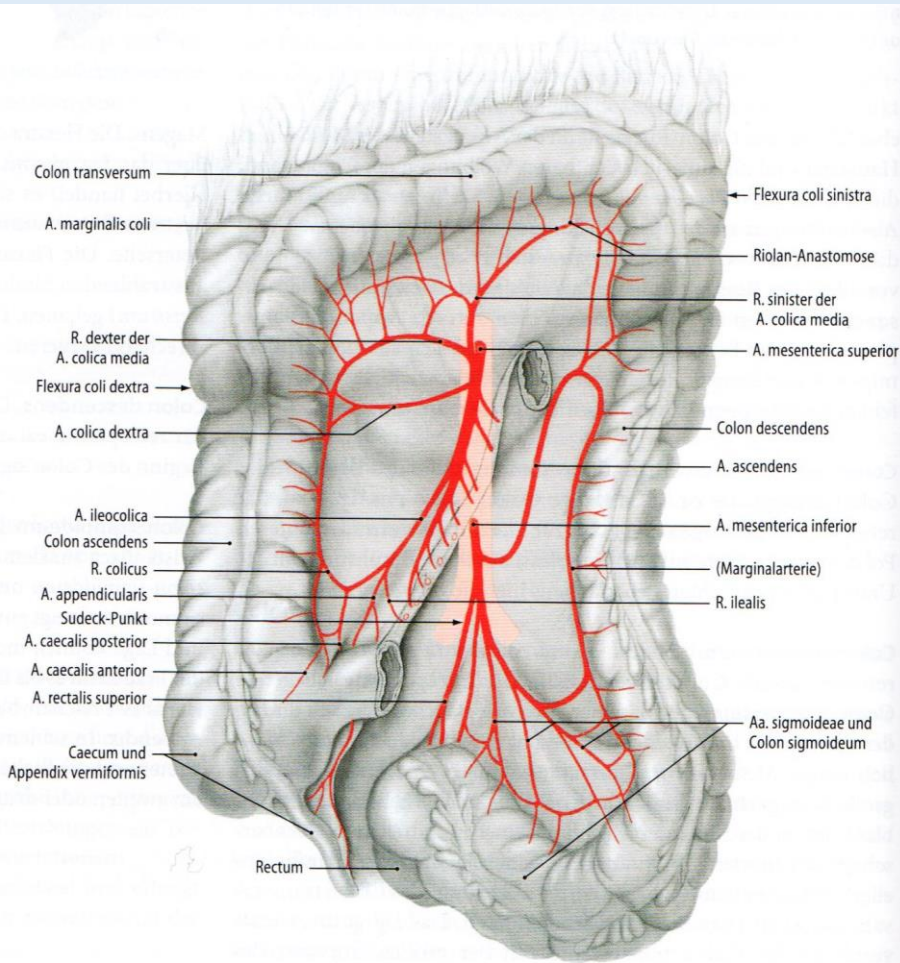
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<http://www.bendo.ro>

<http://www.webmd.com>

# Arterielle Blutversorgung des Dickdarms

Zilles-Tillmann

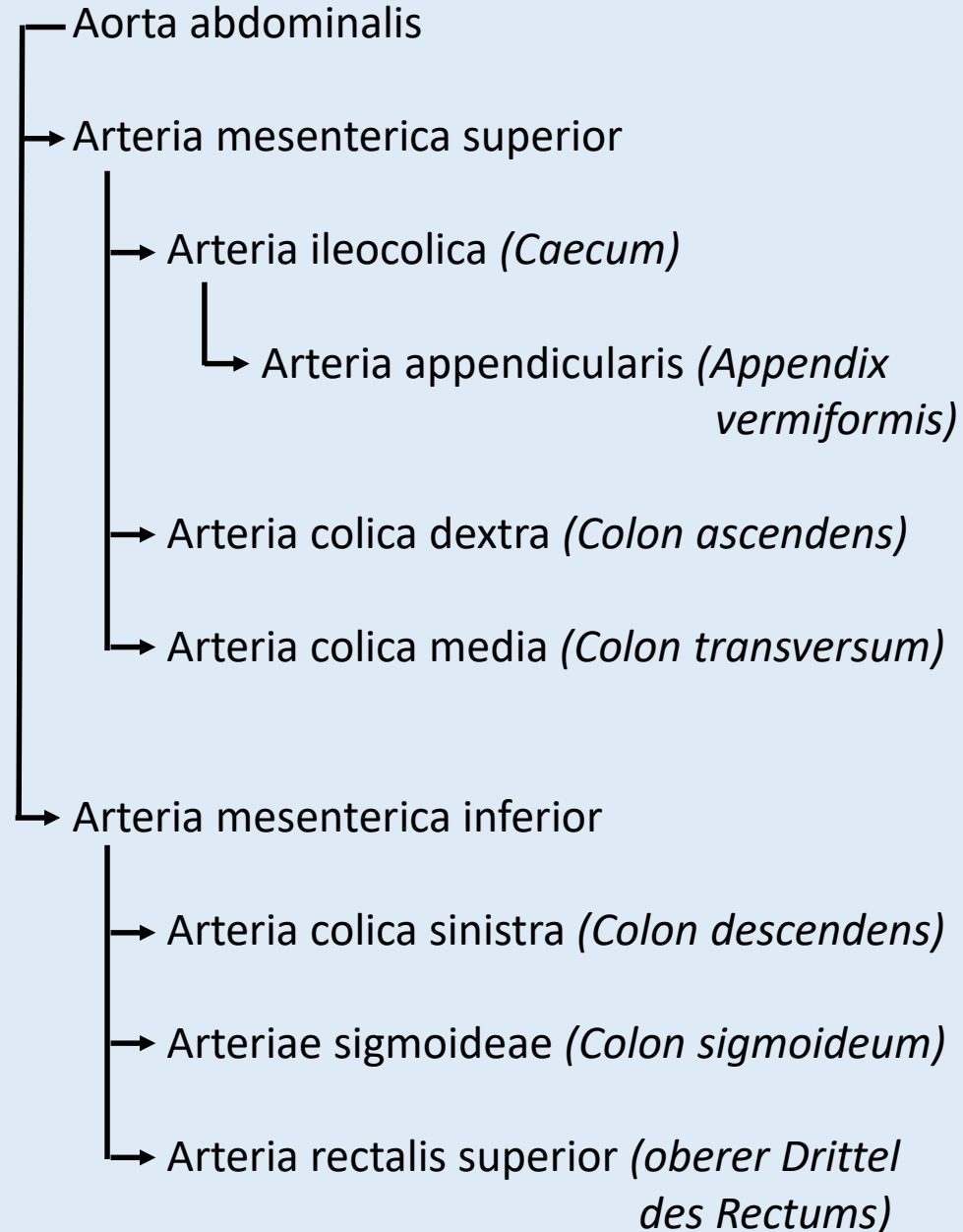


## Arcus Riolani major:

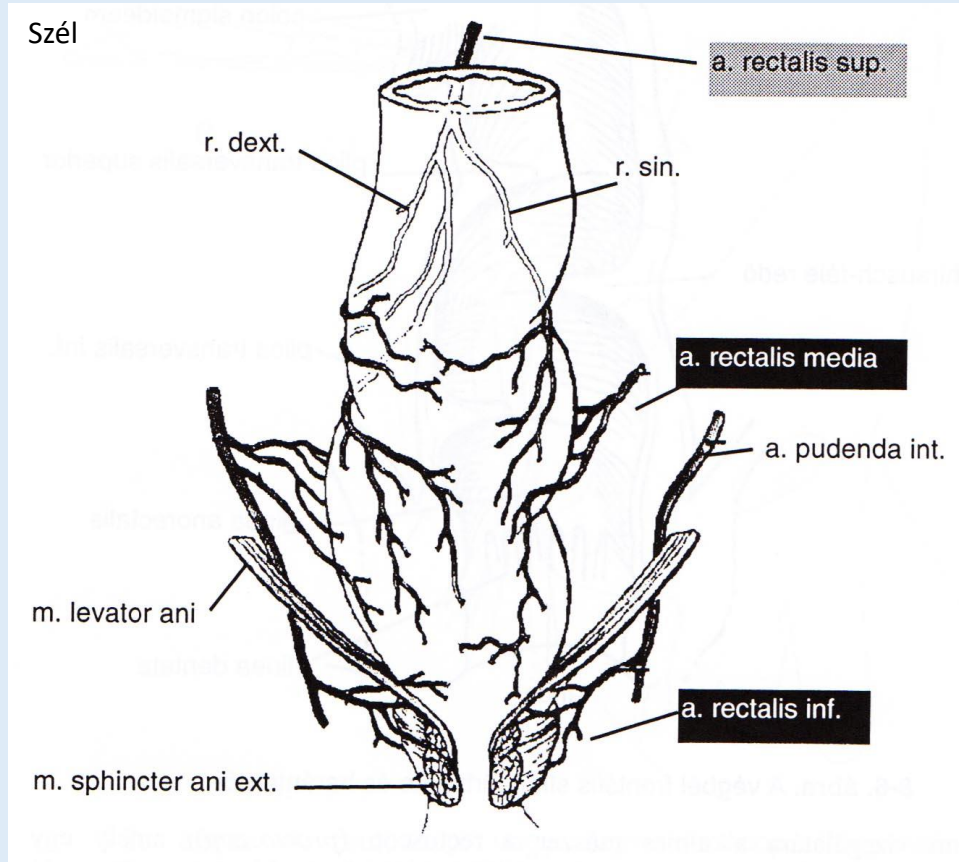
Anastomose zw. A. colica media und sinistra

## Sudeck-Punkt:

zw. Versorgungsgebiete letzter A. sigmoidea und A. rectalis superior



# Arterielle Blutversorgung des Mastdarms



Arteria mesenterica inferior

↳ Arteria rectalis superior (*oberer Drittel des Rectums*)

Arteria iliaca interna

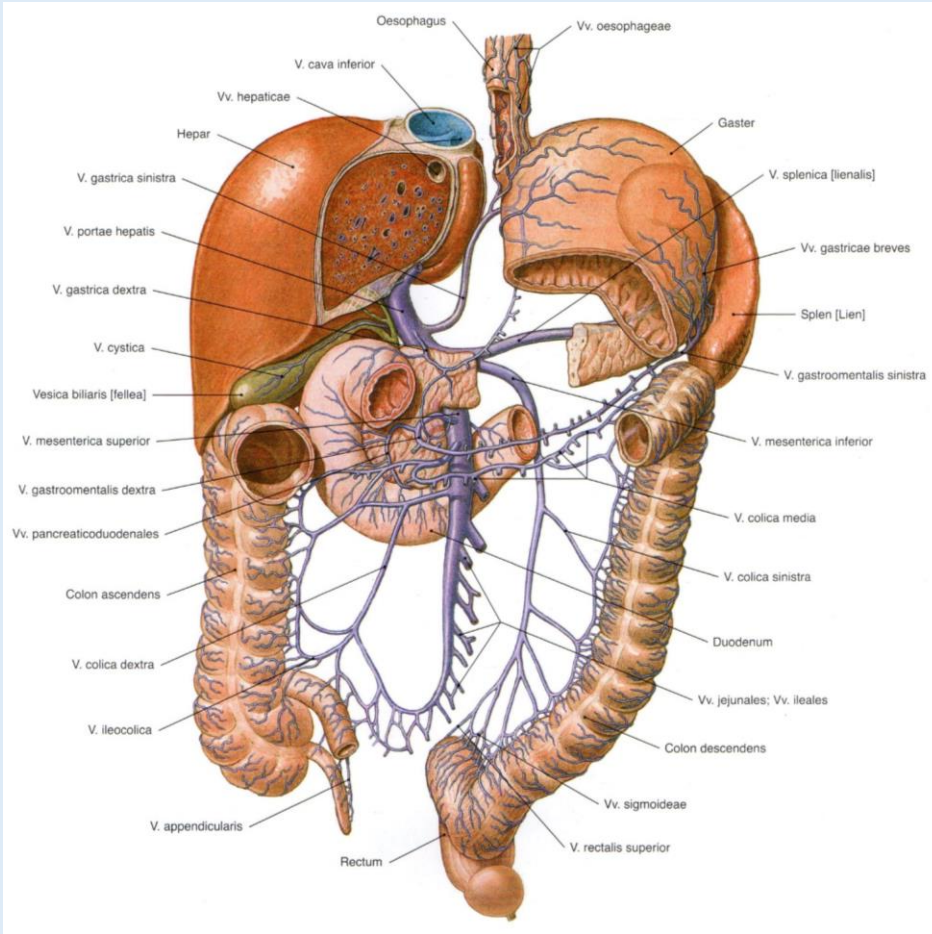
↳ Arteria rectalis media (*mittlerer Drittel des Rectums*)

↳ Arteria pudenda interna

↳ Arteria rectalis inferior (*unterer Drittel des Rectums*)

# Venöser Abfluß des Dickdarms

Bilder: Sobotta

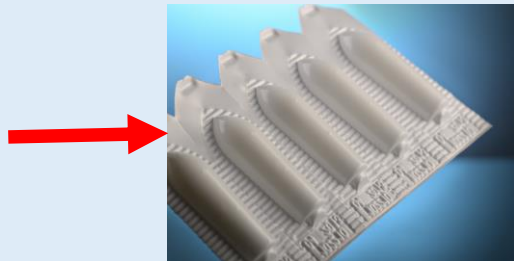
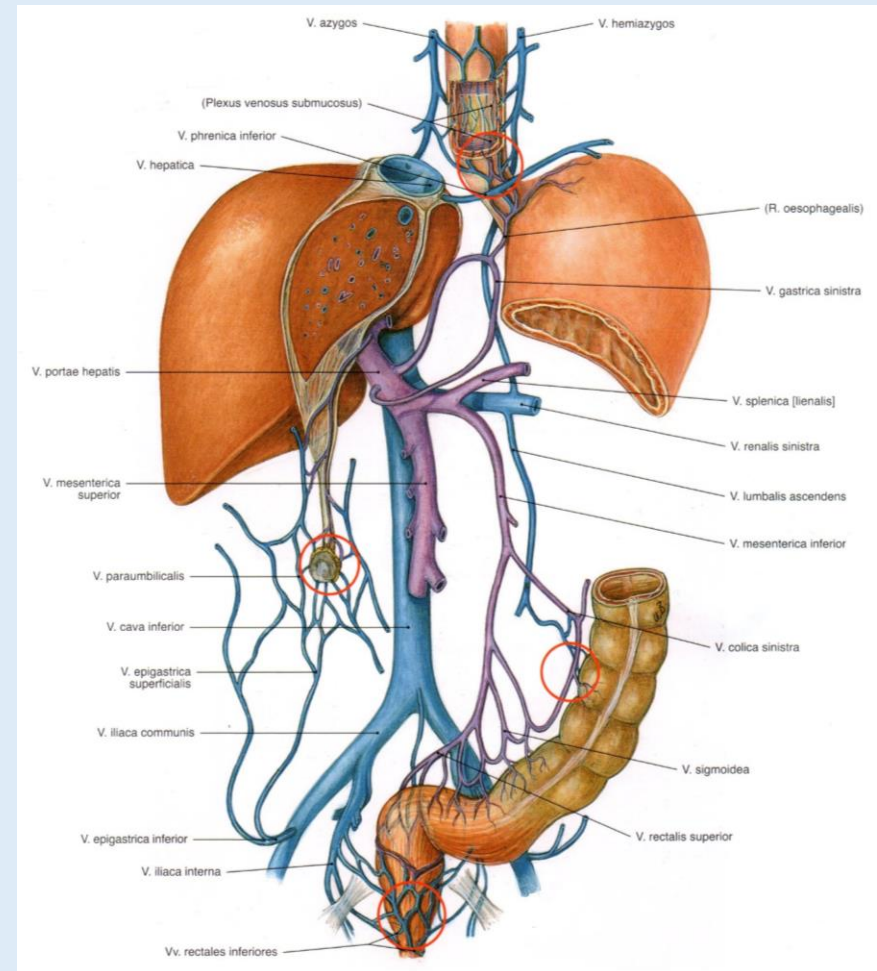


Bis einschließlich oberes Drittel des Rectum:

→ Vena portae hepatis

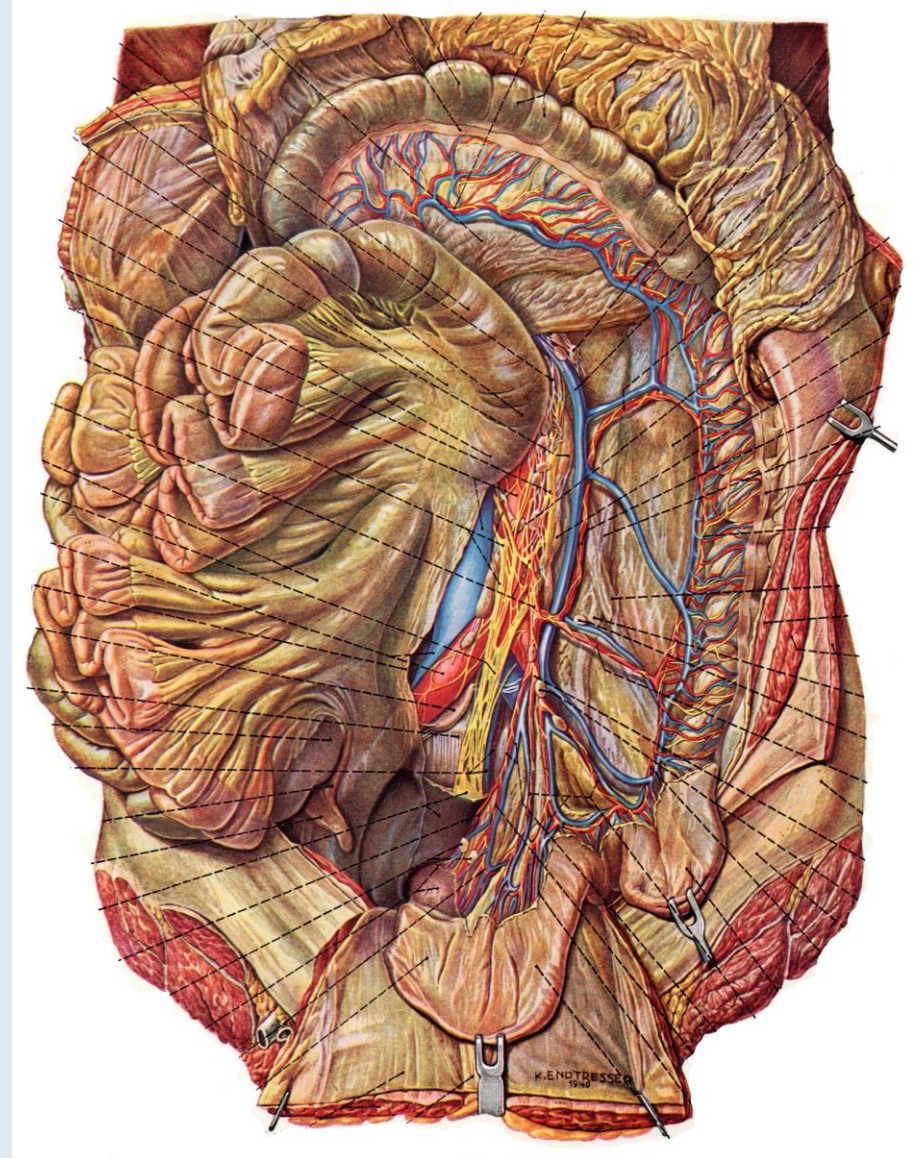
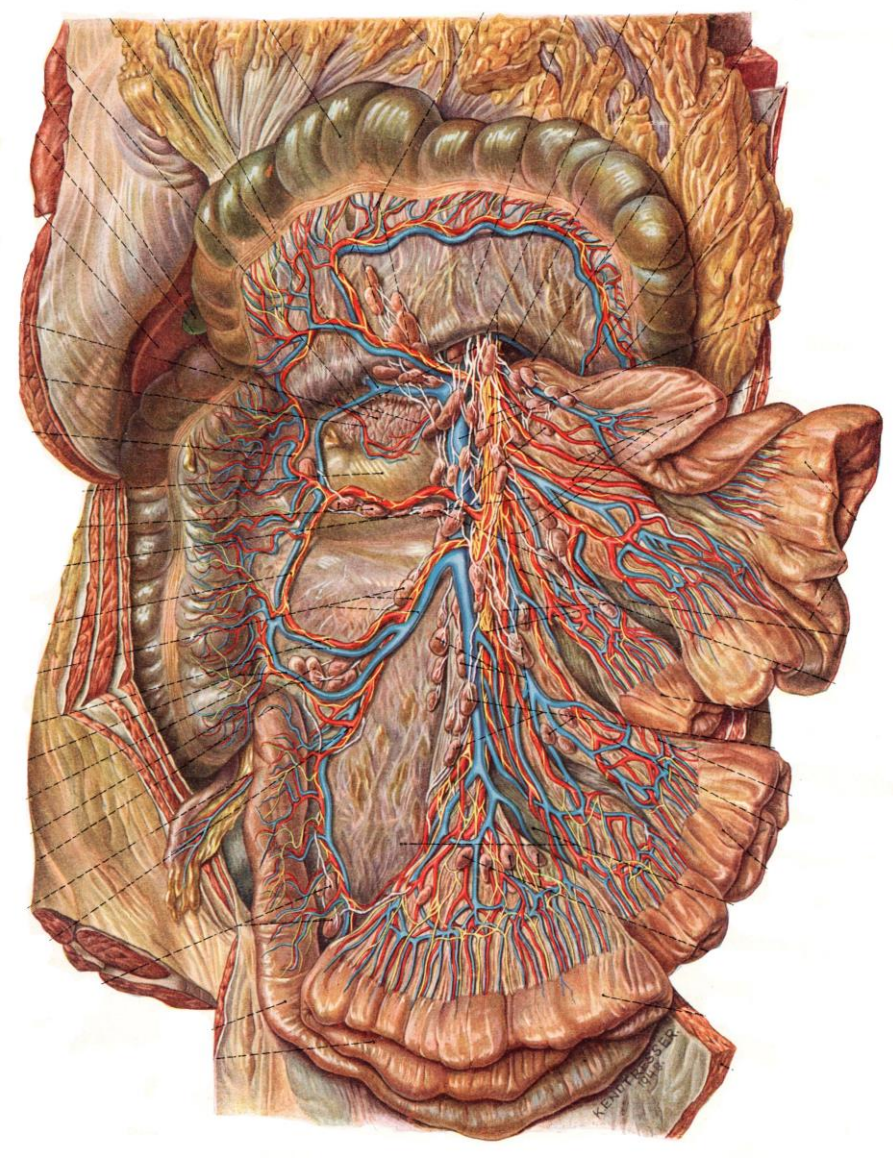
Untere zwei Drittel des Rectum:

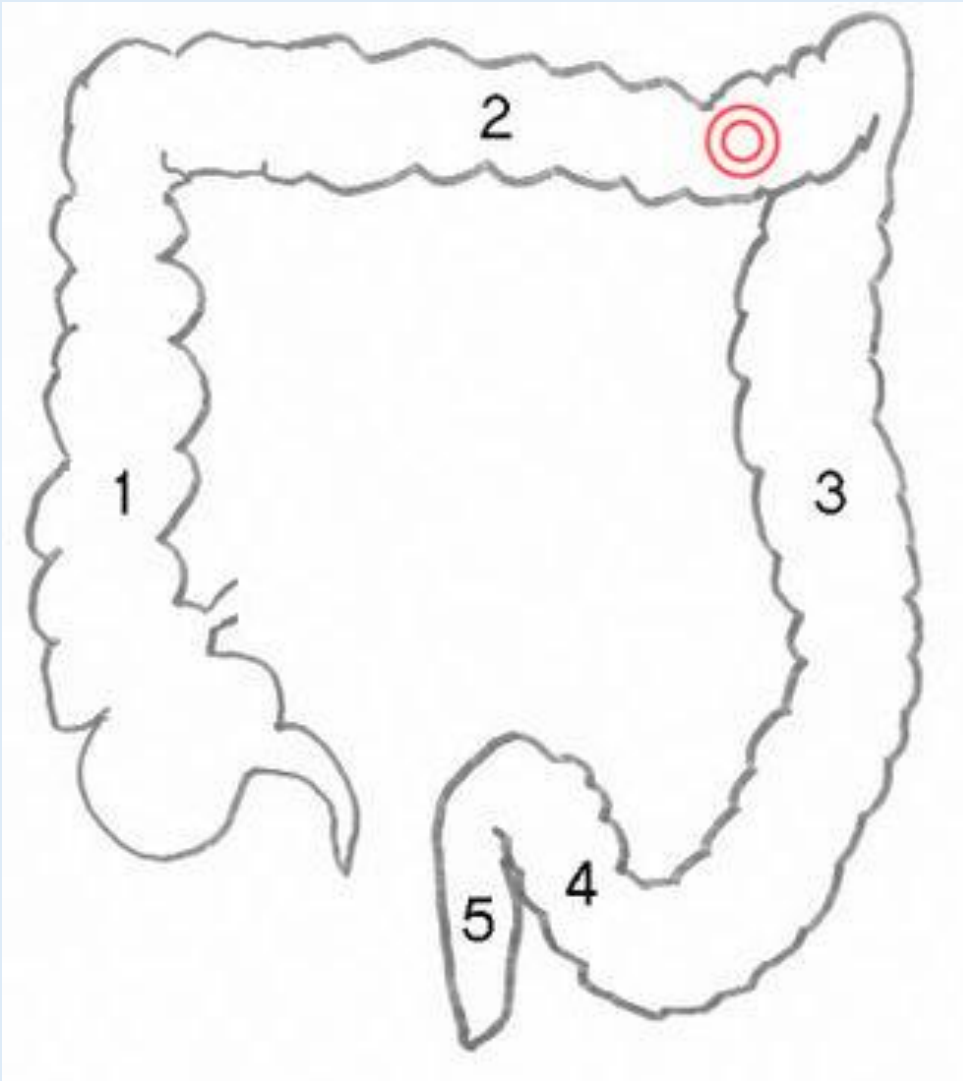
→ Vena cava inferior



<https://www.haushaltstipps.net>

# Blutversorgung des Dickdarms





## Cannon-Böhm-Punkt

Übergangszone  
nervaler Steuerung des Dickdarms

Im letzten Drittel des Colon transversum endet das parasympatische Innervationsgebiet **des Truncus vagalis posterior** und beginnt das Innervationsgebiet des Parasympathikus **des sakralen Rückenmarks**.

# Lymphabfluss des Dickdarms

Nodi lymphatici ileocolici (4)

Nodi lymphatici praecaecales (5) (Caecum)

Nodi lymphatici retrocaecales (6) (Caecum)

Nodi lymphatici appendiculares (7) (Appendix vermiformis)

Nodi lymphatici mesocolici (Colon)

Nodi lymphatici paracolici (9)

Nodi lymphatici colici dextri/medii/sinistri (10)

→ **Nodi lymphatici coeliaci**

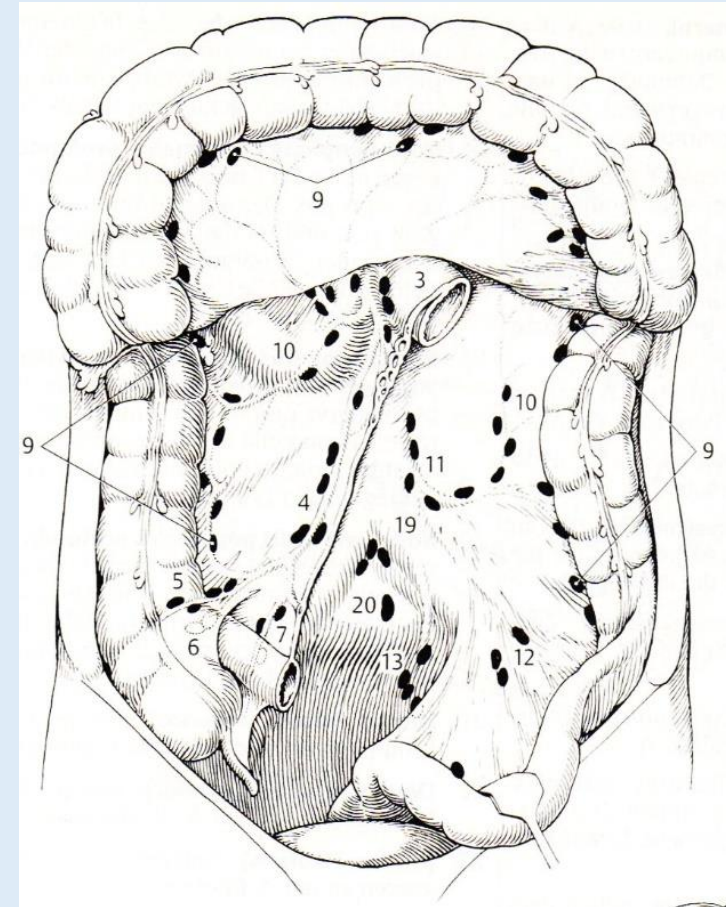
Nodi lymphatici mesenterici inferiores (11)

(Teil des Colon descendens, Sigmoid, Teil des Rectums)

Nodi lymphatici sigmoidei (12)

Nodi lymphatici rectales superiores (13)

→ **Nodi lymphatici prae-aortici in der Höhe der A. mes. inf.**



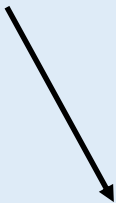
Feneis

# Lymphabfluss des Mastdarms

Nodi lymphatici pararectales (12) (Rectum)



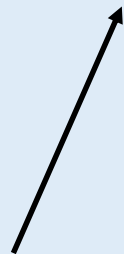
Nodi lymphatici iliaci interni



Nodi lymphatici iliaci communes



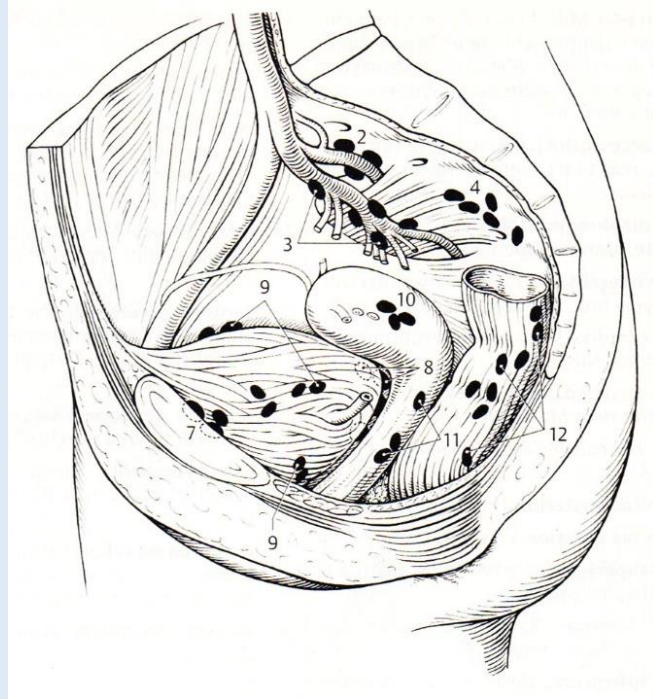
Nodi lymphatici lumbales  
Truncus lumbalis



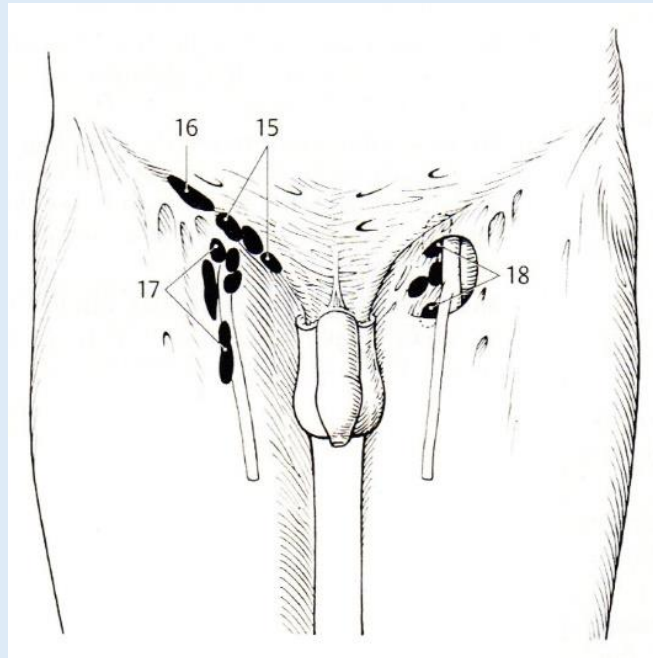
Nodi lymphatici iliaci externi



Nodi lymphatici inguinales superficiales (Anus, Damm)

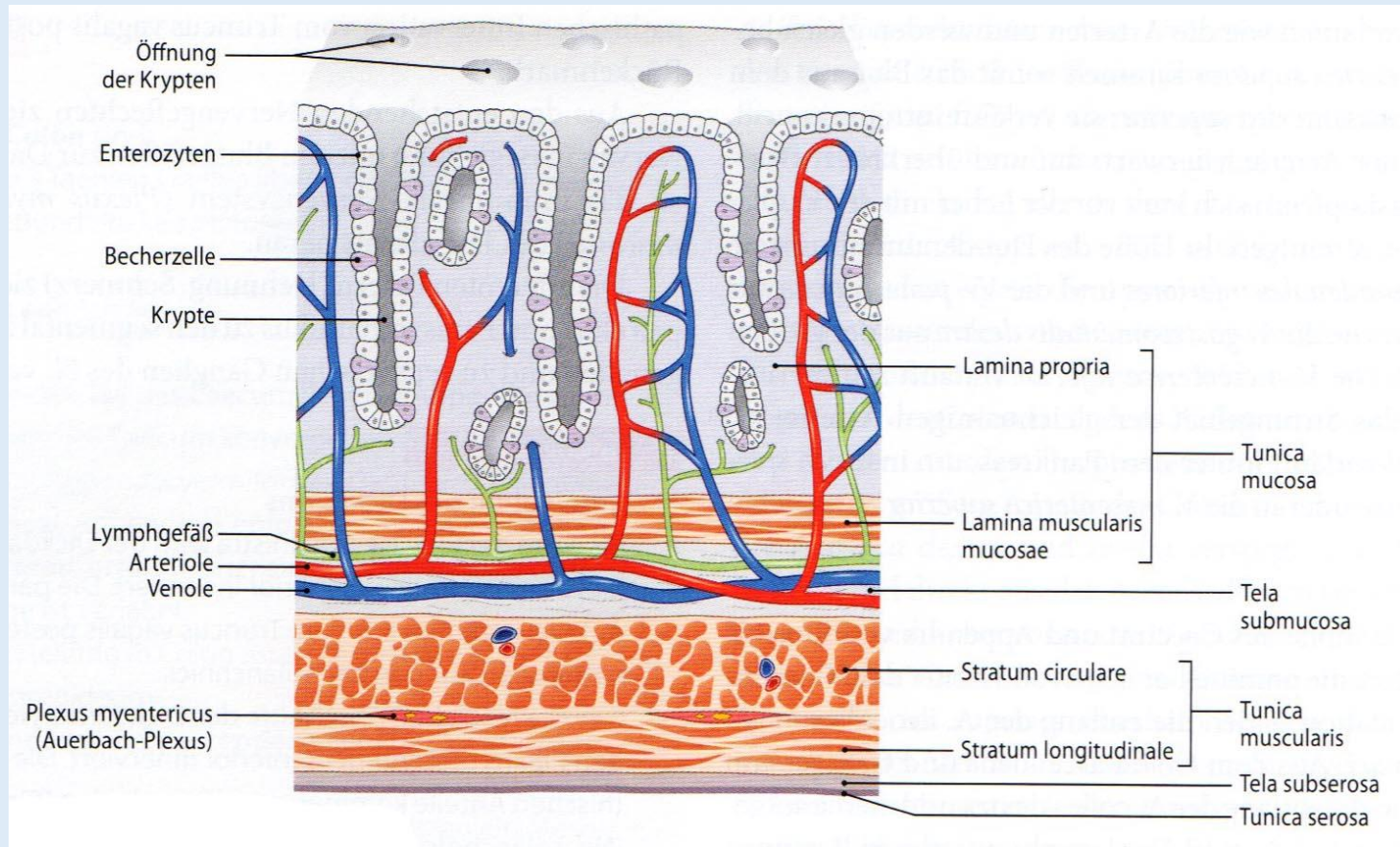


Feneis





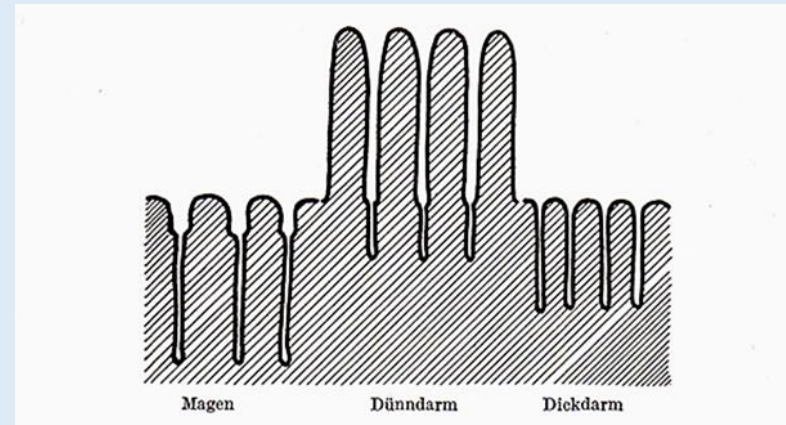
# Histologie des Dickdarms



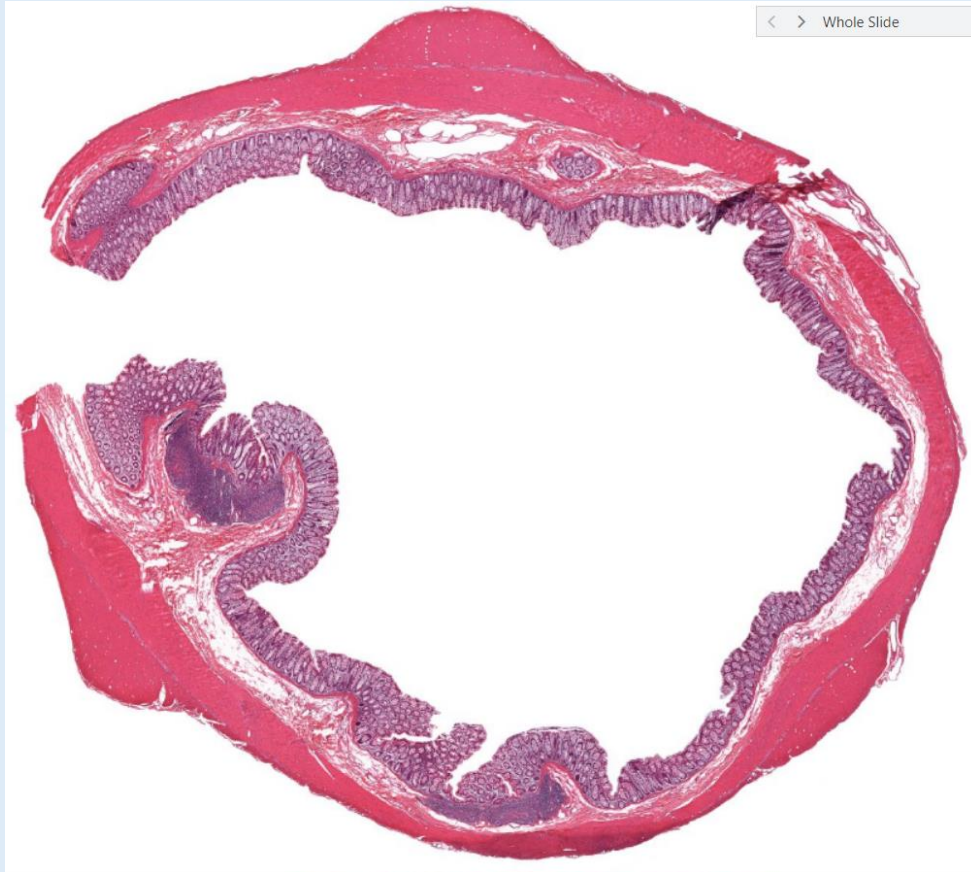
Voss

➔ keine Kerckring-Falten und Darmzotten

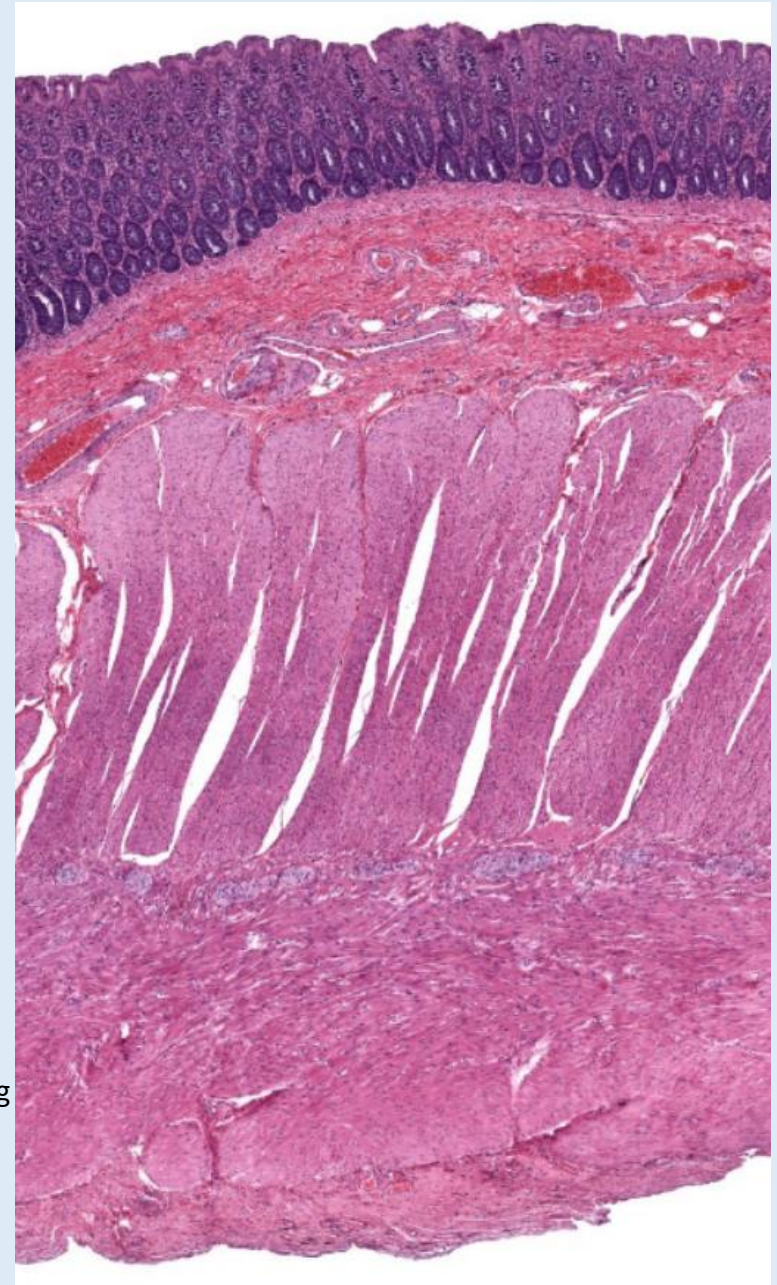
➔ Stratum longitudinale der Tunica muscularis nur bei den Taenien



# Histologie des Dickdarms



[histologyguide.org](http://histologyguide.org)



# Histologie des Dickdarms

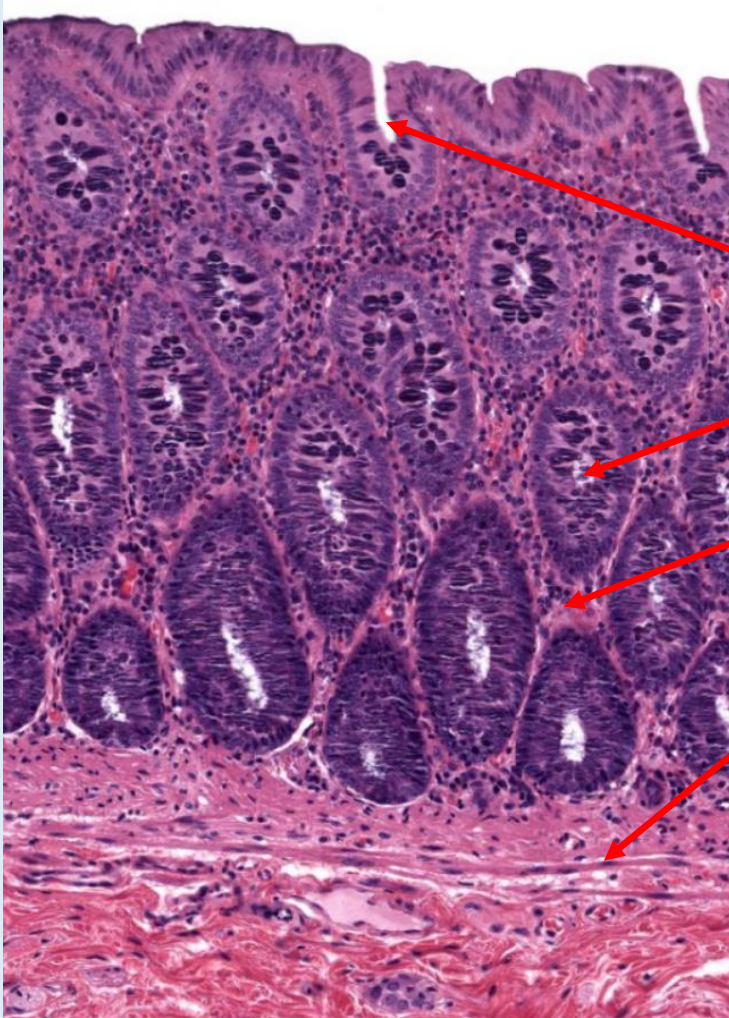
Schleimhaut:

Lieberkühn-Krypten

Lamina propria mucosae

Lamina muscularis mucosae

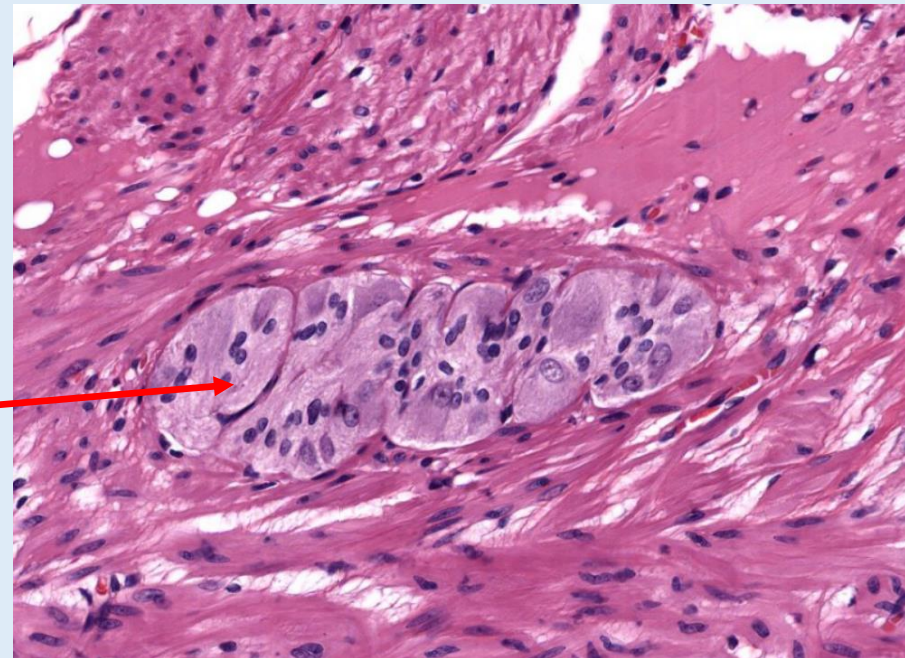
histologyguide.org



histologyguide.org

**Plexus myentericus Auerbachii**

(zw. inneren zirkulären sowie  
äußeren longitudinalen  
Muskelschichten)



# Histologie der Appendix vermiformis



- keine Plicae semilunares
- geschlossene Muskelschicht
- aggregierte Lymphfollikel  
am Boden der Tunica mucosa,  
die die Lamina muscularis  
mucosae durchbrechen können

# Anorectaler Übergang

histologyguide.org



Colonschleimhaut

Musculus sphincter ani internus

Analhaut