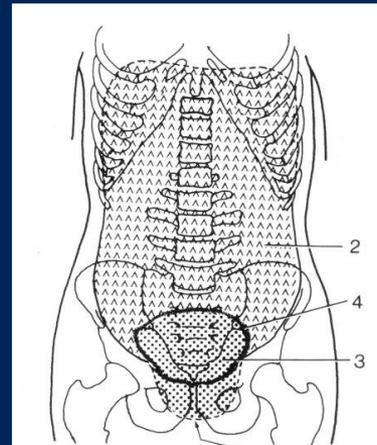
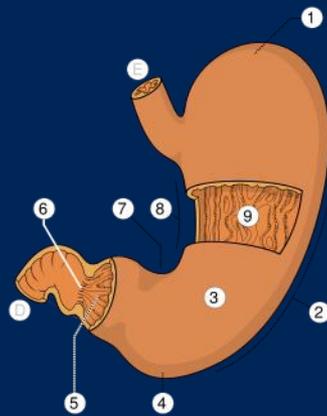


# Mave og tarmsystem

- med gennemgang af lag

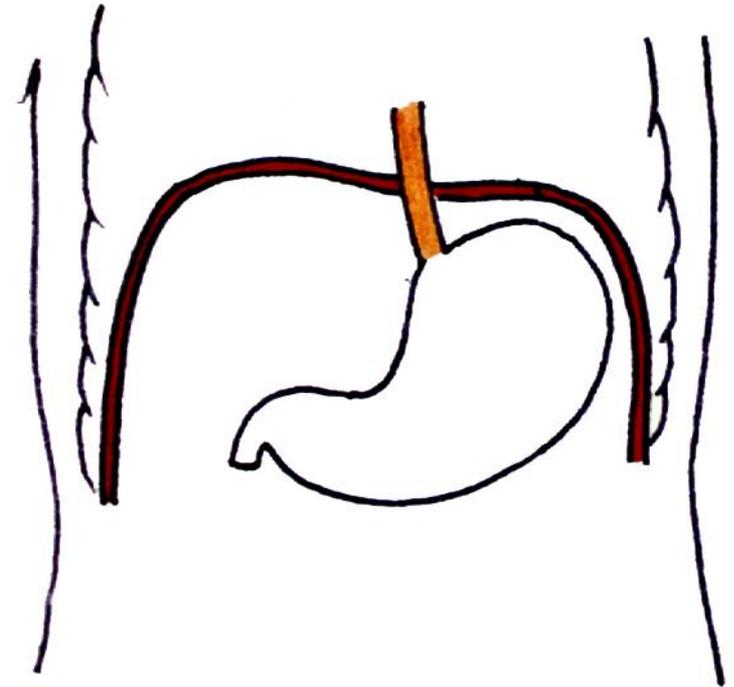


ANATOMI

# MAVESÆK

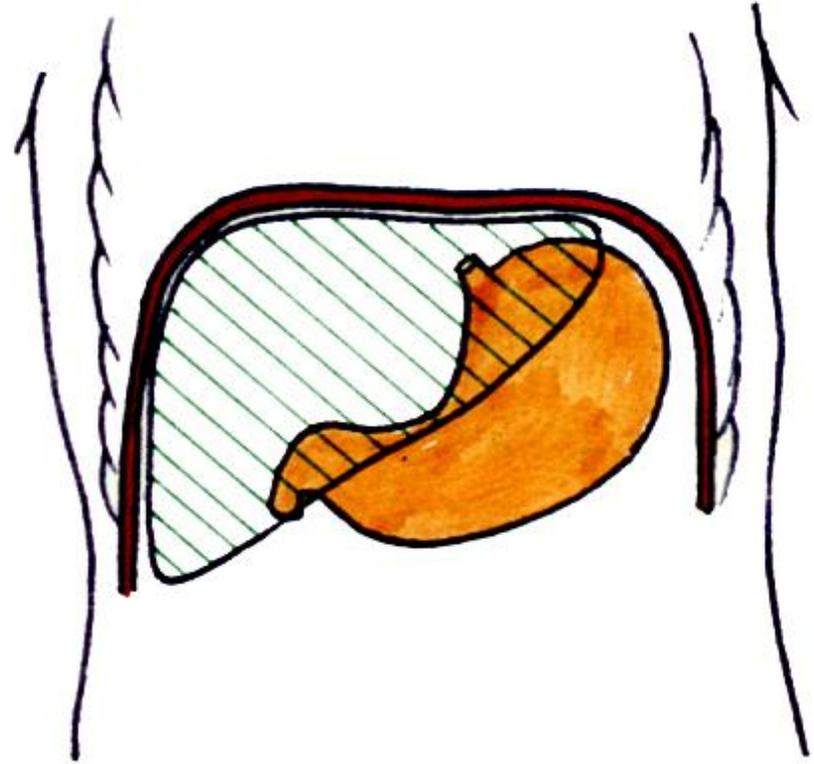
## Gaster

- ventriklen / ventriculus
- ligger ud for nederste brysthvirvler



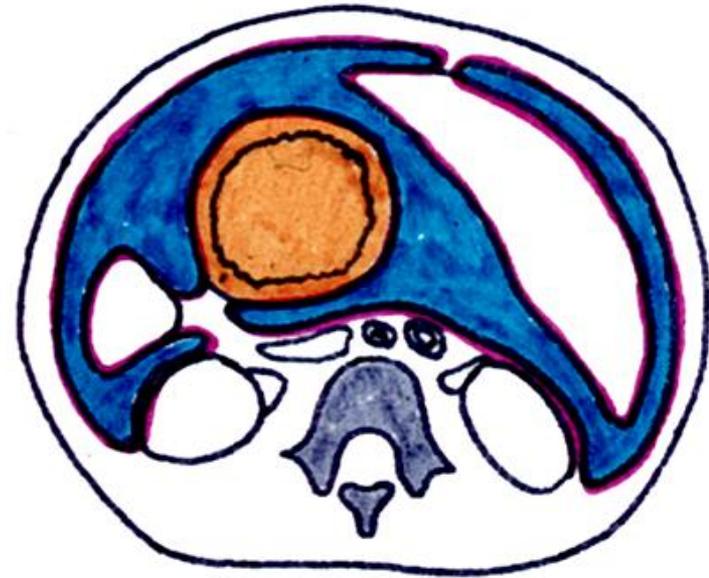
# MAVESÆK

- ligger opad til venstre
- under diafragma



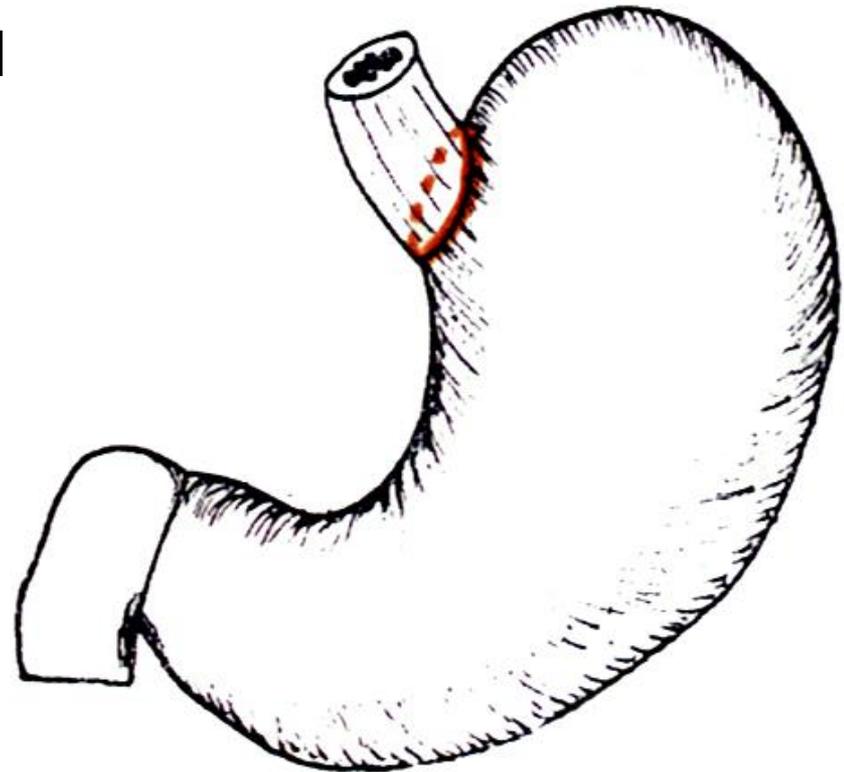
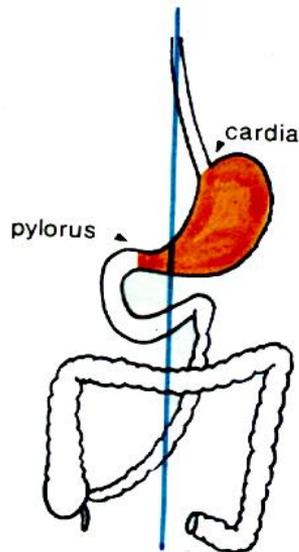
# MAVESÆK

- ligger i spatium peritoneale



# MAVESÆK

- cardia (mavemunden) ligger til venstre for midtlinjen



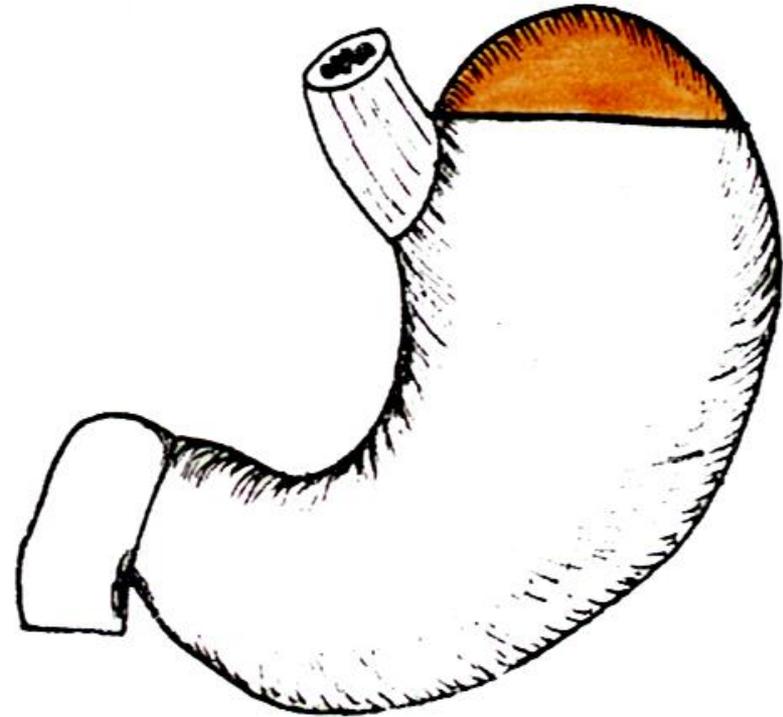
# MAVESÆK

- corpus gastricum  
(kropsdel)



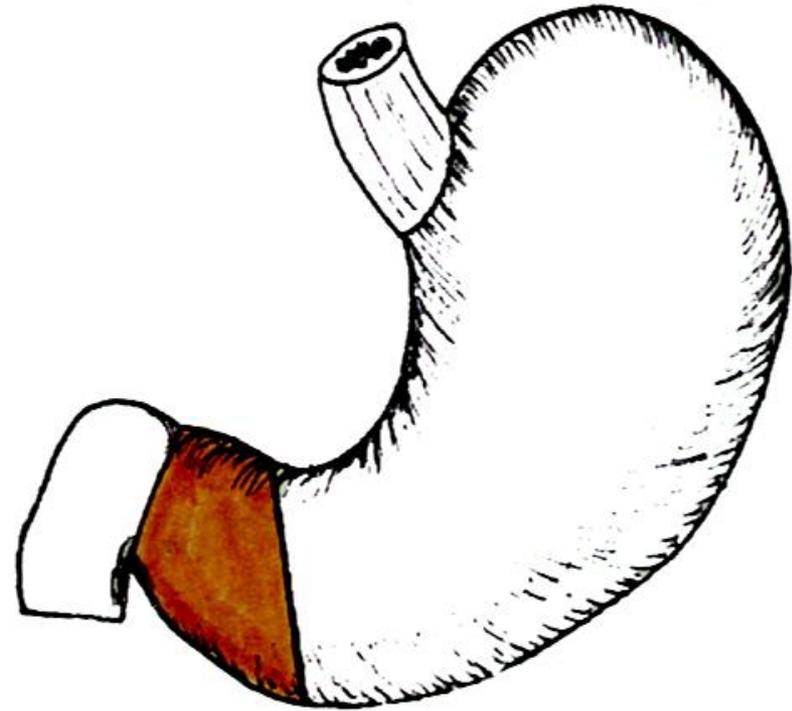
# MAVESÆK

- fundus gastricus (kuppeldel)



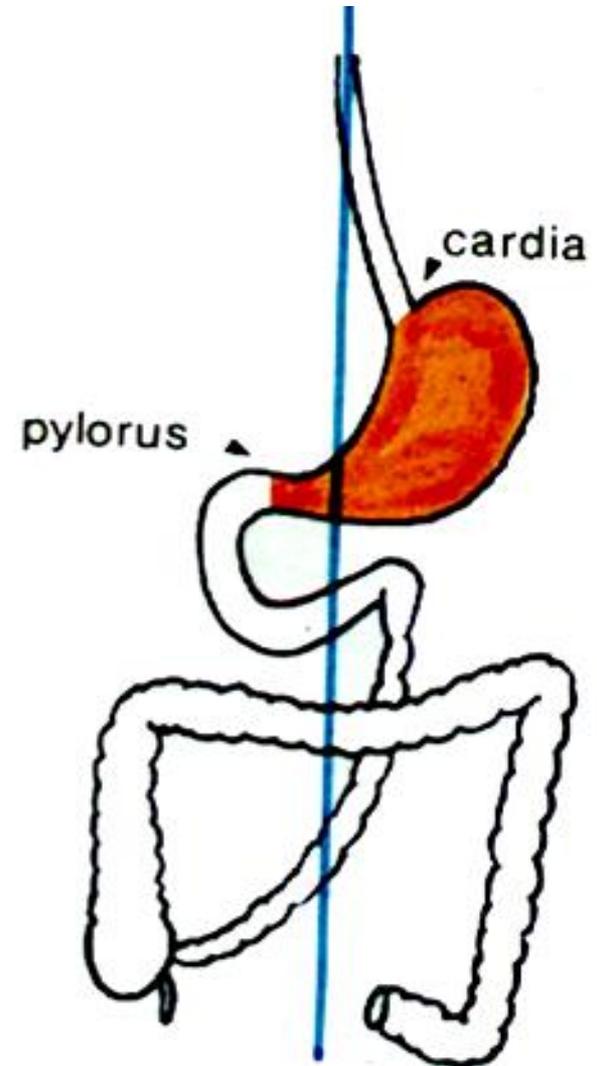
# MAVESÆK

- pars pylorica  
(nedre del)



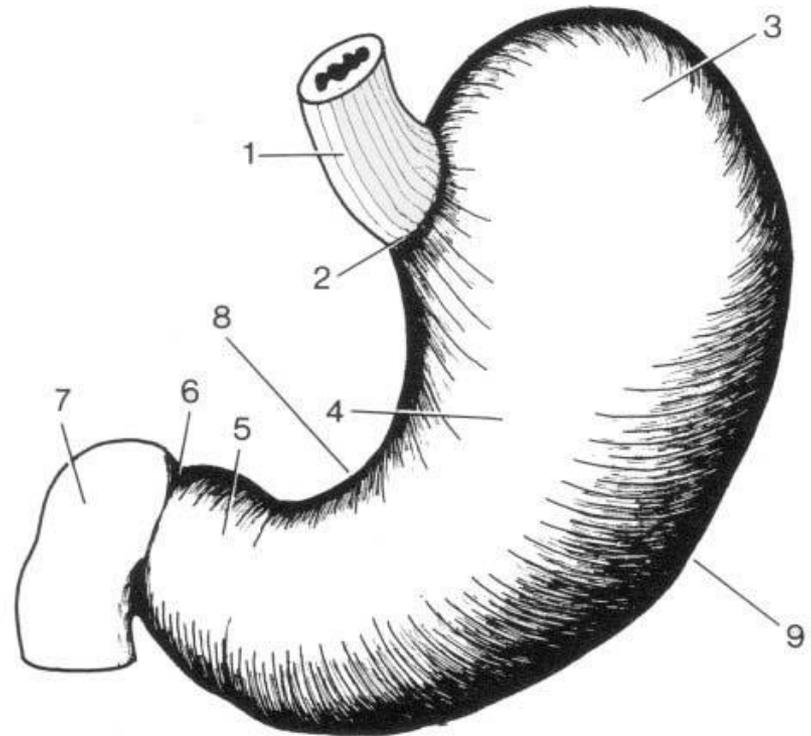
# MAVESÆK

- pylorus (maveporten)
  - til højre for midtlinjen
  - ud for øverste lændehvirvel
- bemærk fordøjelsessystemets sik-sak-forløb
- start i en side og slut i den anden



# MAVESÆK

- to flader
  - forflade
  - bagflade



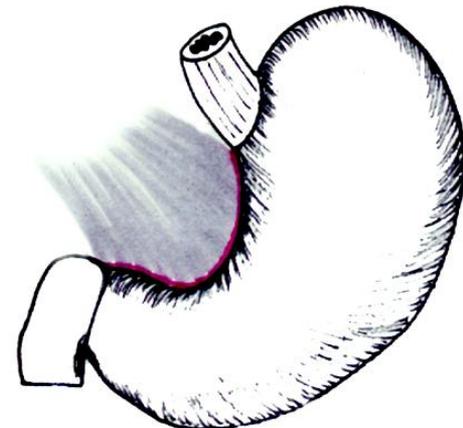
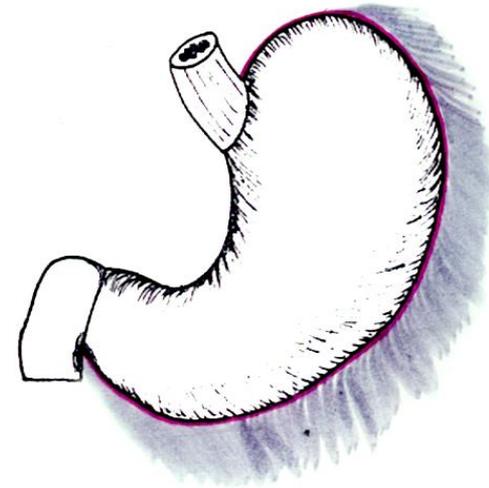
# MAVESÆK

## curvatura major (til venstre)

- her afgår omentum majus
- der hænger ned foran tarmene

## curvatura minor (til højre)

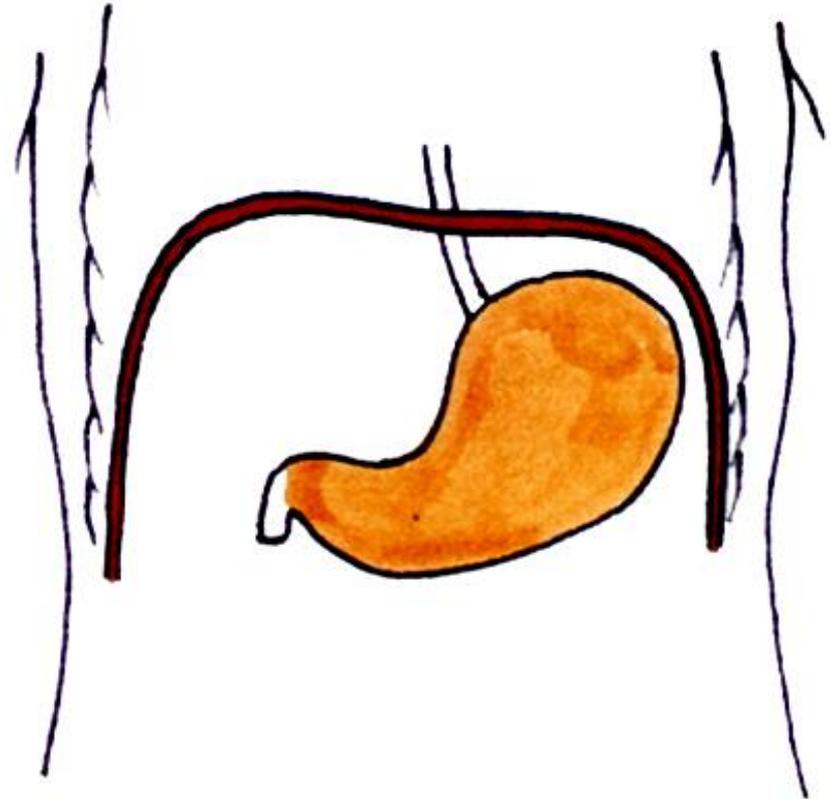
- her afgår omentum minus,
- der forbinder mavesæk og lever



# MAVESÆK

## relationer

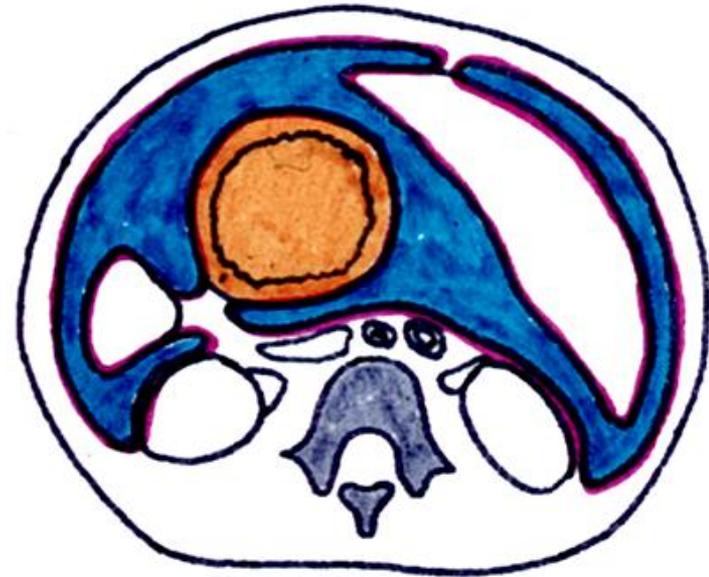
- diafragma opadtil og fortil



# MAVESÆK

## relationer

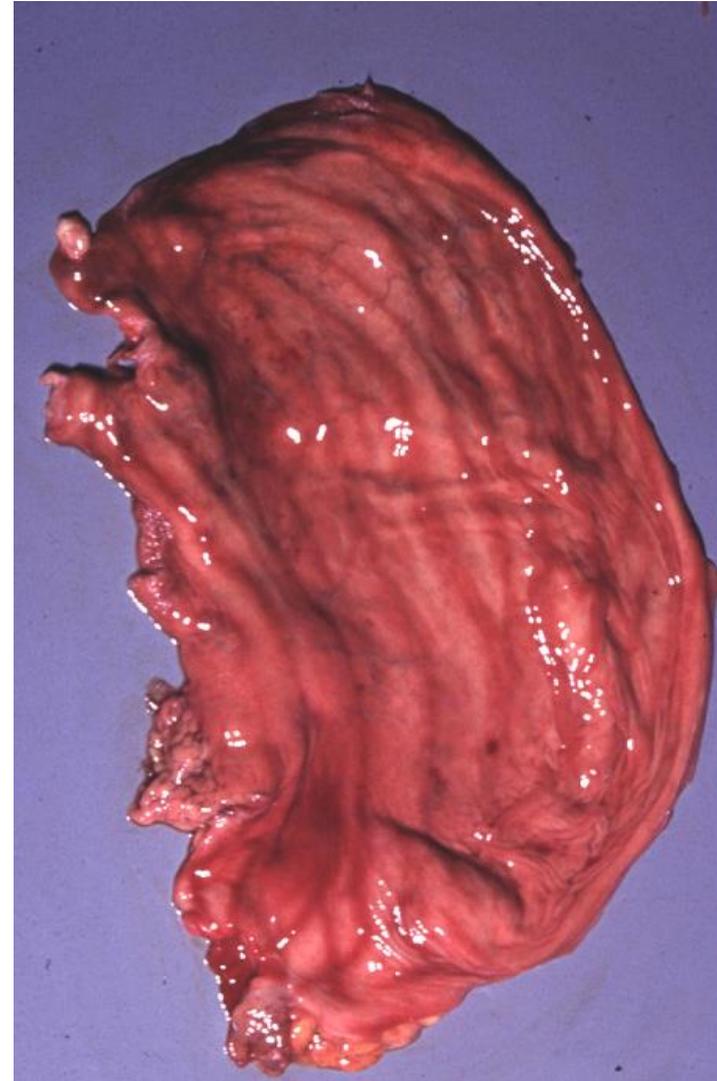
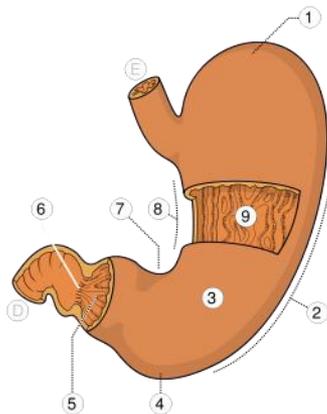
- lever fortil
- bugspytkirtel, milt og venstre nyre bagtil



# MAVESLIMHINDENS OVERFLADERELIEF

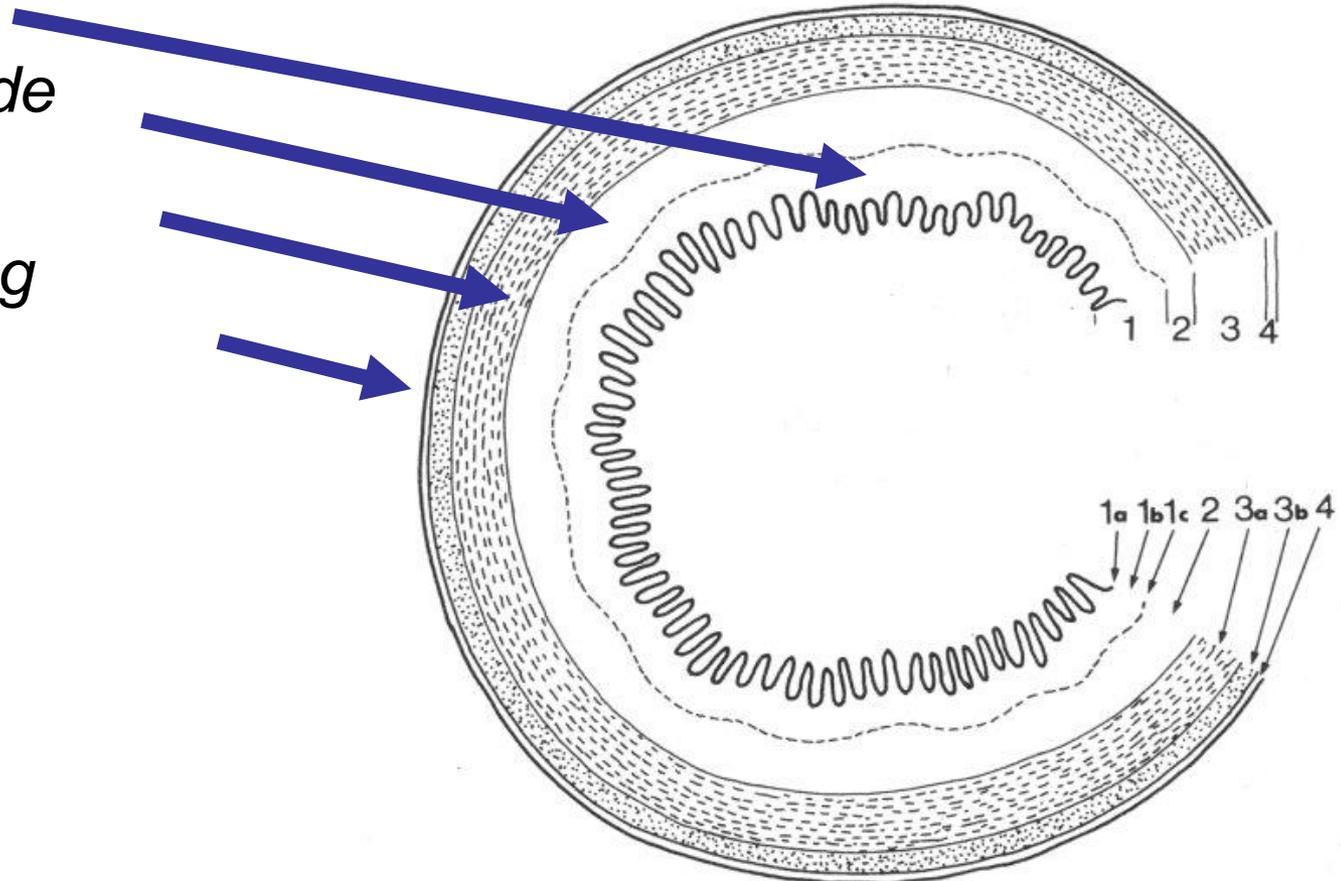
## MAVESÆKKEN:

- længdefolder  
(plicae gastricae)
- også mavetragte  
(foveolae gastricae)



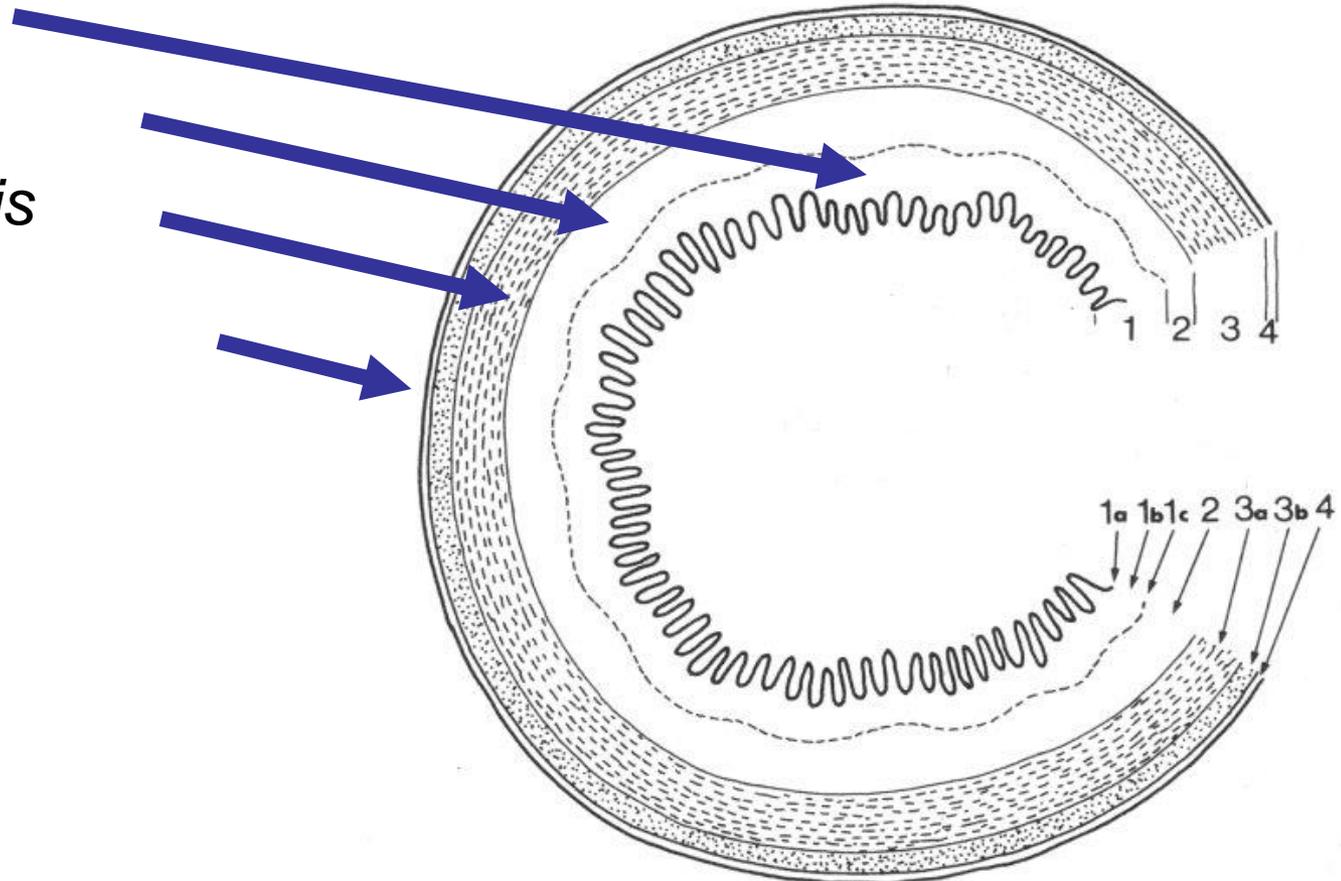
# VÆGGENES PRINCIPIELLE OPBYGNING I FORDØJELSESSYSTEMET

- *Slimhinde*
- *Underslimhinde*
- *Muskelkappe*
- *Afsluttende lag*



# VÆGGENES PRINCIPIELLE OPBYGNING I FORDØJELSESSYSTEMET

*Tunica mucosa*  
*Tela submucosa*  
*Tunica muscularis*  
*Tunica serosa*  
*/Adventitia*



# LAG I GASTER

Tunica mucosa  
Tela submucosa  
Tunica muscularis  
Tunica serosa

Tunica mucosa:

- lamina epithelialis
  - enlaget prismatisk epitel
  - epitelet fungerer både som dækeepitel og kirtel
  - udsondrer sekret der beskytter



# LAG i GASTER

Tunica mucosa  
Tela submucosa  
Tunica muscularis  
Tunica serosa

Tunica mucosa:

- lamina propria
  - indeholder rørformede kirtler
  - gll gastricae tømmer sig i tragte

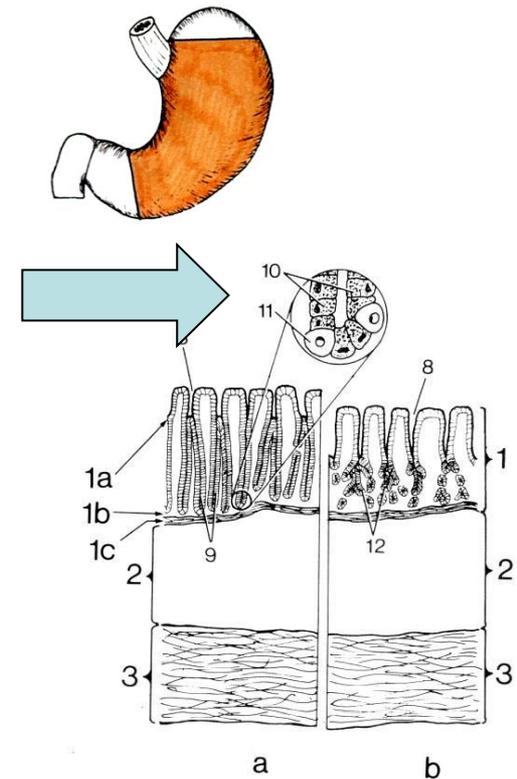


# LAG i GASTER

Tunica mucosa  
Tela submucosa  
Tunica muscularis  
Tunica serosa

Tunica mucosa:

- lamina propria
  - indeholder rørformede kirtler
  - gll gastricae tømmer sig i tragte
  - i corpus
    - hovedceller (10) (enzym)

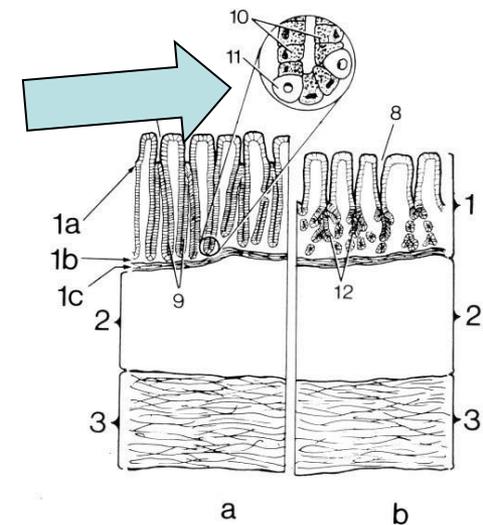
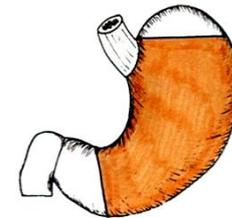


# LAG I GASTER

Tunica mucosa  
Tela submucosa  
Tunica muscularis  
Tunica serosa

Tunica mucosa:

- lamina propria
  - indeholder rørformede kirtler
  - gll gastricae
  - tømmer sig i tragte
  - i corpus
    - hovedceller (enzym)
    - dækceller (11, HCl)

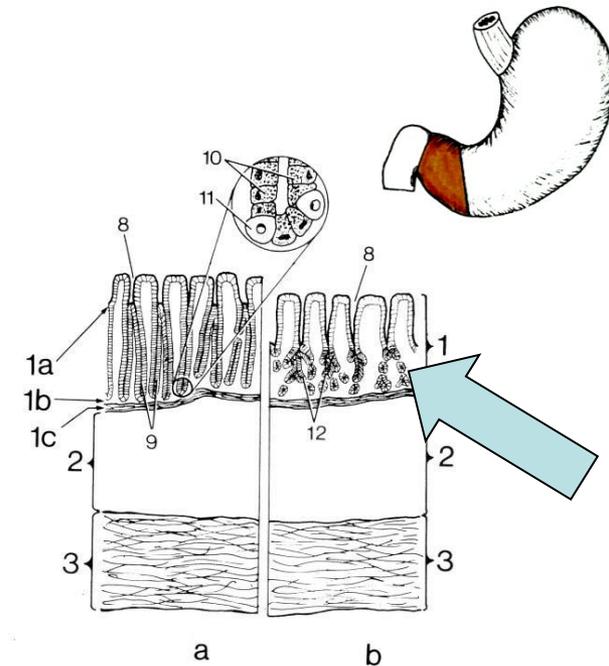


# LAG i GASTER

Tunica mucosa  
Tela submucosa  
Tunica muscularis  
Tunica serosa

## Tunica mucosa:

- lamina propria
  - indeholder rørformede kirtler
  - gll gastricae
  - tømmer sig i tragte
  - i corpus
    - hovedceller (enzym)
    - dækceller (HCl)
  - i pars pylorica
    - kun slimproducerende celler

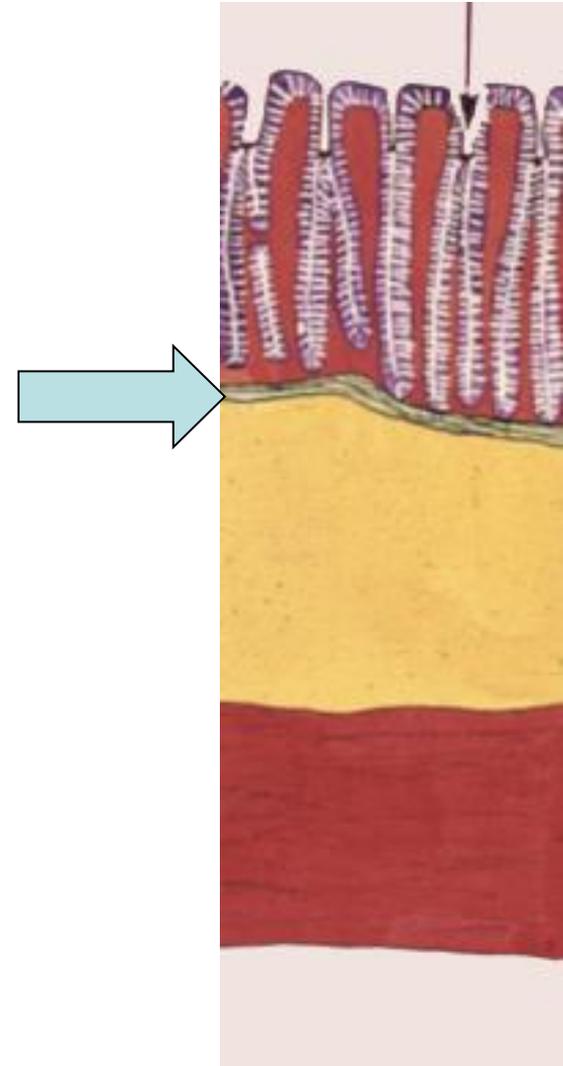


# LAG i GASTER

Tunica mucosa  
Tela submucosa  
Tunica muscularis  
Tunica serosa

Tunica mucosa:

- lamina muscularis mucosae



# LAG i GASTER

Tunica mucosa  
Tela submucosa  
Tunica muscularis  
Tunica serosa

- Tela submucosa
  - løst bindevæv
  - med kar og nerver
  - uden kirtler



# LAG i GASTER

Tunica mucosa  
Tela submucosa  
**Tunica muscularis**  
Tunica serosa

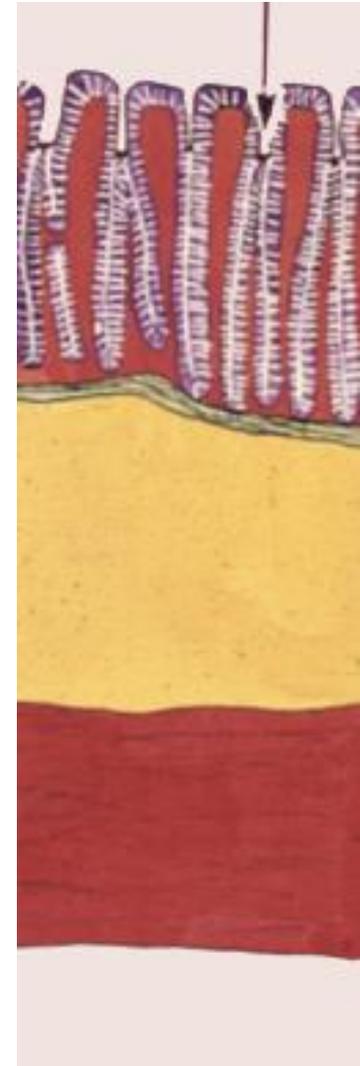
- Tunica muscularis
  - veludviklet muskelkappe
  - stratum longitudinale og circulare



# LAG i GASTER

Tunica mucosa  
Tela submucosa  
Tunica muscularis  
**Tunica serosa**

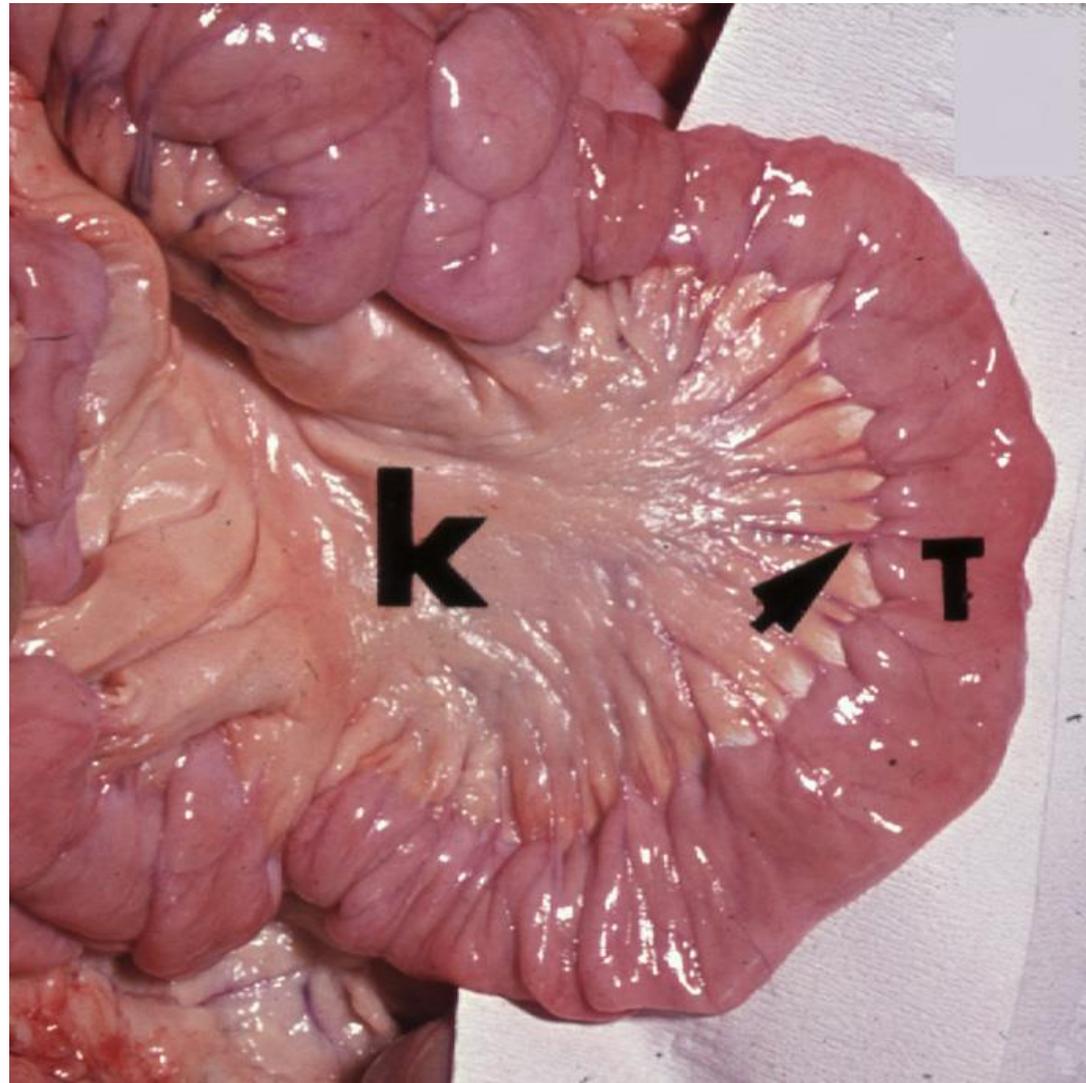
- Tunica serosa
  - peritoneum viscerale
  - på ventriklens overflade



# TYNDTARM



- 3-4m lang
- 6-8m i afslappet tilstand

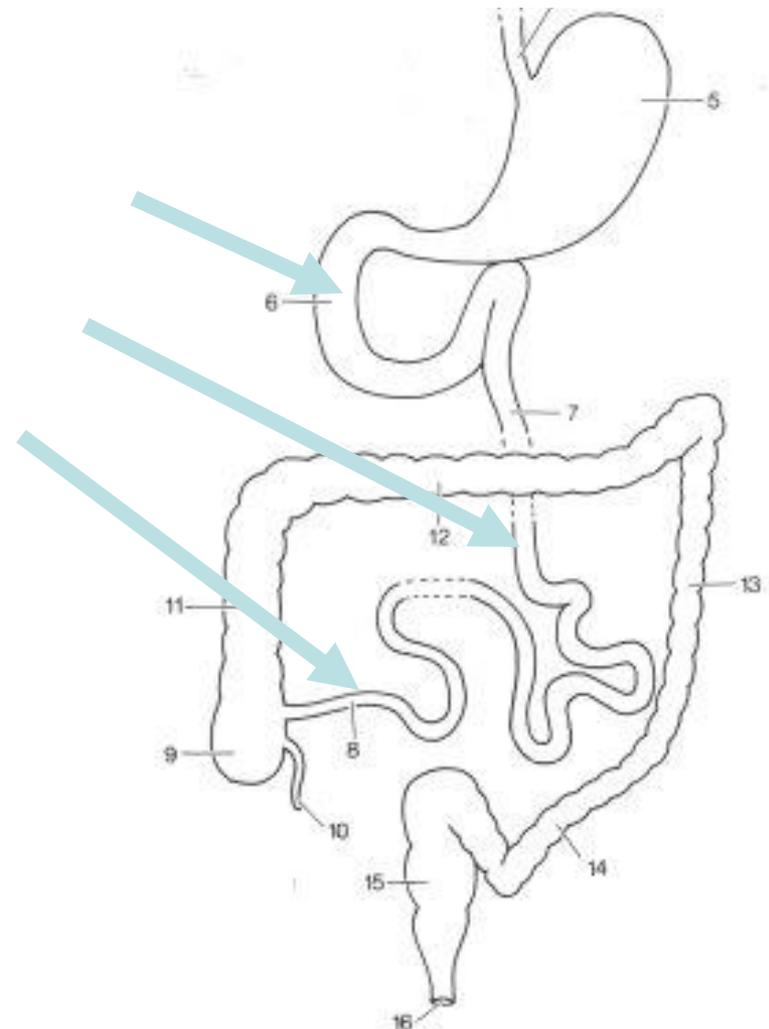


# FORDØJELSESKANALEN



TYNDDTARMEN består af:

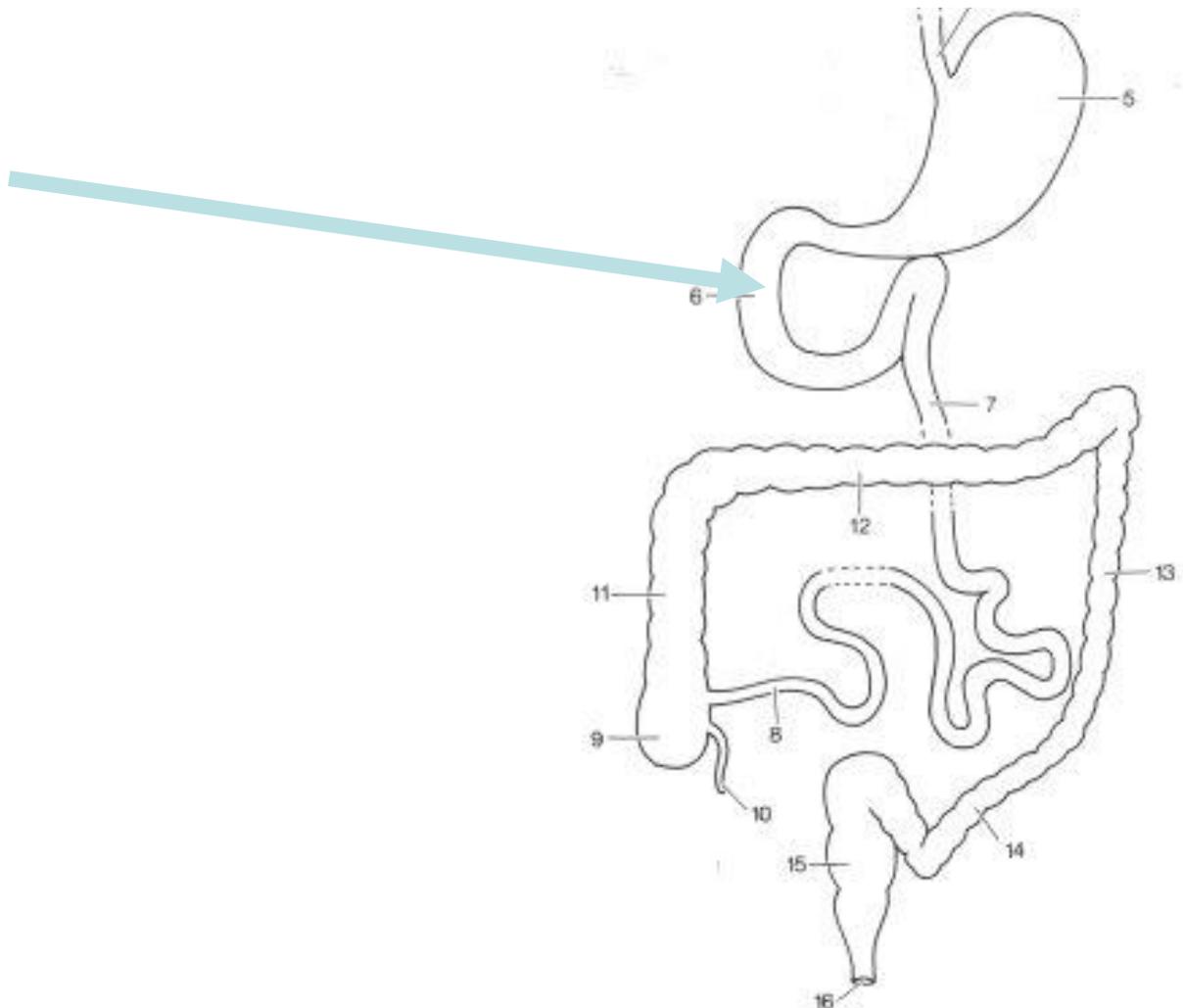
- tolvfingertarmen
- den tomme tarm
- den snoede tarm



# DUODENUM



”Tolvfingertarmen”



# DUODENUM



- Første 25 cm af tyndtarm
  - begynder til højre for midtlinjen ud for første lændehvirvel
  - løber i hesteskoformet bue, der er konveks mod højre
  - ender lavere og til venstre for midtlinjen

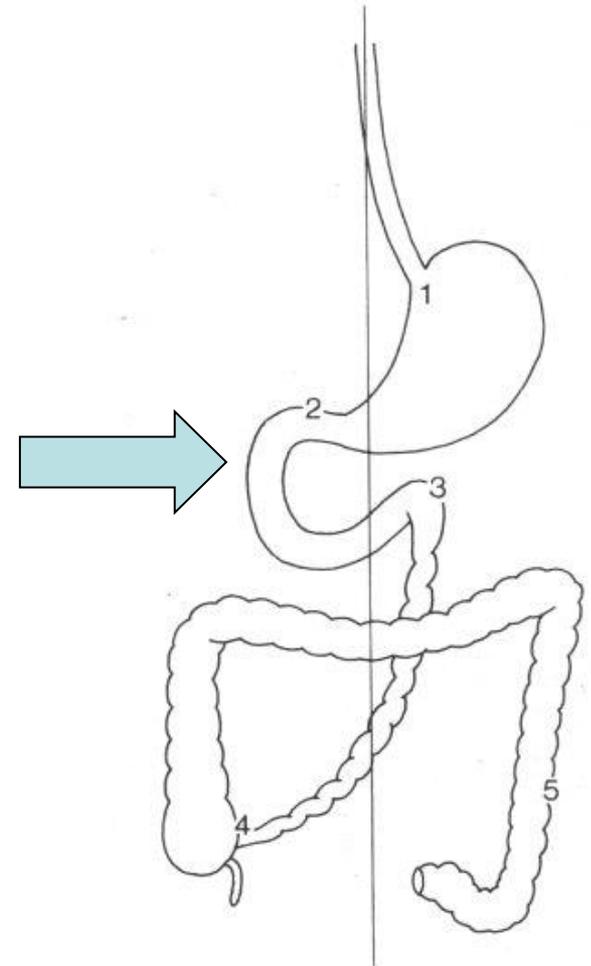


FIG. 50

# DUODENUM



- Sekundært retroperitonealt organ:

- bag intraperitoneale organer (lever)
- foran primært retroperitoneale organer (nyre)

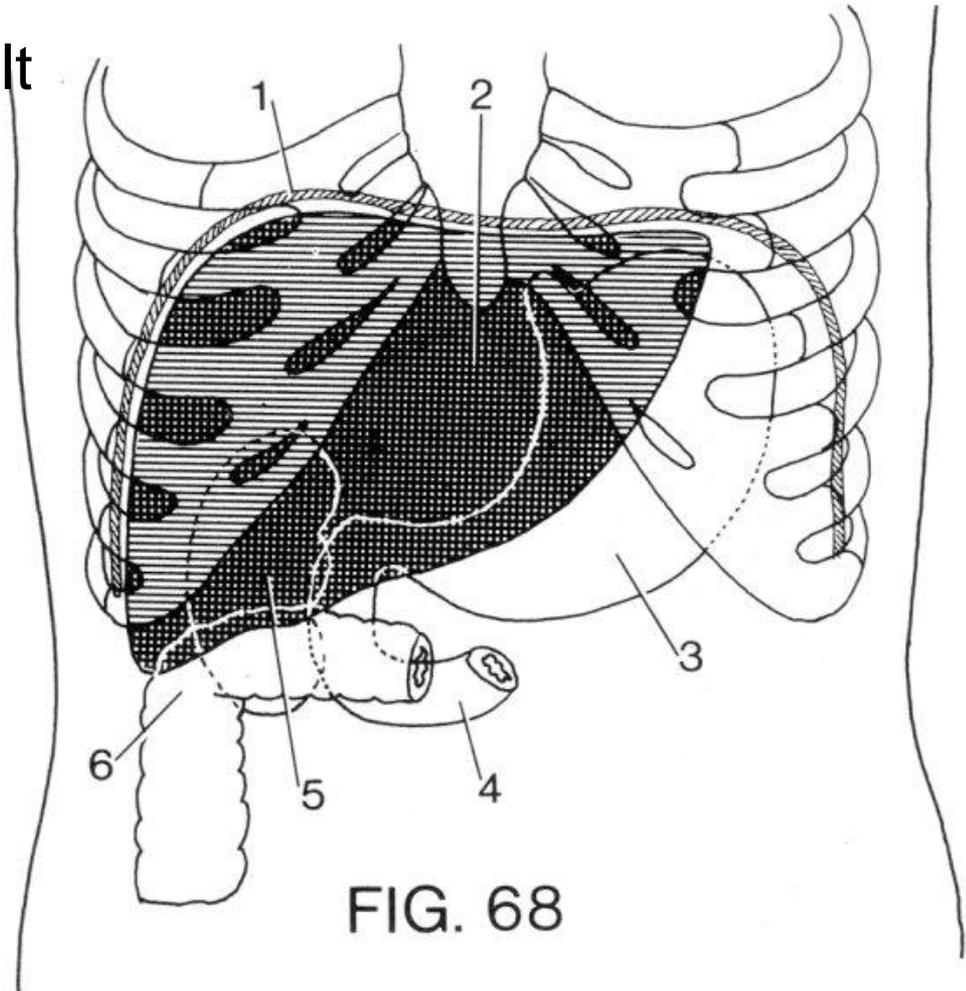


FIG. 68

# DUODENUM



- Galdegangen:
  - ligger bag begyndelses-stykket

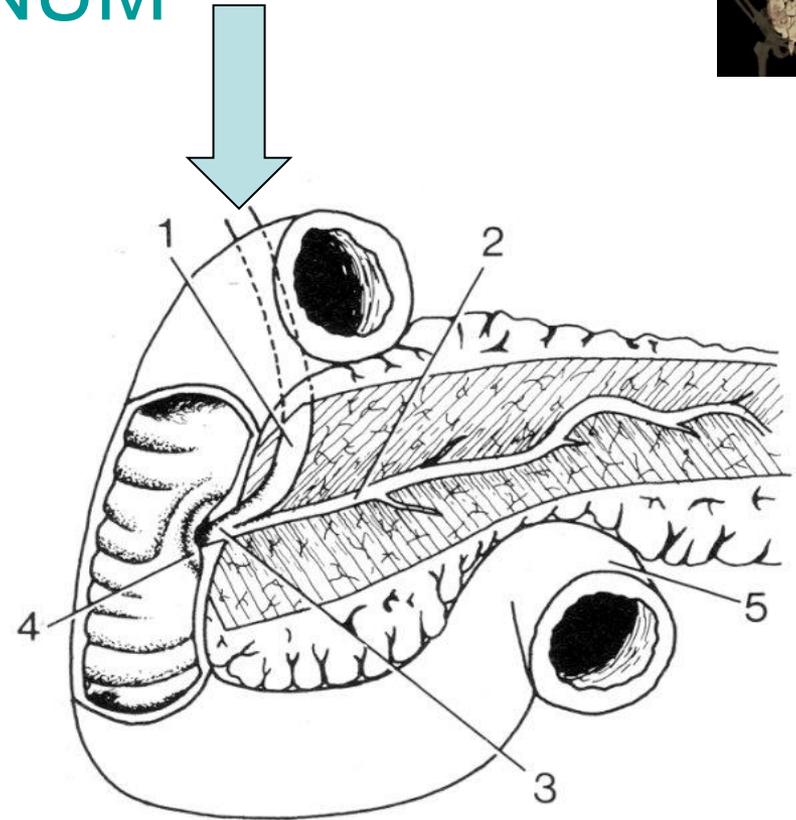


FIG. 53

# DUODENUM



- Pancreas:
  - ligger i konkavitet

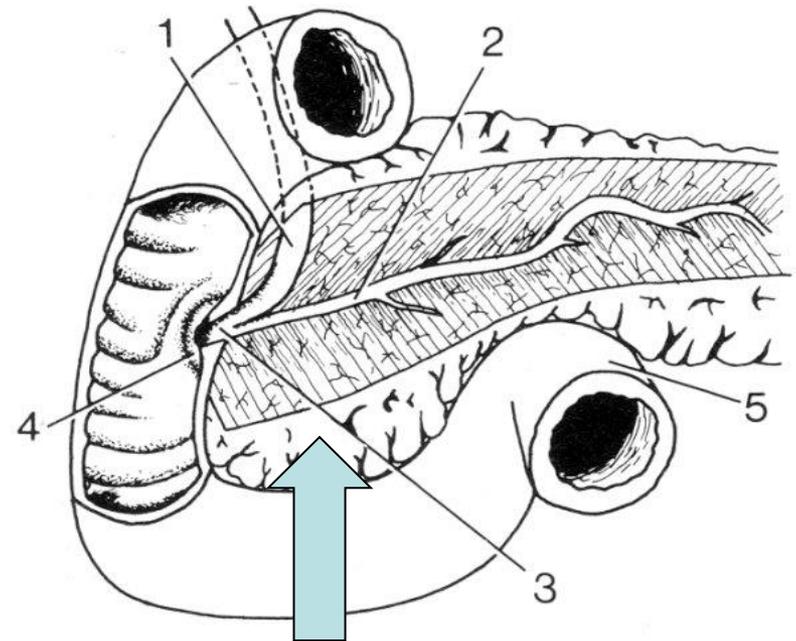


FIG. 53

# DUODENUM



1. Galdegangen (ductus biliaris)
2. Pancreasgang (ductus pancreaticus)
3. Fællesgangen
4. Fællesåbning (papilla duodeni major)

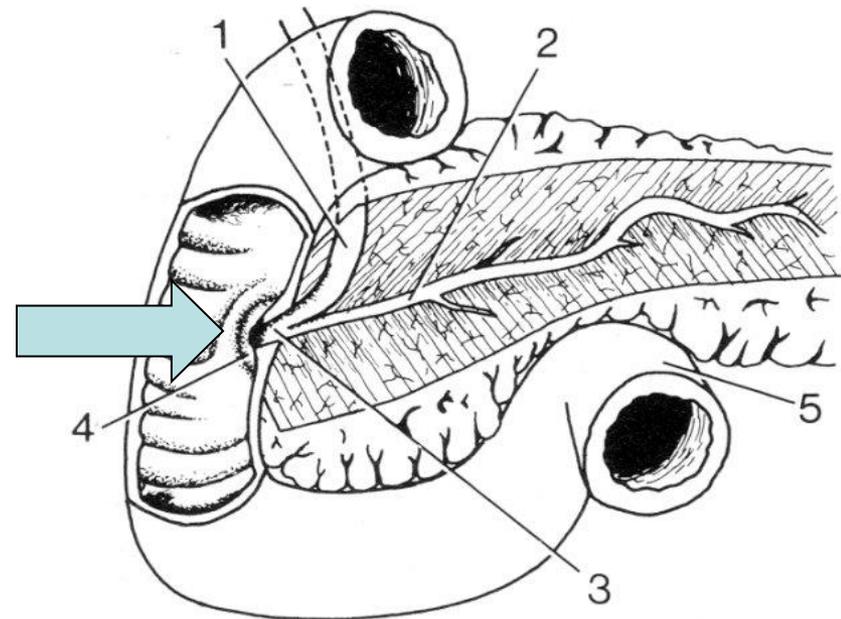
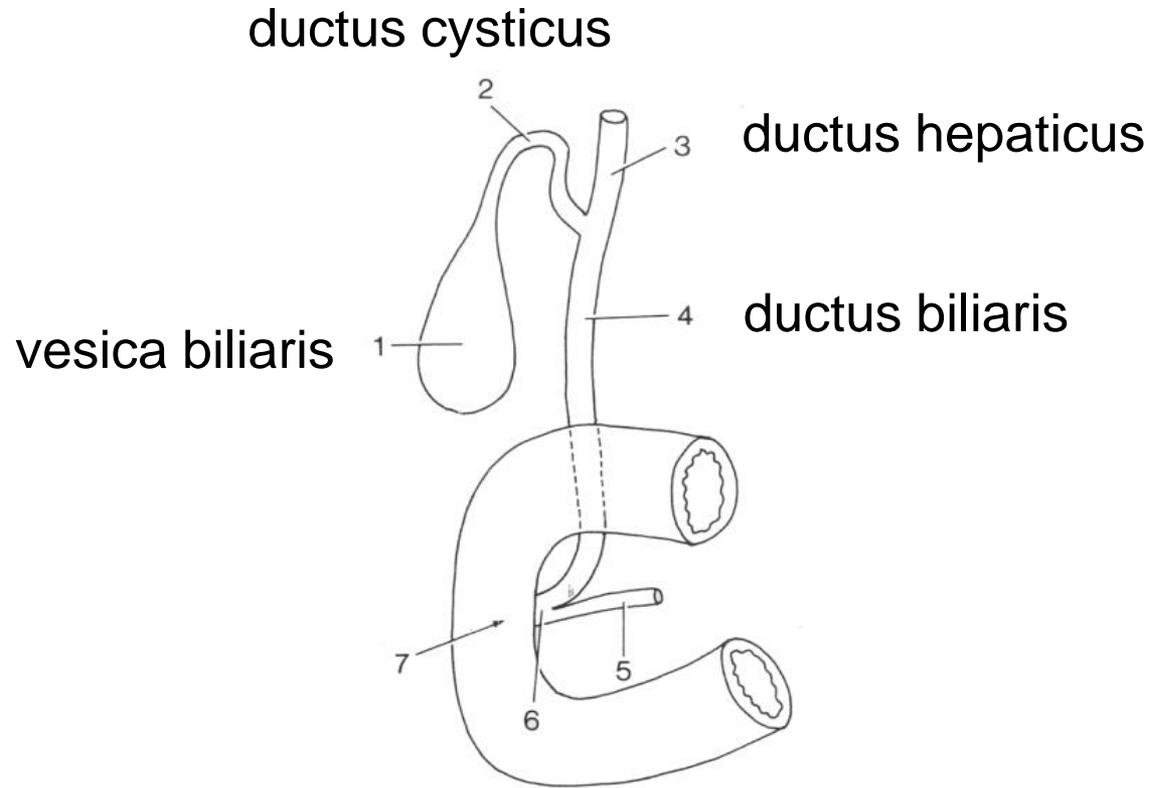


FIG. 53



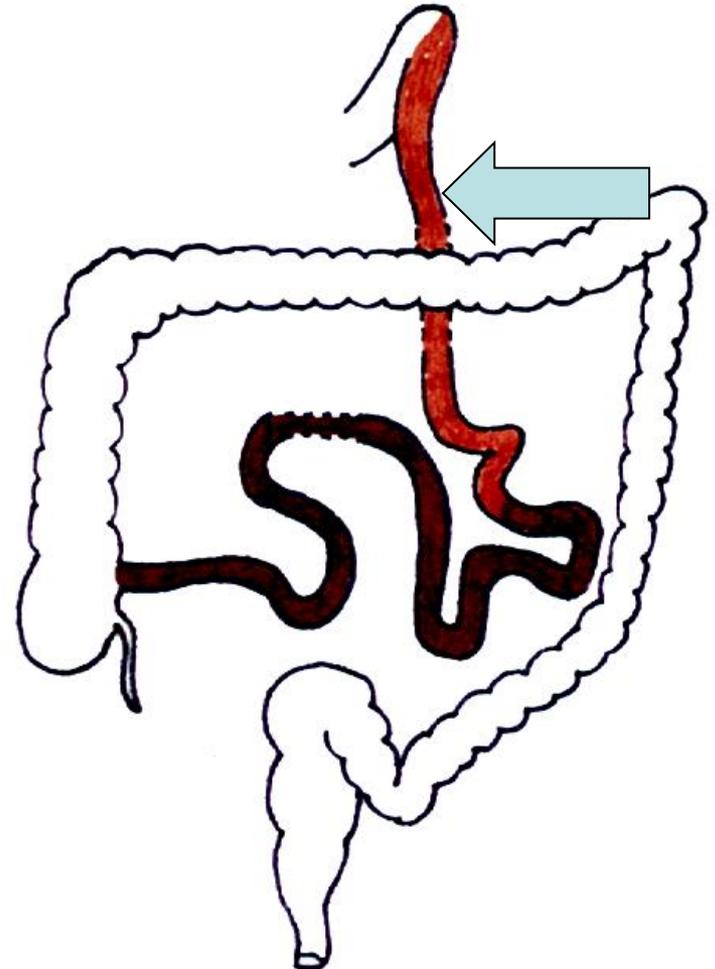
# DUODENUM



# JEJUNUM



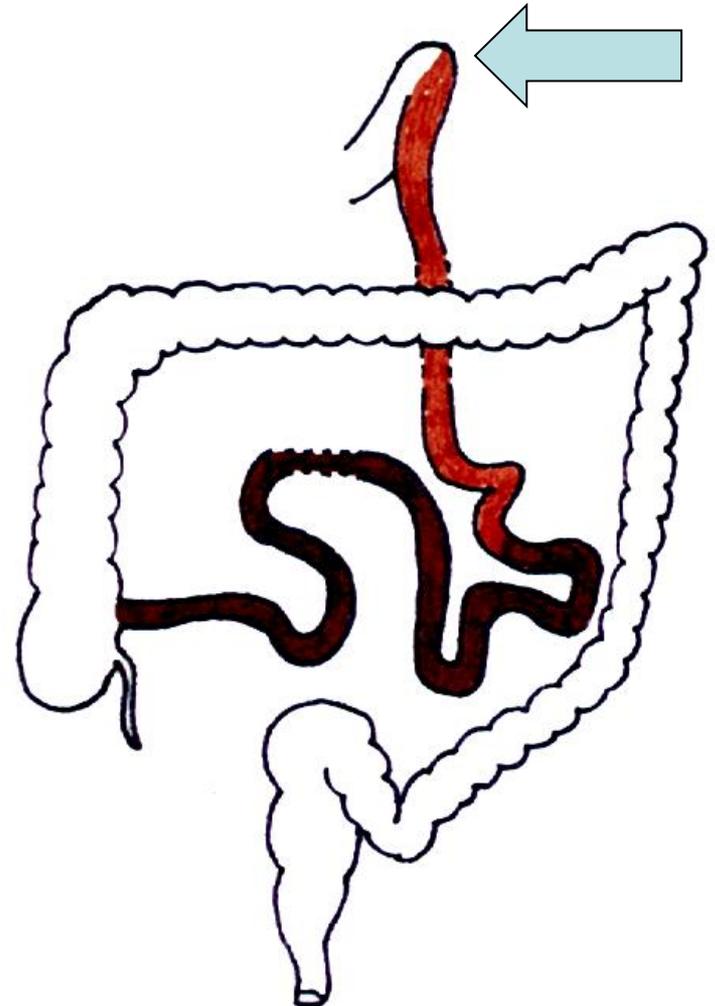
- “Den tomme tarm”
  - ..opad-til-venstre
  - ..første 2/5 af den krøsbærende tyndtarm (intestinum tenue mesenteriale)



# JEJUNUM



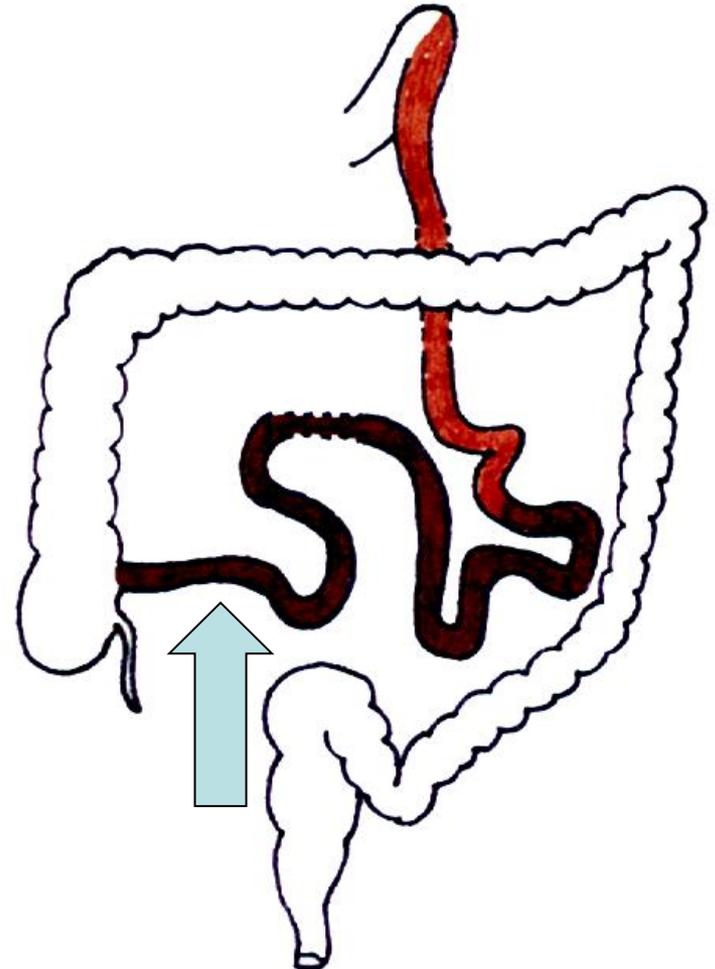
- flexura duodenojejunalis
  - overgang til duodenum
  - ingen speciel overgang til ileum



# ILEUM



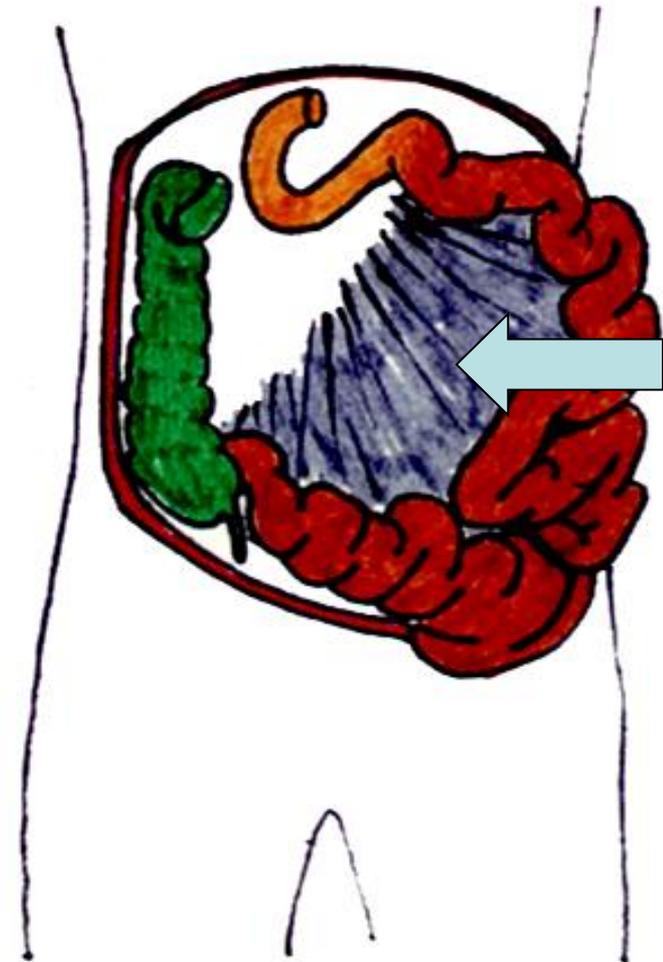
- “den snoede tarm”
  - ..nedad-til-højre
  - sidste 3/5 af intestinum tenue mesenteriale



# Mesenterium



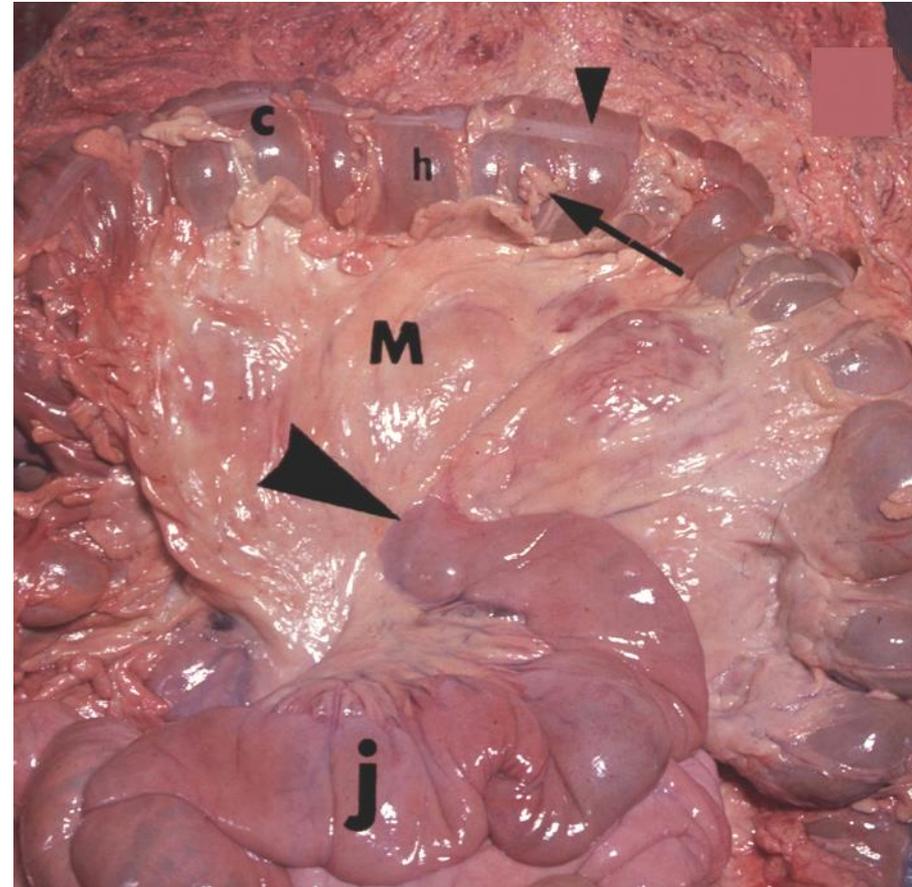
- krøs
- 2 blade af peritoneum viscerale
- vifteformet og meget foldet



# Intestinum tenue mesenteriale



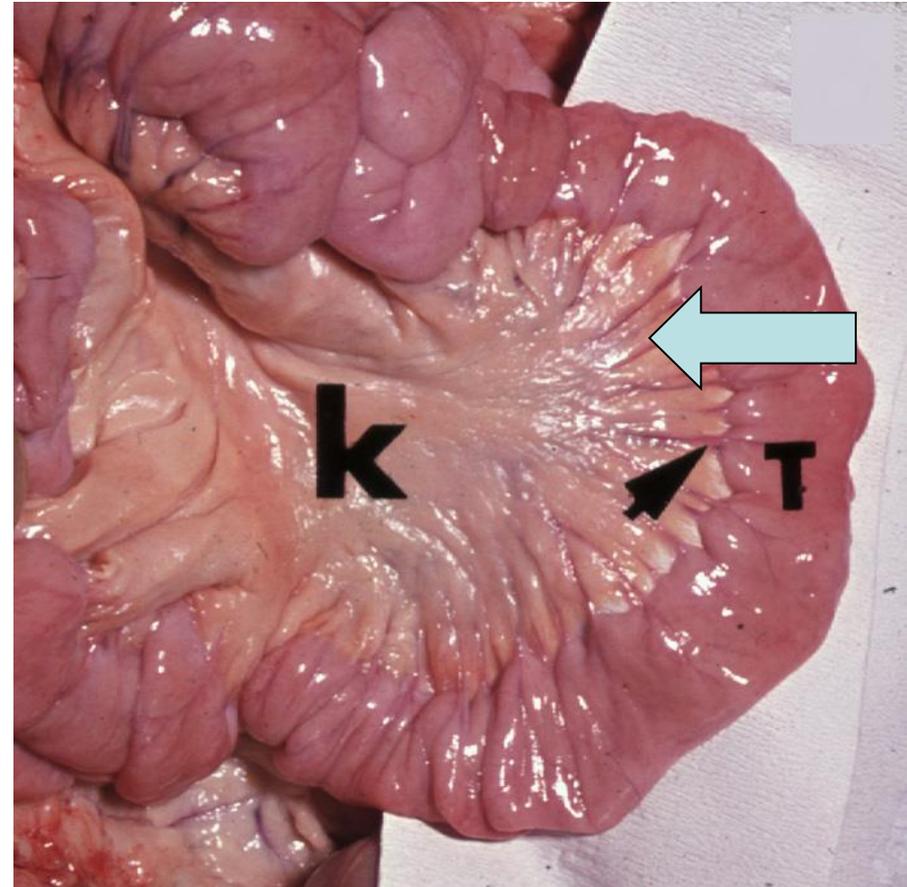
- ligger i “ramme” dannet af colon



# Mesenterium



- fedt, kar og nerver mellem bladene

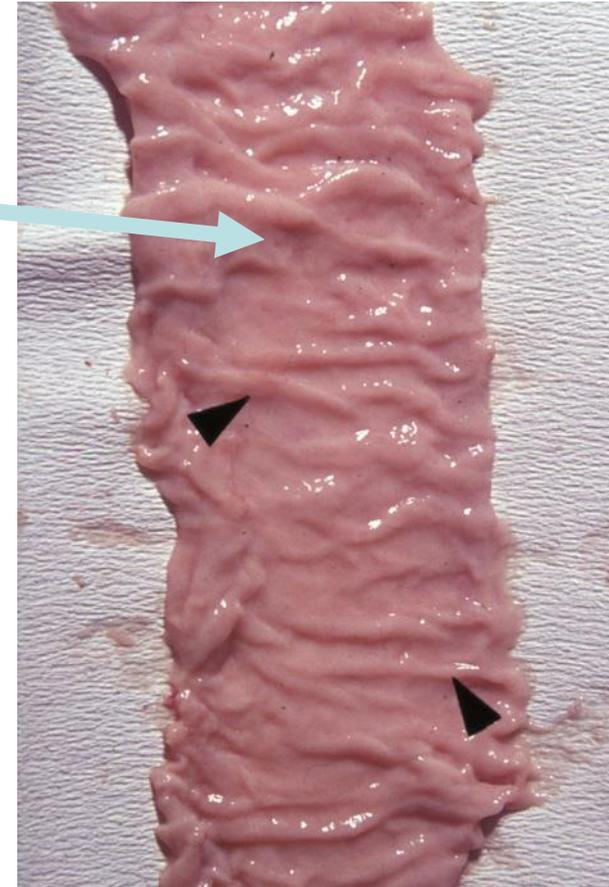


# TYNDTARMENS INDRE OVERFLADERELIEF



## CIRCULÆRE FOLDER:

- Plicae circulares

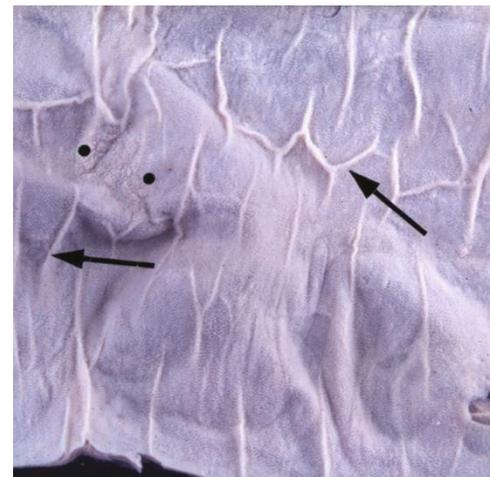
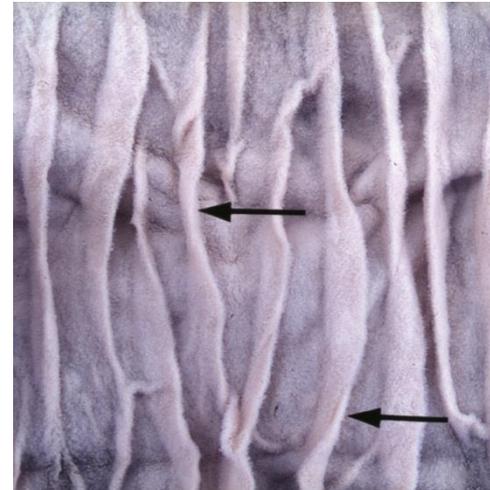


# TYNDTARMENS INDRE OVERFLADERELIEF



## CIRCULÆRE FOLDER:

- ca 1 cm høje
- består af Tunica mucosa og Tela submucosa
- aftager i størrelse i anal retning





Jejunum



Ileum

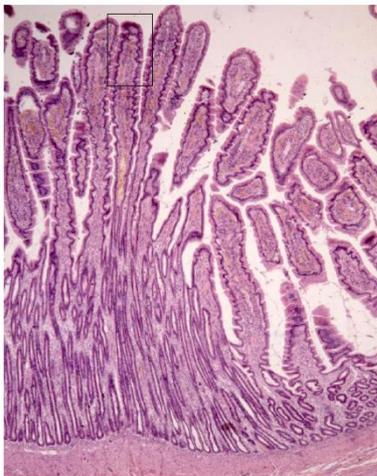


Tunica mucosa

Tela Submucosa

Tunica muscularis

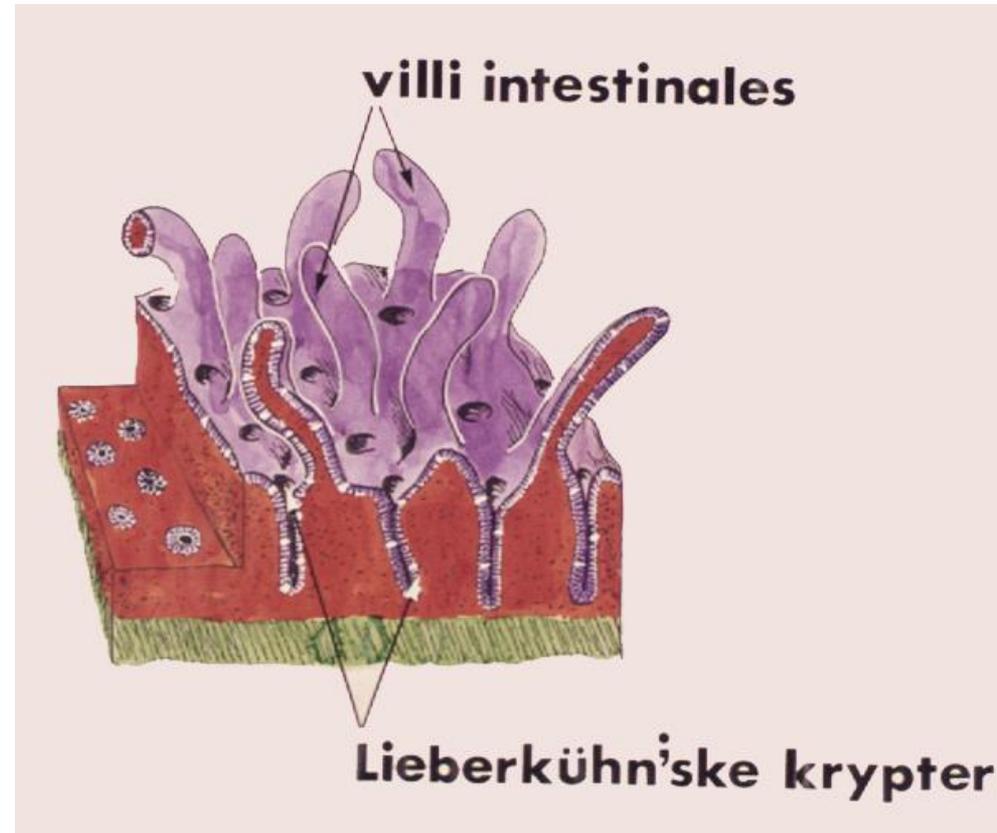
Tunica serosa





## TYNDTARMENS INDRE OVERFLADERELIEF

TARMTRÆVLER



<https://www.youtube.com/watch?v=P3om5aofVuc>

# TYNDETARMENS INDRE OVERFLADERELIEF

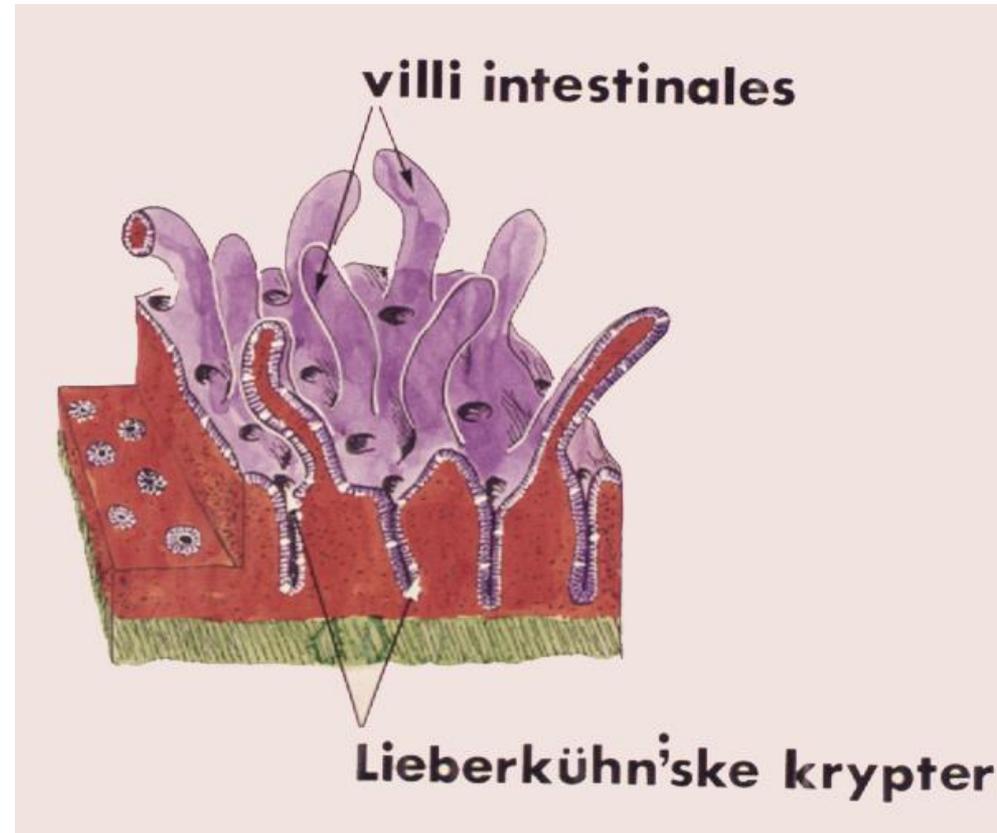


## TARMTRÆVLER

- ca 1 mm høje
- består af lamina epitelialis og lamina propria

## TARMKRYPTER

- ca ½ mm dybe



# LYMFATISK VÆV



## LYMFENODULI

- enkelte lymfeknuder (folliculi lymphatici) i hele tyndtarmen
- desuden er der grupper af lymfeknuder (Peyers plaques) i ileum

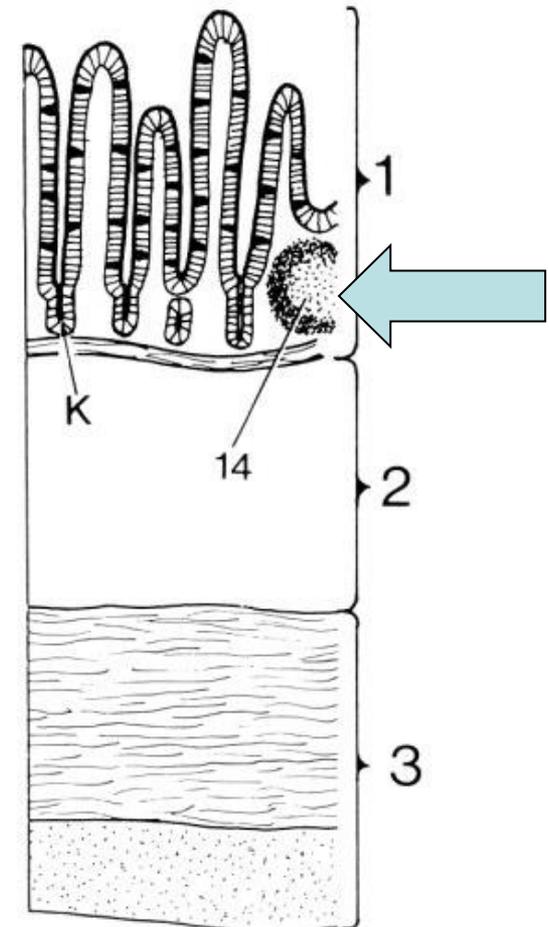
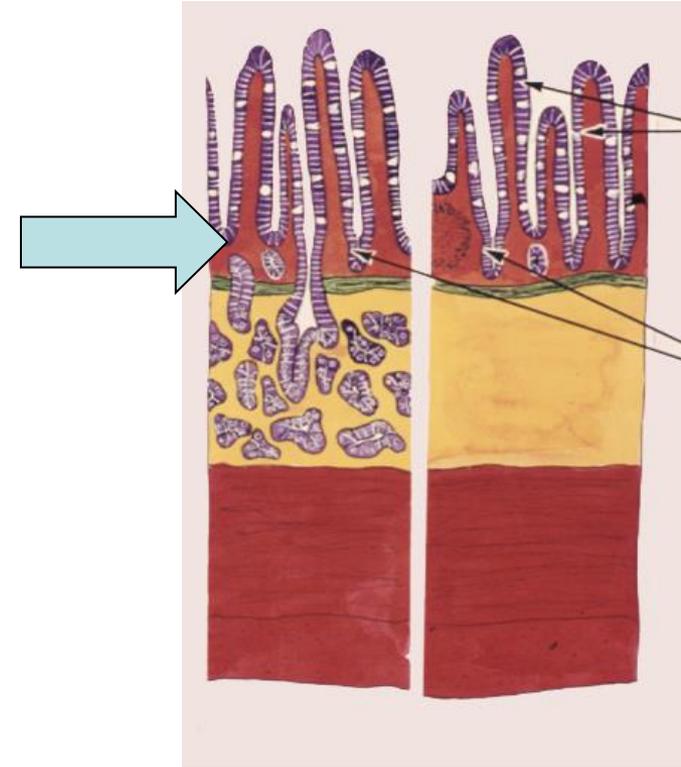


FIG. 9b

# TYNDTARMENS LAG



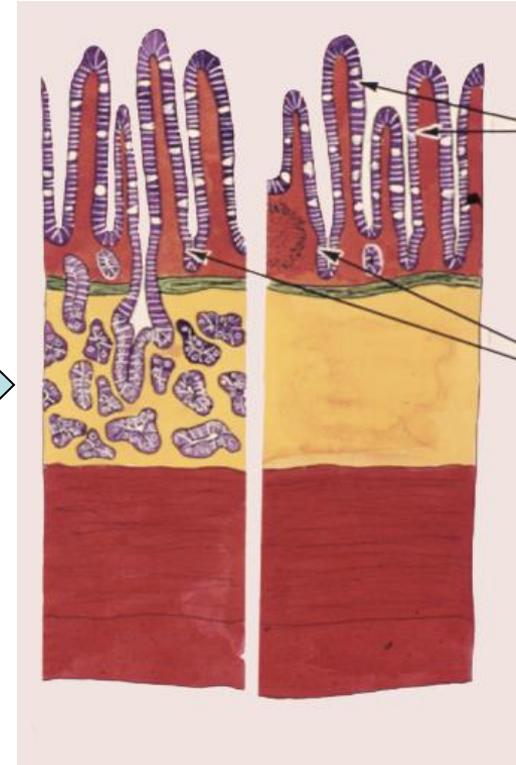
- Tunica mucosa
  - Lamina epithelialis
    - enlaget prismatisk epitel
    - secernerende bægerceller
  - Lamina propria
    - løst bindevæv (også retikulært)
  - Lamina muscularis mucosae
    - glat muskulatur



# TYNDTARMENS LAG



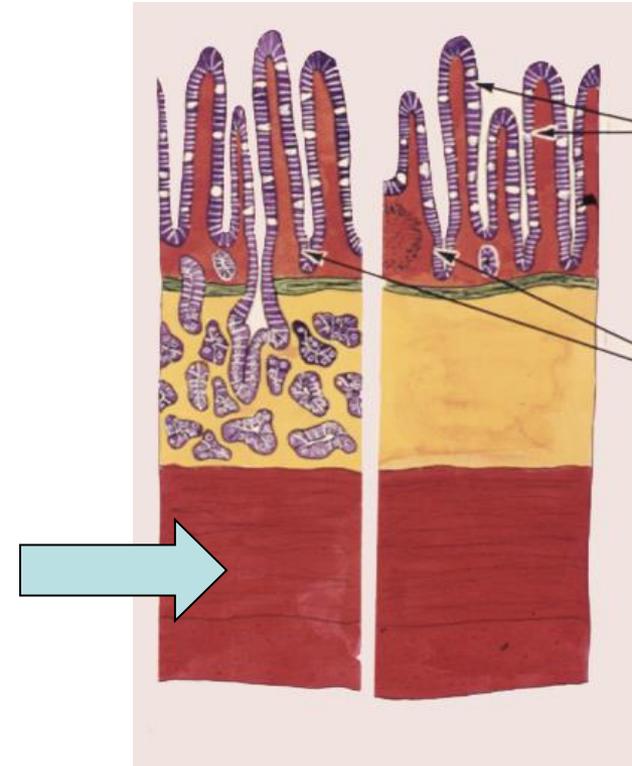
- Tela submucosa
  - kun kirtler i duodenum (Brunners)



# TYNDTARMENS LAG



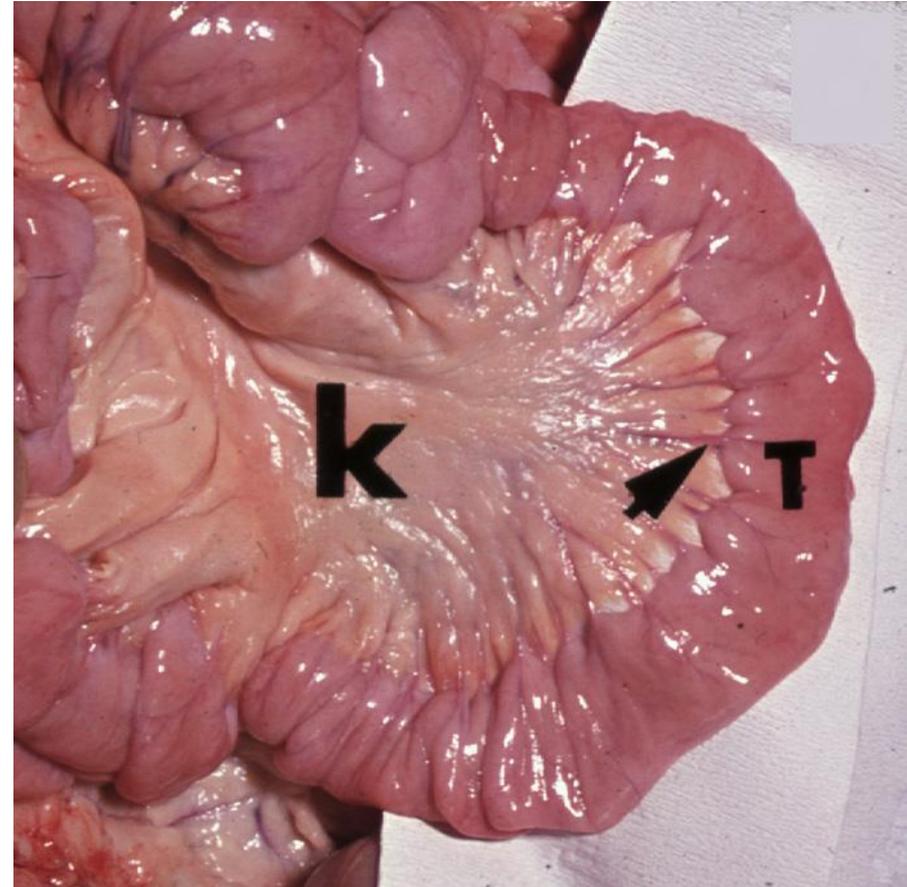
- Tunica muscularis
  - glat muskulatur
  - stratum circulare (tykt)
  - stratum longitudinale (tyndt)



# TYNDTARMENS LAG



- Tunica serosa
  - på næsten hele overflade
  - dog kun på forflade af duodenum



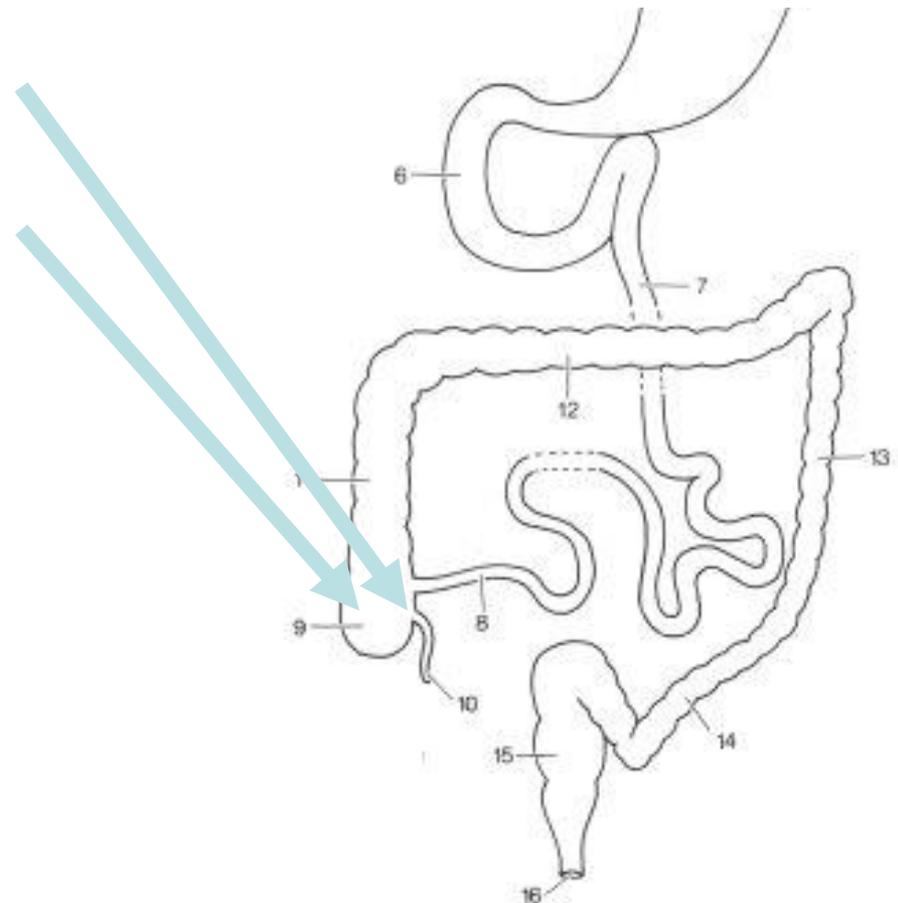
# Tyktarm peristaltik

<https://www.youtube.com/watch?v=Ujr0UAbyPS4>

# TYKTARMEN



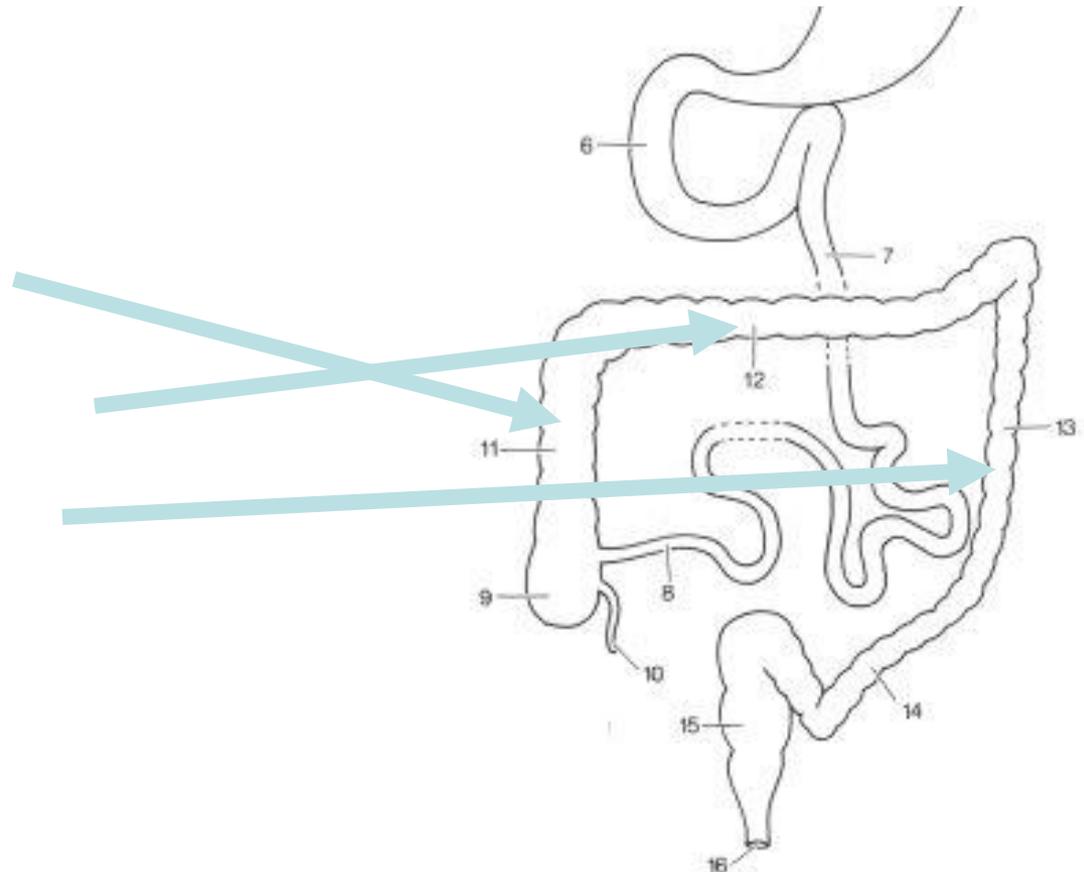
- appendix vermiformis
- caecum (blindtarmen)



# TYKTARMEN



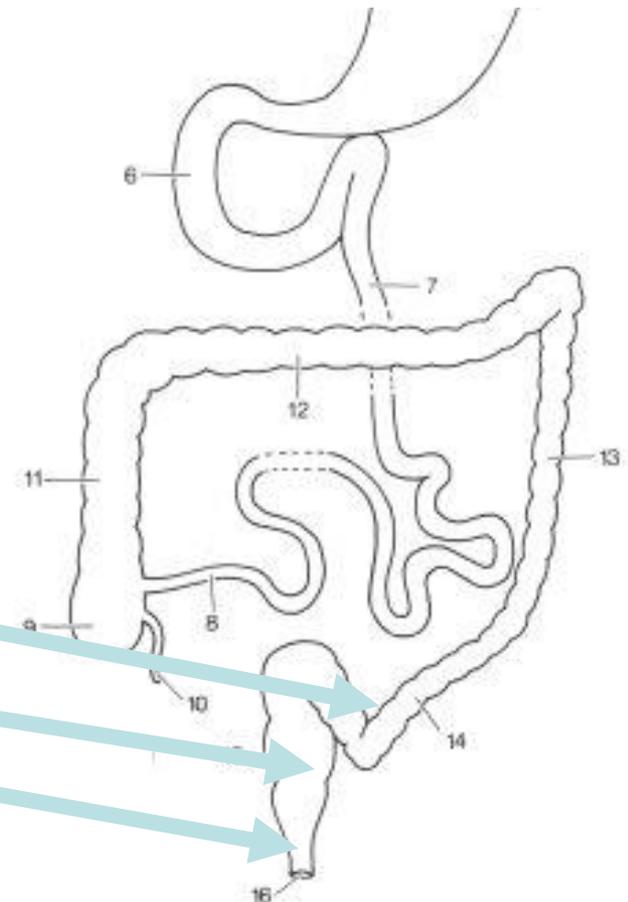
- colon ascendens
- colon transversum
- colon descendens



# TYKTARMEN



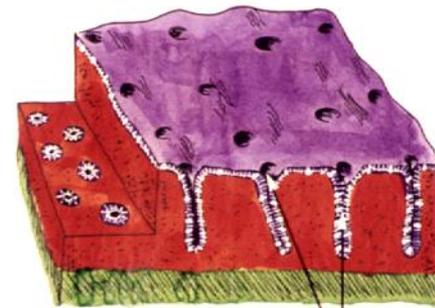
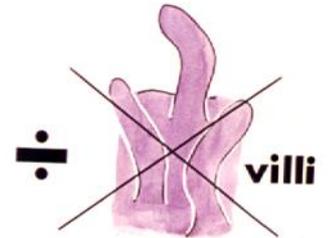
- colon sigmoideum
- rectum (endetarm)
- anus (endetarmsåbning)



# TYKTARMEN



- ingen villi intestinales
- mange dybe tarmkrypter
- meget lymfatisk væv



tarmkrypter

# TYKTARMEN



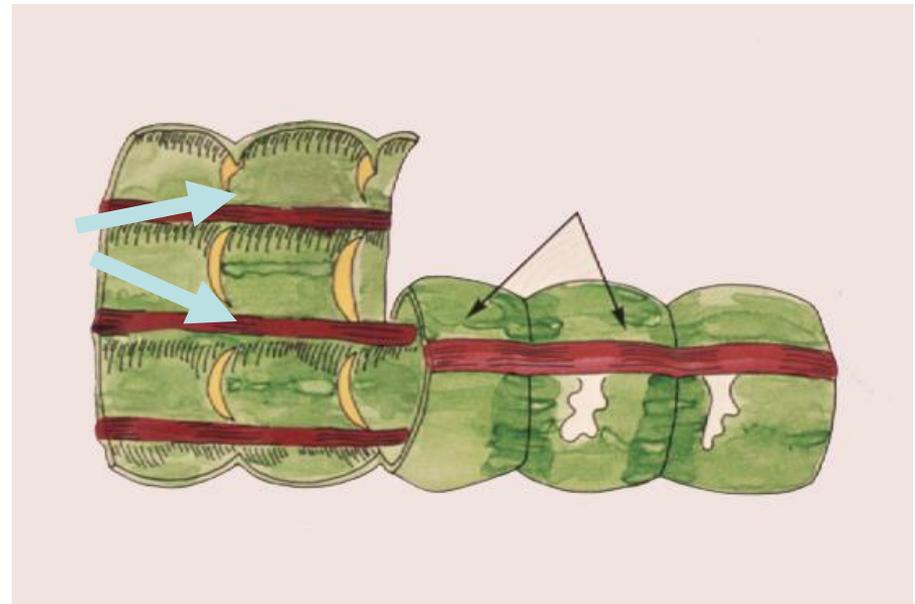
- meget lymfatisk væv





# TYKTARMENS YDRE

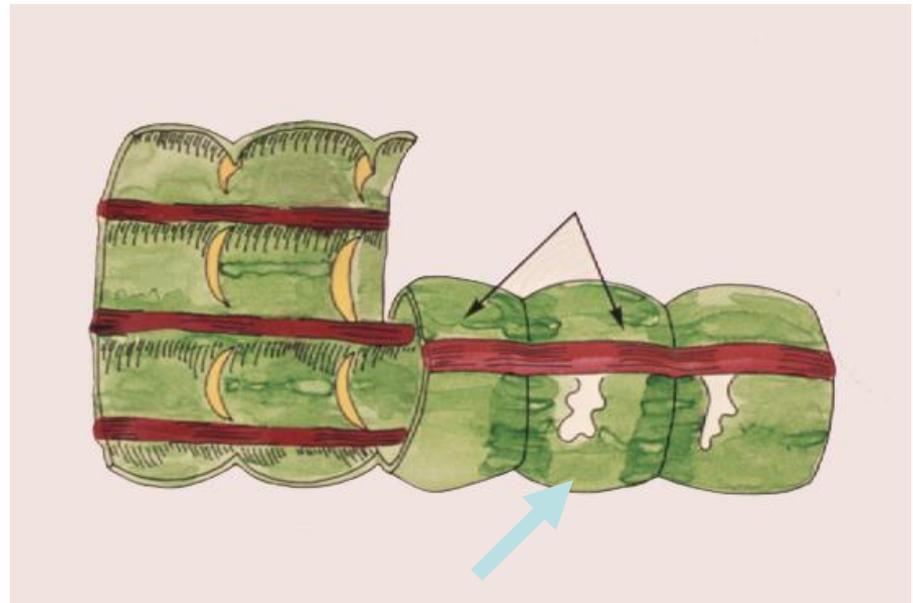
- stratum longitudinale er samlet i 3 længdegående muskelbånd (taeniae)





# TYKTARMENS YDRE

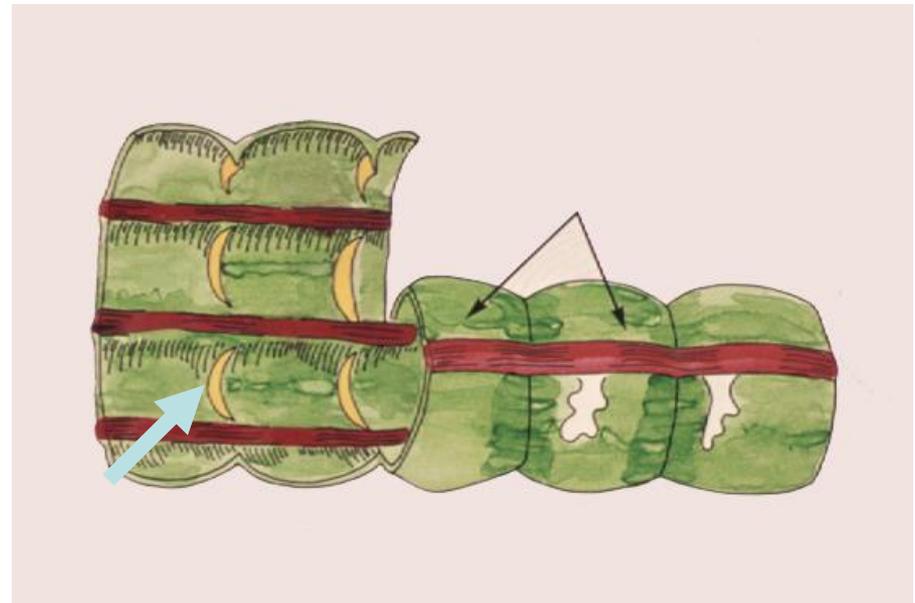
- stratum longitudinale er samlet i 3 længdegående muskelbånd (taeniae)
- udposninger: ml ydre furer (haustra)





# TYKTARMENS INDRE

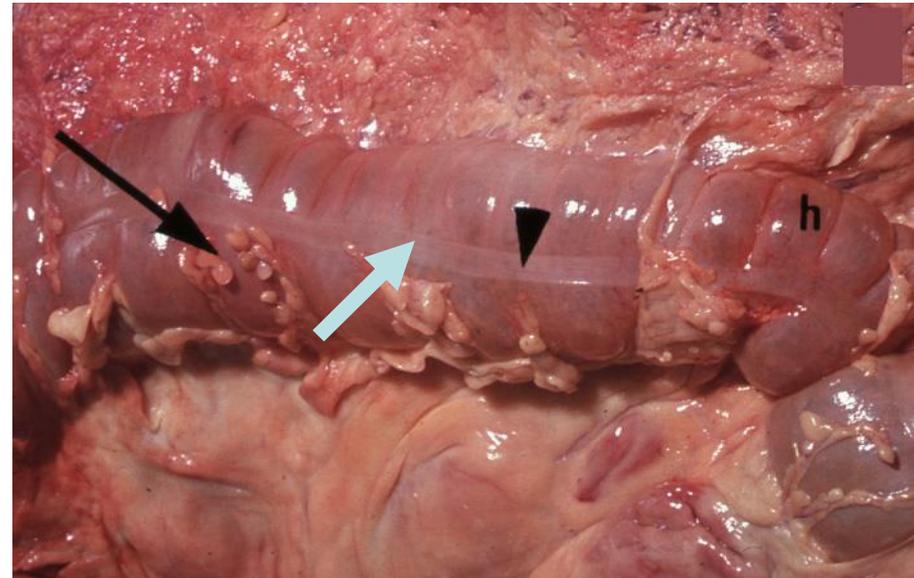
- stratum longitudinale er samlet i 3 længdegående muskelbånd  
**taeniae**
- udposninger: ml ydre furer  
**haustra**
- indre halvmåneformede folder  
**plicae semilunare**



# TYKTARMEN



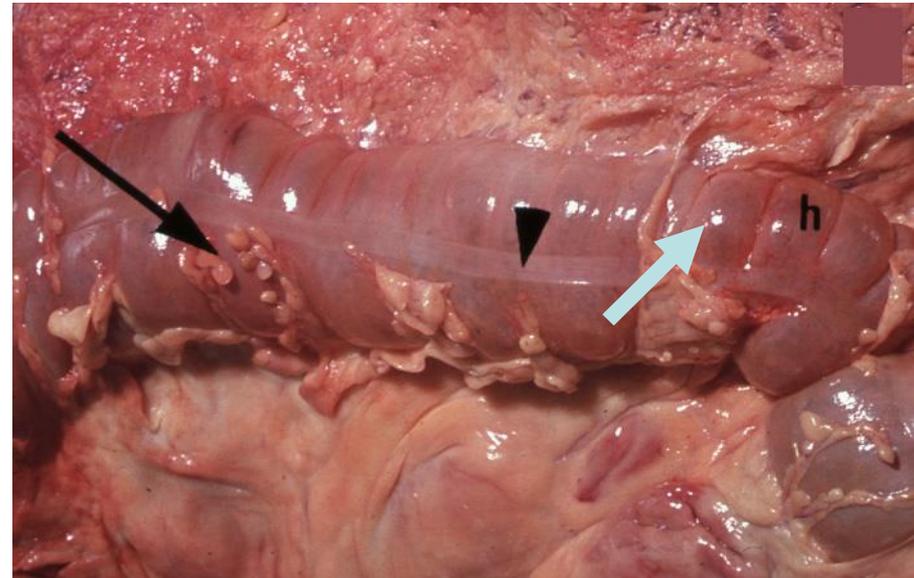
- stratum longitudinale i tre bånd  
**taeniae**



# TYKTARMEN



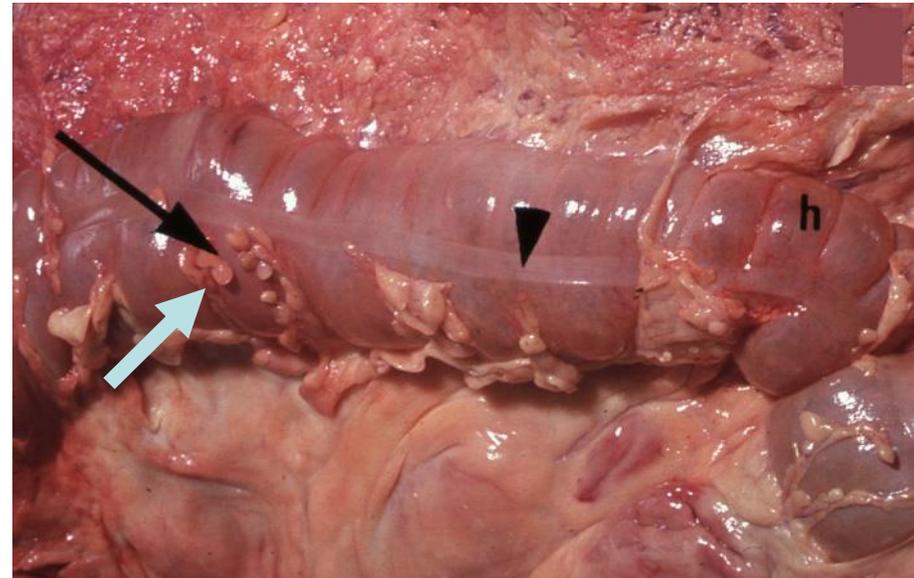
- stratum longitudinale i tre bånd taeniae
- udposninger **haustra**



# TYKTARMEN



- stratum longitudinale i tre bånd (taeniae)
- udposninger (haustra)
- dråbeformede fedtfyldte sække **appendices epiploica**

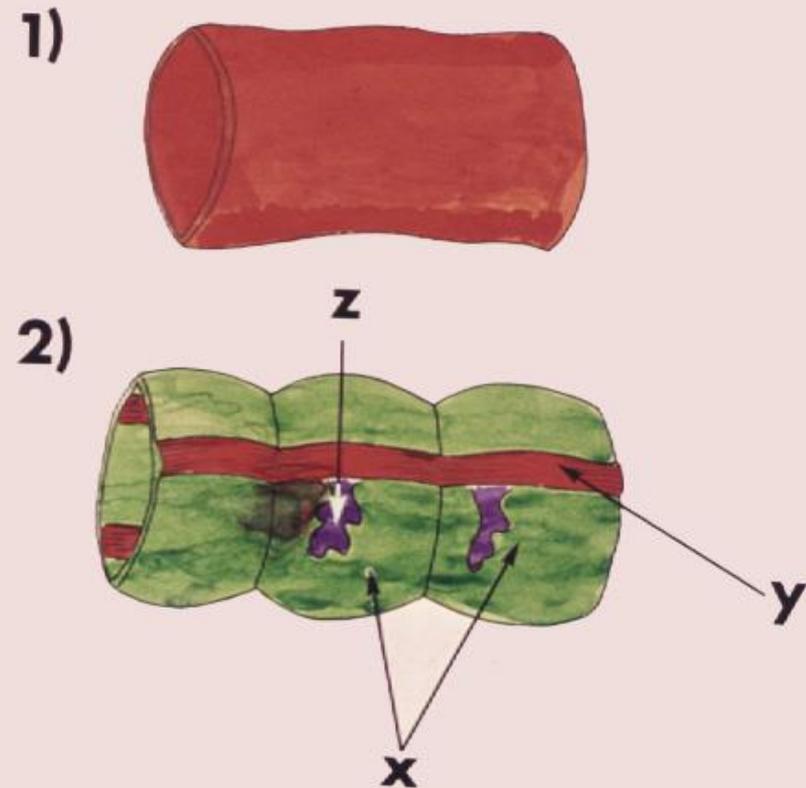


# TARMENES YDRE



TYNDDTARM

TYKTARM



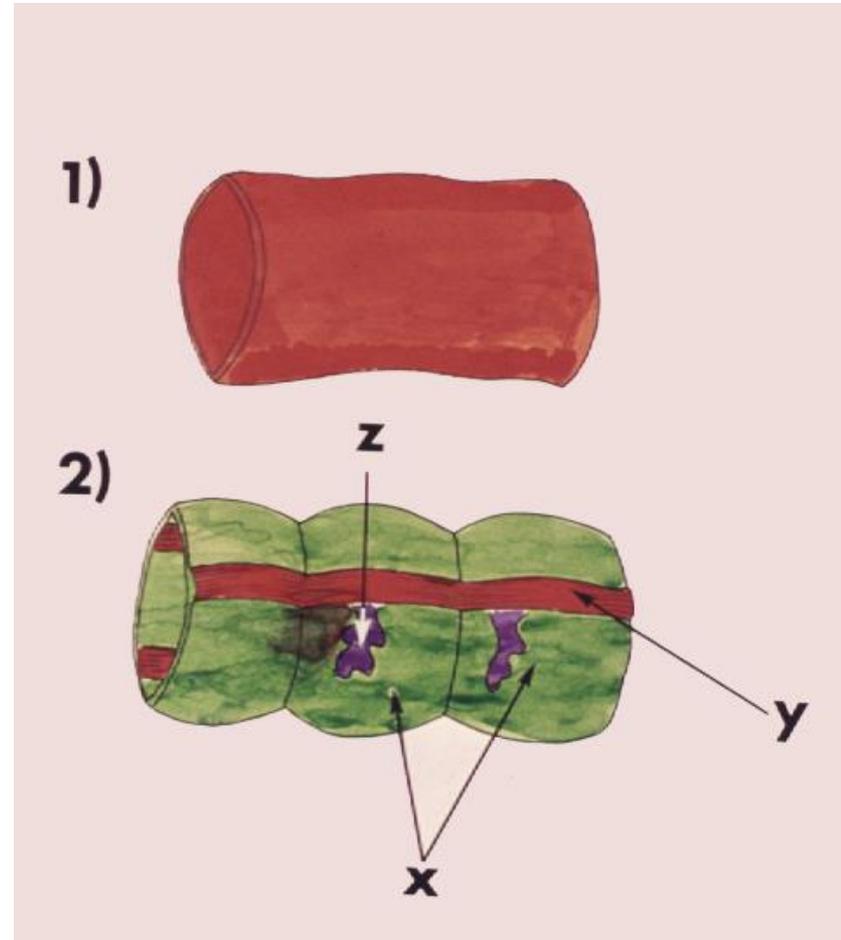
SLIMHINDE - UNDRSLIMHINDE - MUSKELKAPPE - AFSLUTTENDE LAG

# TARMENES YDRE



## TYKTARMEN HAR:

- haustra
- taeniae
- appendices epiploica



SLIMHINDE - UNDRSLIMHINDE - MUSKELKAPPE - AFSLUTTENDE LAG