



The image shows the cover of the journal 'Parkinsonism & Related Disorders'. The title is written in a large, white, sans-serif font against a dark blue background. Below the title, there is a smaller subtitle 'A Focused Disorders' in a lighter font. The cover features a central photograph of a white water lily flower with a yellow center, set against a dark background. The journal's logo is visible in the top right corner.

Parkinsonism

A Focused Disorders

Gastrointestinal dysfunction

F. Torresan

Motility Unit, Dept. of Gastroenterology
S. Orsola-Malpighi Hospital – Bologna (I)



Mouth

Pooling of saliva and problems with movements needed to brush teeth can cause dental dysfunction. Motor effects cause jaw tremors.

Oesophagus

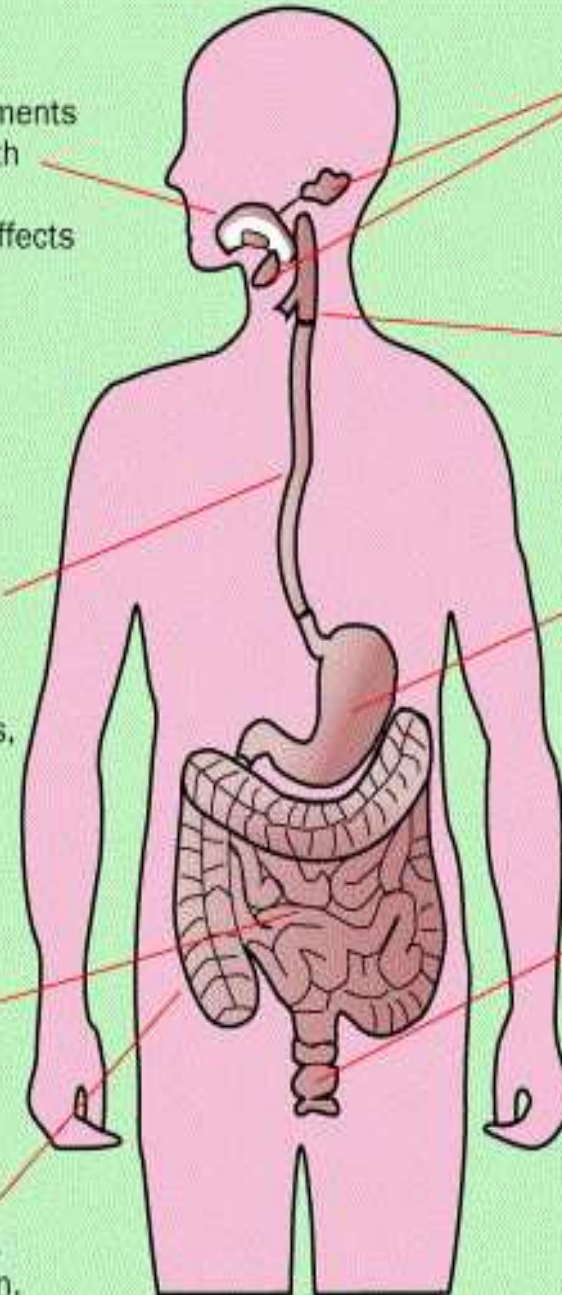
Symptoms of oesophageal dysphagia include slow oesophageal transit, segmental oesophageal spasm, spontaneous contractions of proximal oesophagus, air trapping, aperistalsis, and gastro-oesophageal reflux

Small intestine

Dilatation

Colon

Colonic dysmotility, constipation, megacolon, volvulus, and bowel perforation.



Salivary glands

Reduced saliva production, but low swallowing frequency causes drooling.

Pharynx

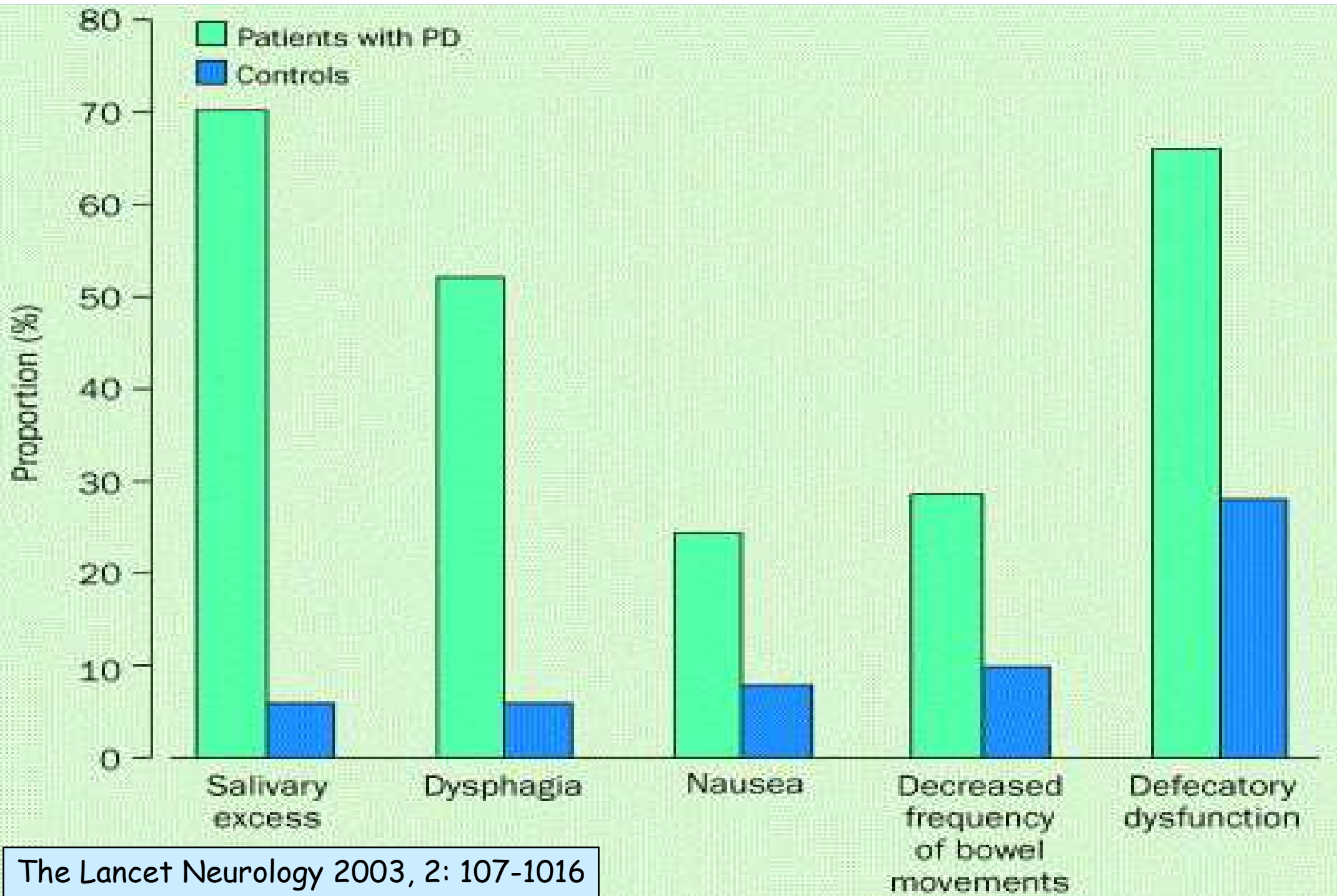
Oropharyngeal dysphagia increases risk of aspiration.

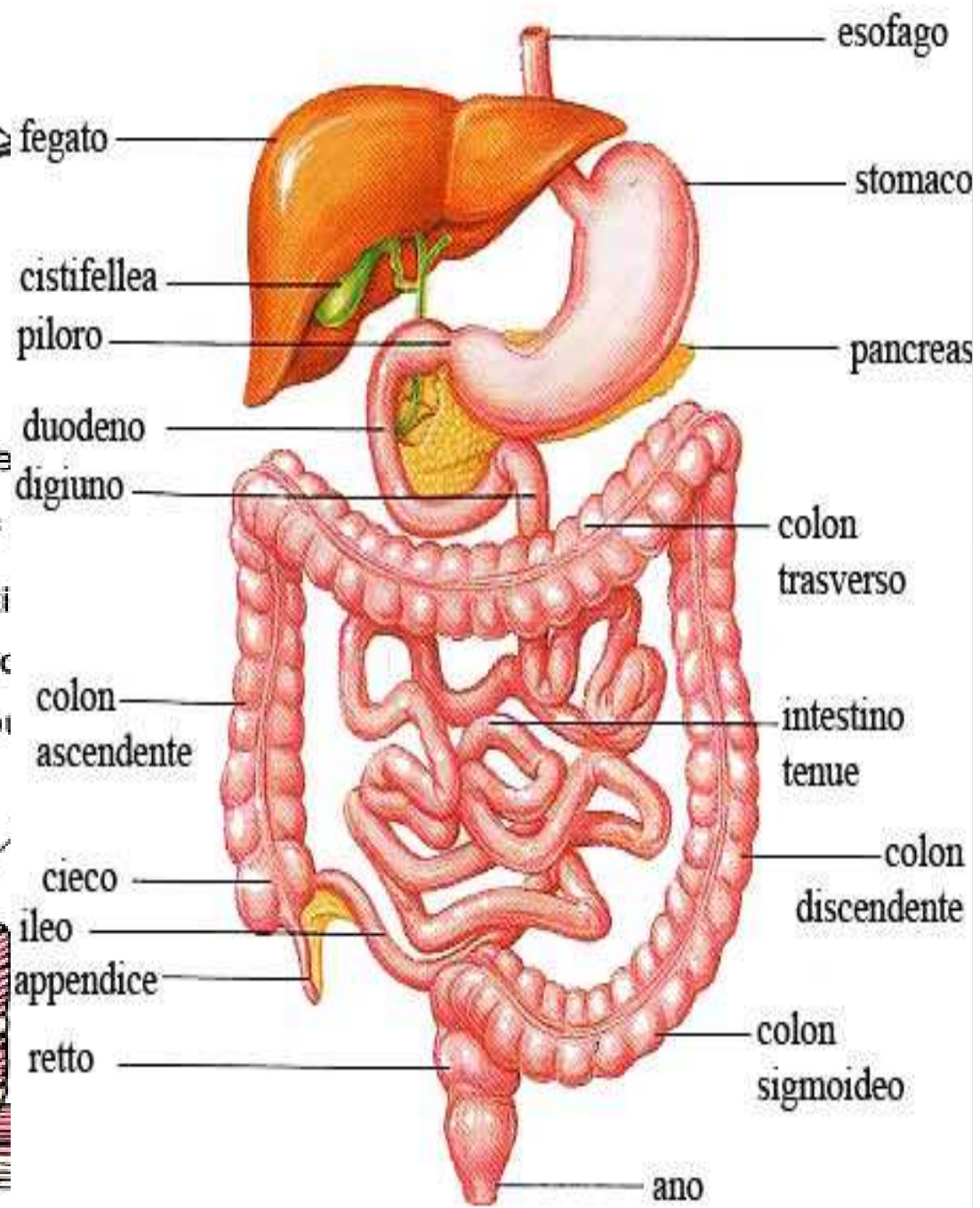
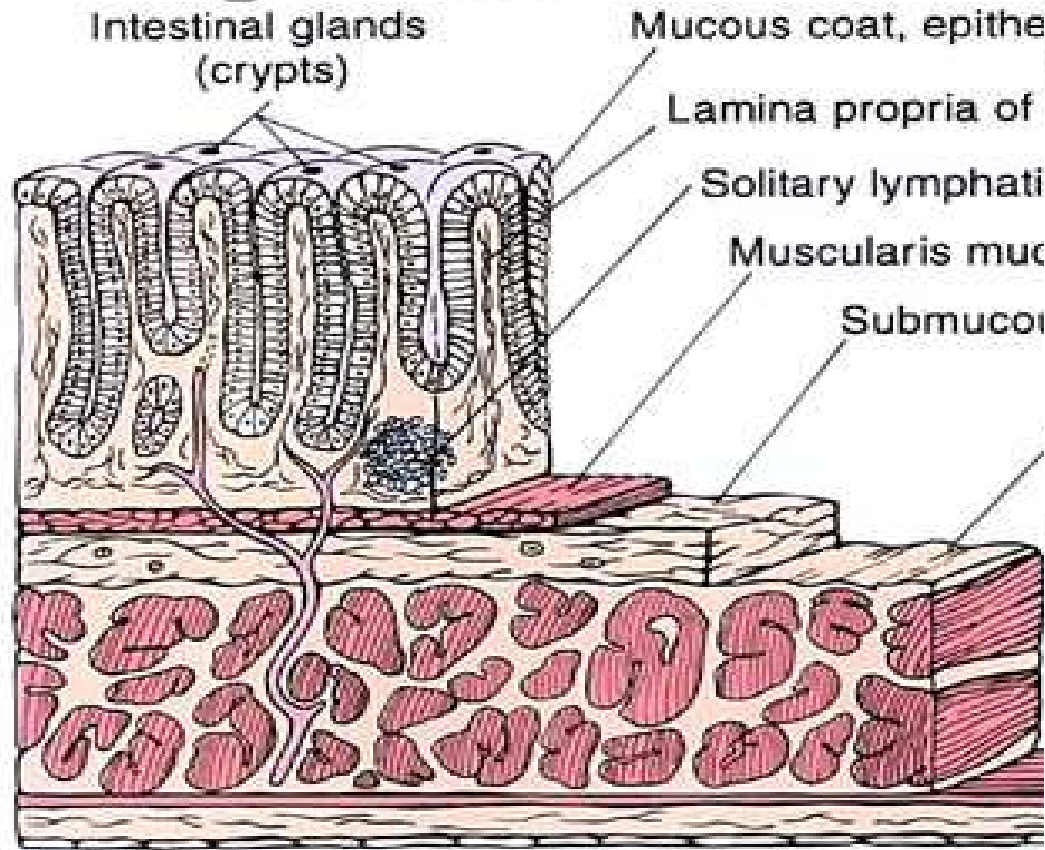
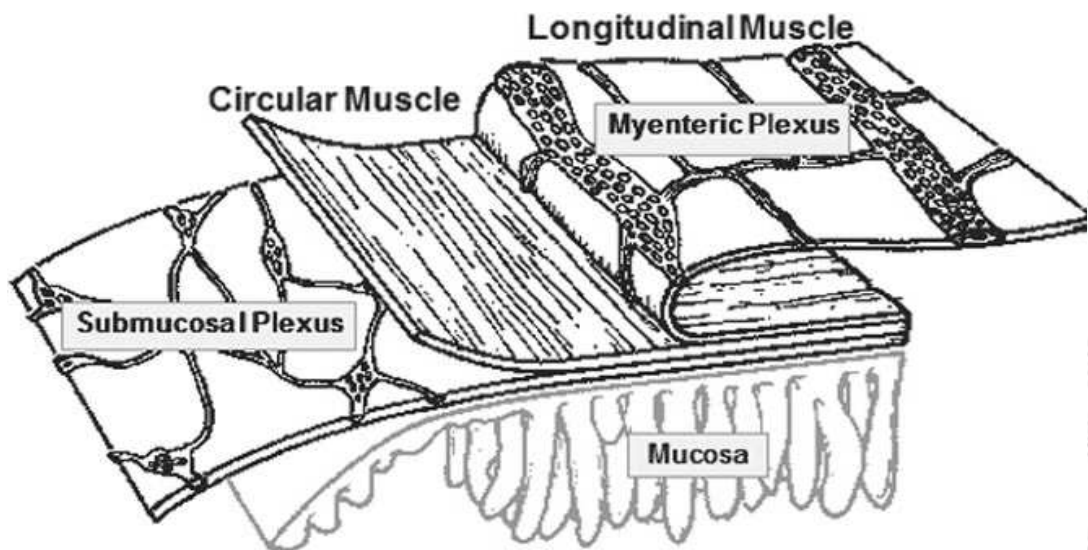
Stomach

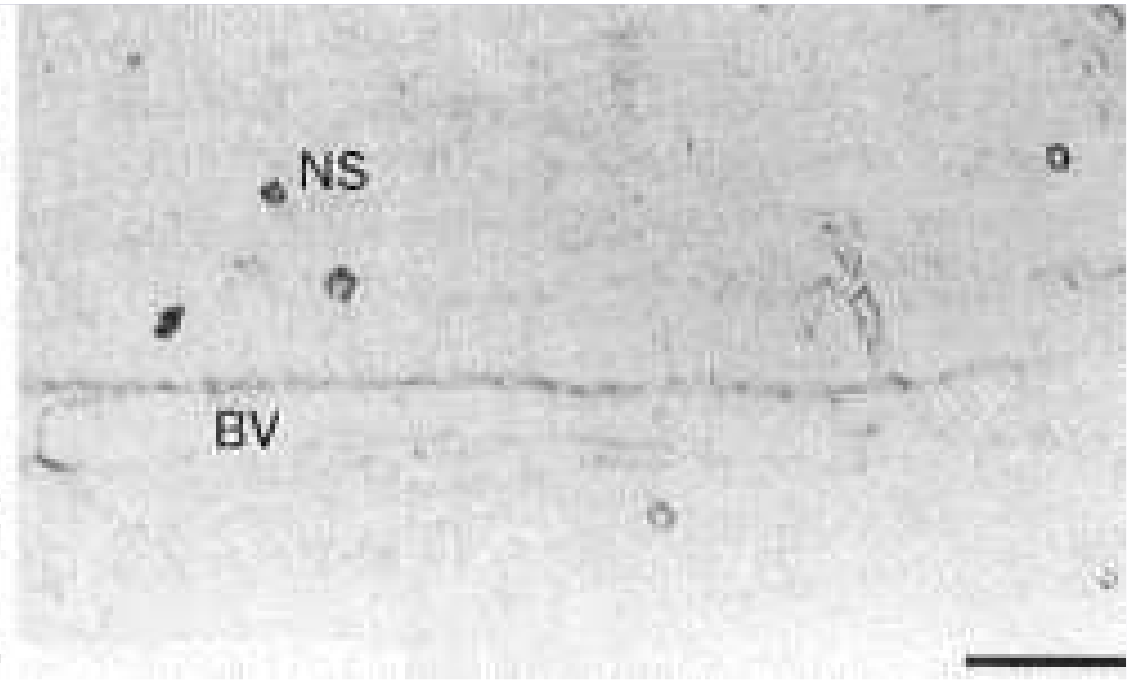
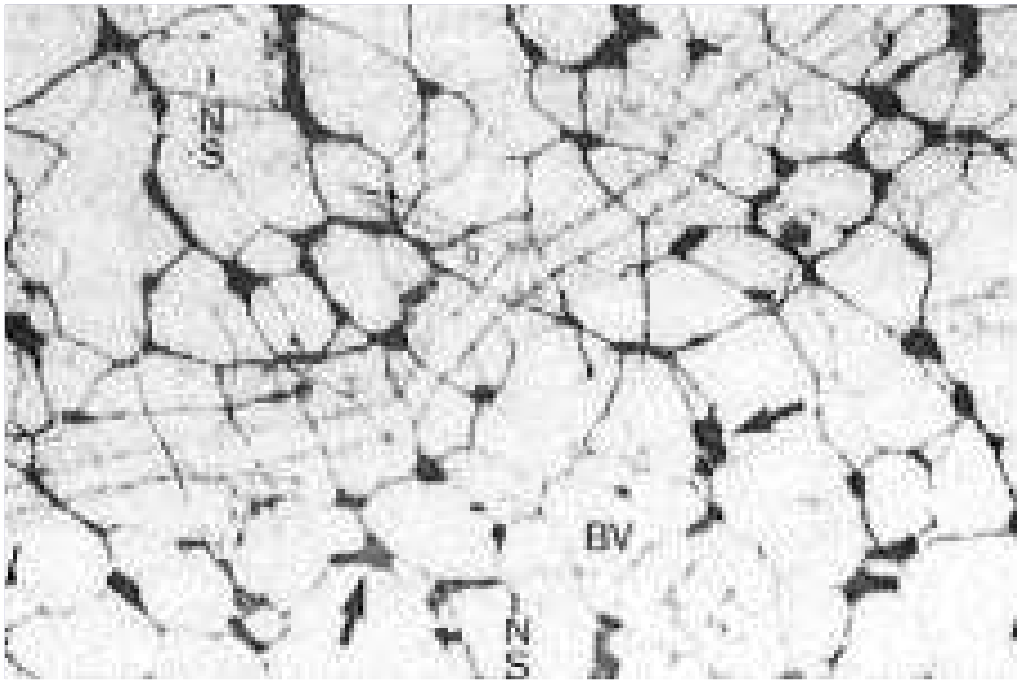
Impaired gastric emptying (gastroparesis) cause nausea, bloating, early satiety, and weight loss.

Rectum

Anorectal dysfunction leads to difficulty with defecation







Left: Immunostaining for dopamine in whole mount of colon from control individual.

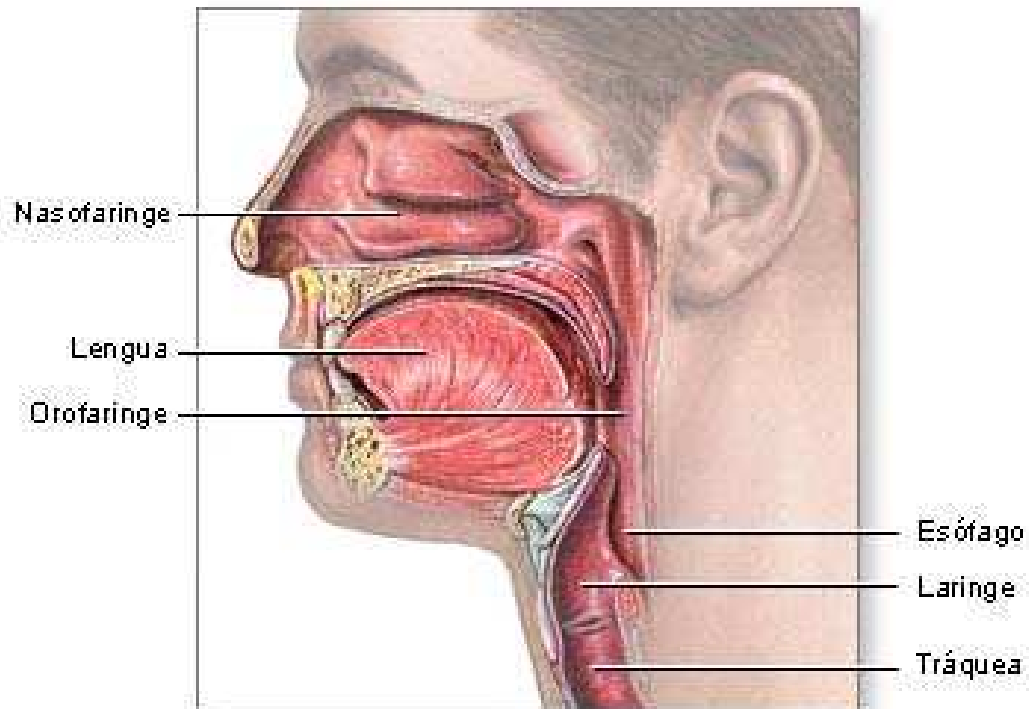
Right: Immunostaining for dopamine in whole mount of colon from patients with PD.

The Lancet Neurology 2003, 2: 107-1016

Clonic Biopsie to Assess the Neuropathology of Parkinson's Disease and Its Relationship with Symptoms

PLoS ONE Settembre 2010

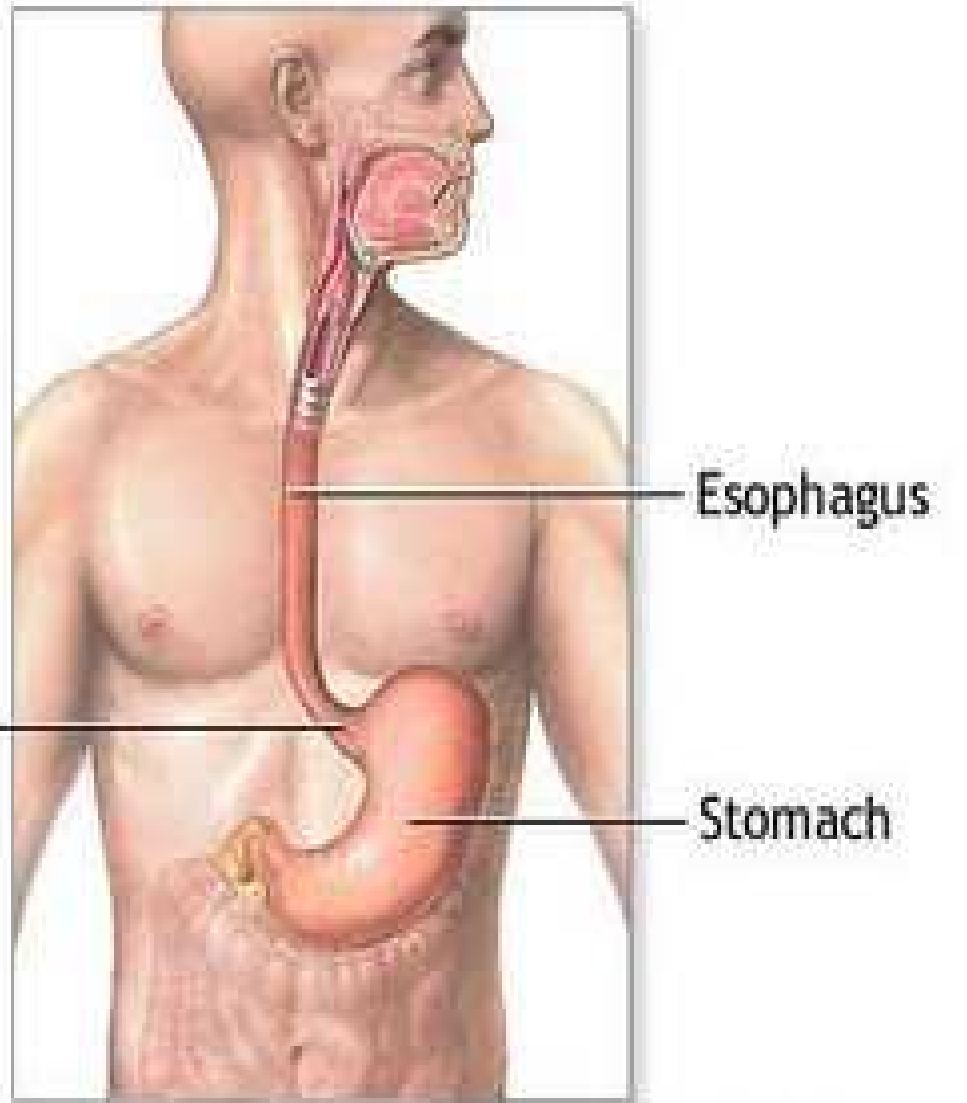
Ipersalivazione



ADAM.

- Interessa il 70-80% dei pz
- Ridotta efficienza della deglutizione
- Sintomi:
 - Drooling
- Trattamenti:
 - Chewing gum.
 - Fisioterapia
 - Anticolinergici (effetti collaterali)
 - Atropina o ipratropium spray
 - Iniezioni di tossina botulinica

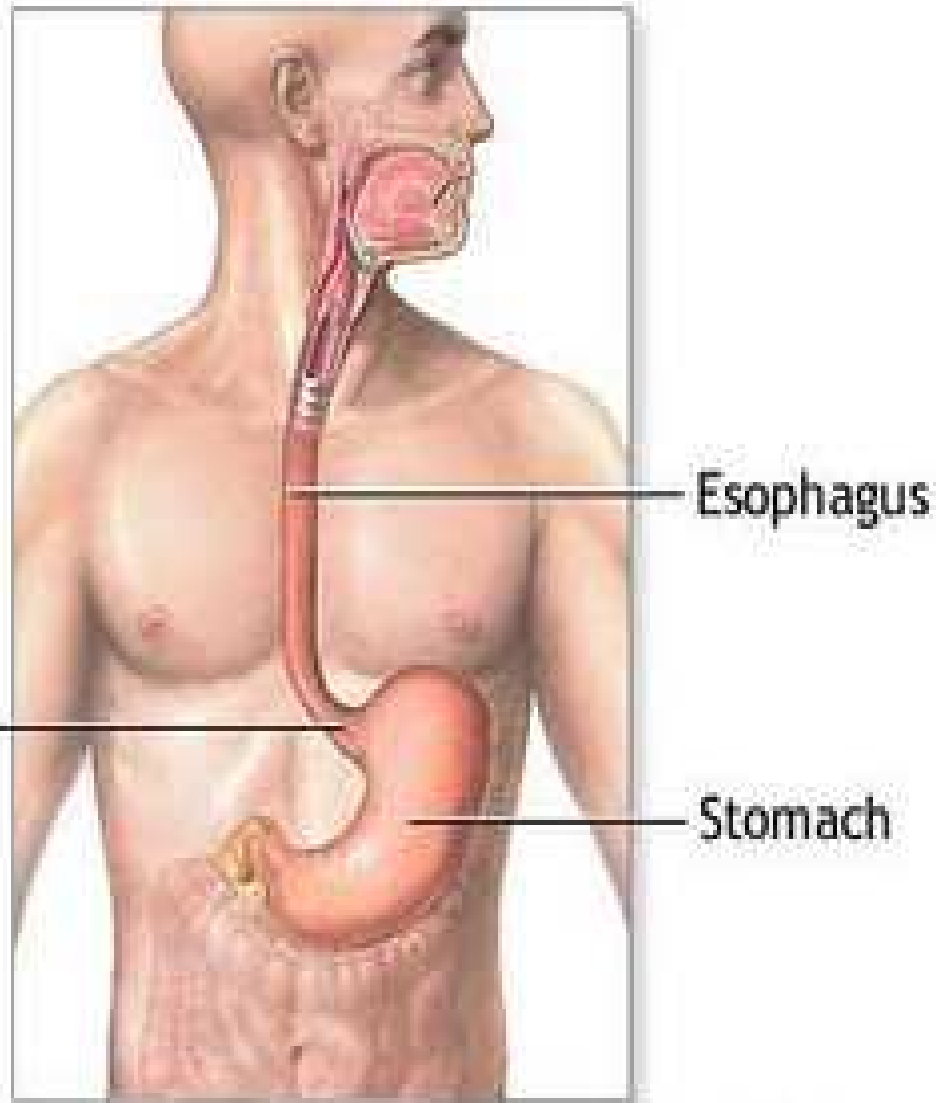
Disfagia



ADAM.

- **Disfagia orofaringea:**
 - 30-80% dei pz.
 - Entro un anno dall'esordio del MP
 - Bradicinesia, tremori e dismotilità del faringe.
 - Aspirazione nel 15-50% pz.
 - Videofluoroscopia
- **Disfunzioni dell'esofago:**
 - 60-70% dei pz
 - manometria esofagea.
- **Terapia:**
 - dopaminergici,
 - tecniche fisiatriche
 - tossina botulinica
 - miotomia chirurgica del cricofaringeo
 - PEG

Rallentato svuotamento gastrico



Inferior
esophageal
sphincter

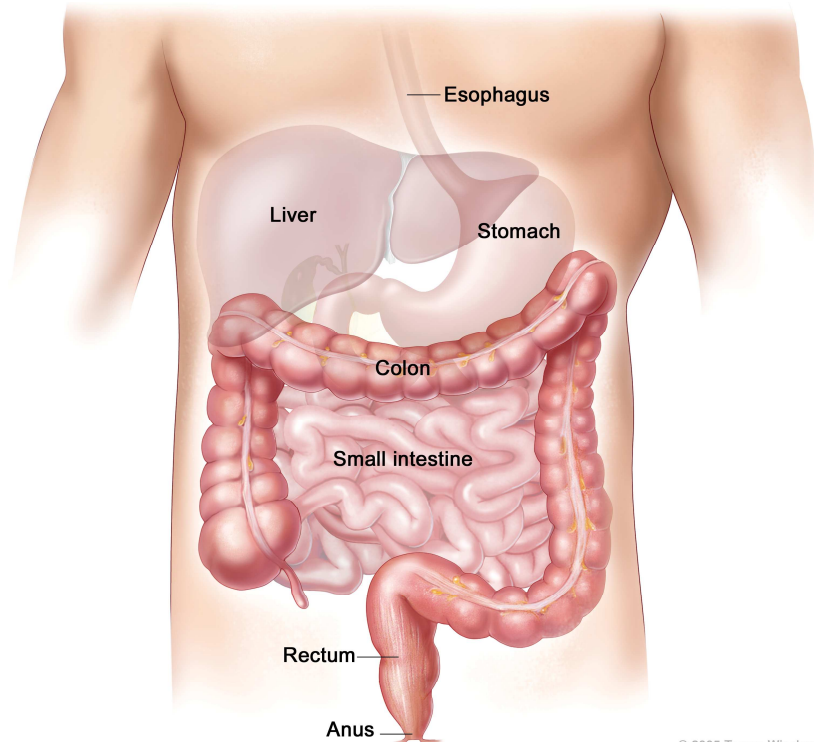
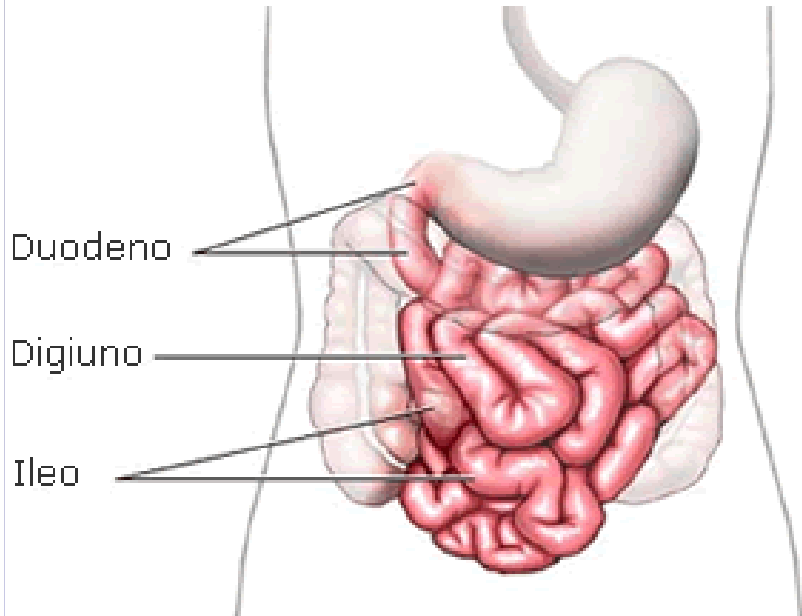
Esophagus

Stomach

ADAM.

- Nausea 16% dei pz
- Gonfiore epigastrico 43% dei pz
- Deficit dello svuotamento gastrico e gastroparesi
- Alterato assorbimento della Levodopa
- Breath test all'acido octanoico
- Terapia:
 - Domperidone
 - Agonisti serotoninergici (cisapride, teaserod, mosapride)
 - Eritromicina
 - Tossina botulinica nel piloro

Stitichezza 1/2



© 2005 Terese Winslow
U.S. Govt. has certain rights

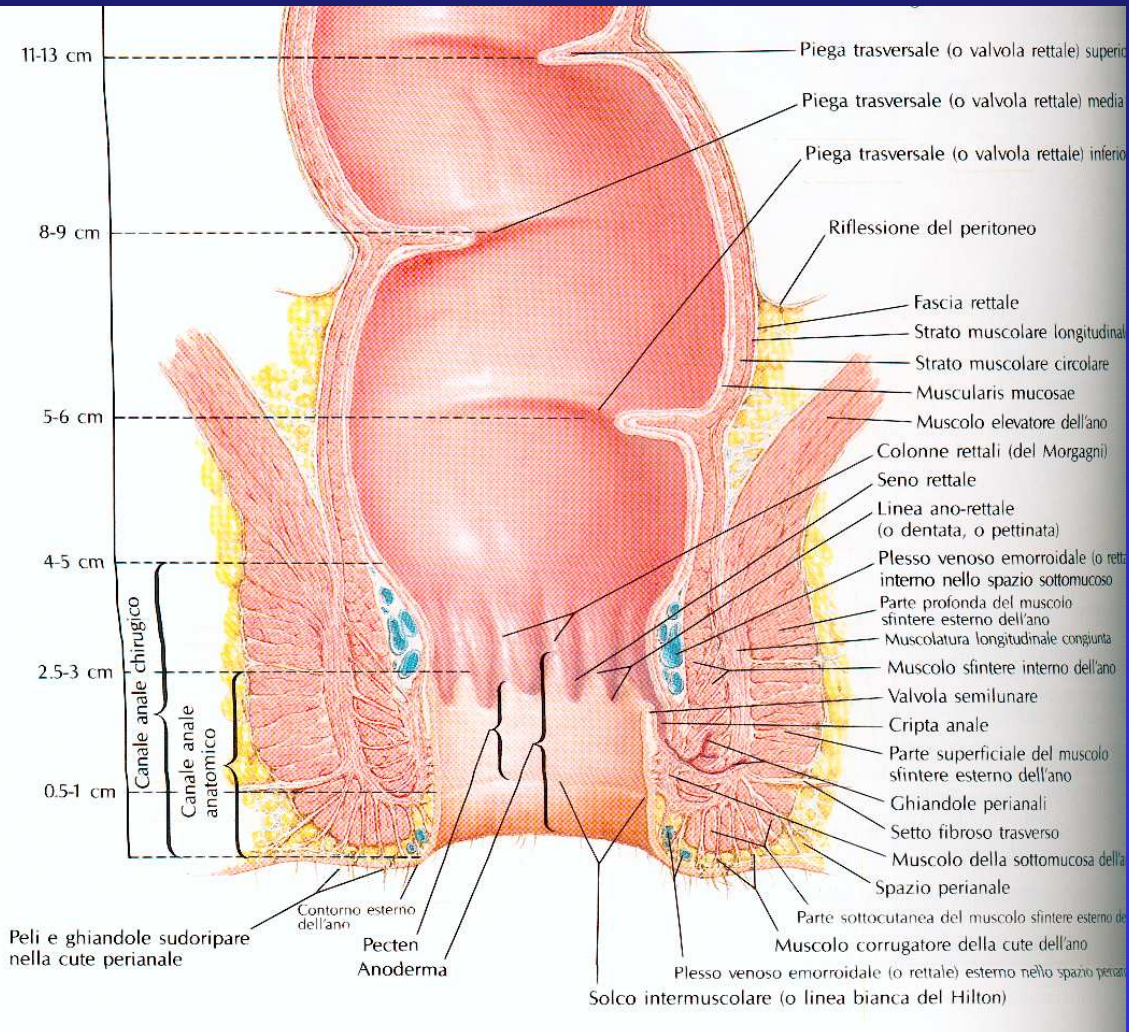
- **Meno di 3 evacuazioni a settimana**
- **Interessa il 70-89% dei pz.**
- **2-4 volte più frequente rispetto alla popolazione**
- **Talvolta precede di anni il MP**
- **Può presentarsi con megacolon, pseudoostruzione e volvolo.**
- **Correla con la gravità della malattia**

Stitichezza 2/2



- Causata da una ridotta motilità del colon
- Rallentato transito colico nell'80% dei pz
- Effetti collaterale della terapia antiparkinsoniana ? (effetti anticolinergici)
- Diagnosi:
 - Colonscopia
 - Studio dei tempi di transito
- Terapia:
 - Aumento uso di fibre e acqua
 - Integratori a base di fibre(psyllium, cellulosa)
 - Lassativi osmotici (macrogol)

Evacuazione difficoltosa



Contrazione paradossa dei muscoli volontari

2/3 dei pz con MP

Eccessiva spinta evacuativa, evacuazione incompleta e dolore