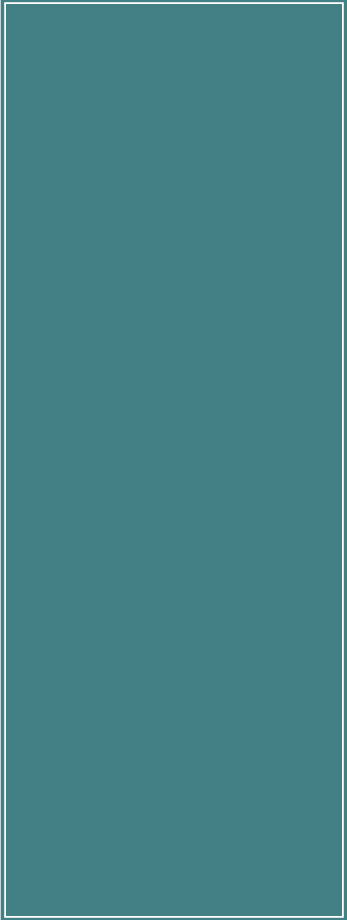


HOẠT ĐỘNG CƠ HỌC

BS Nguyễn Bình Thư



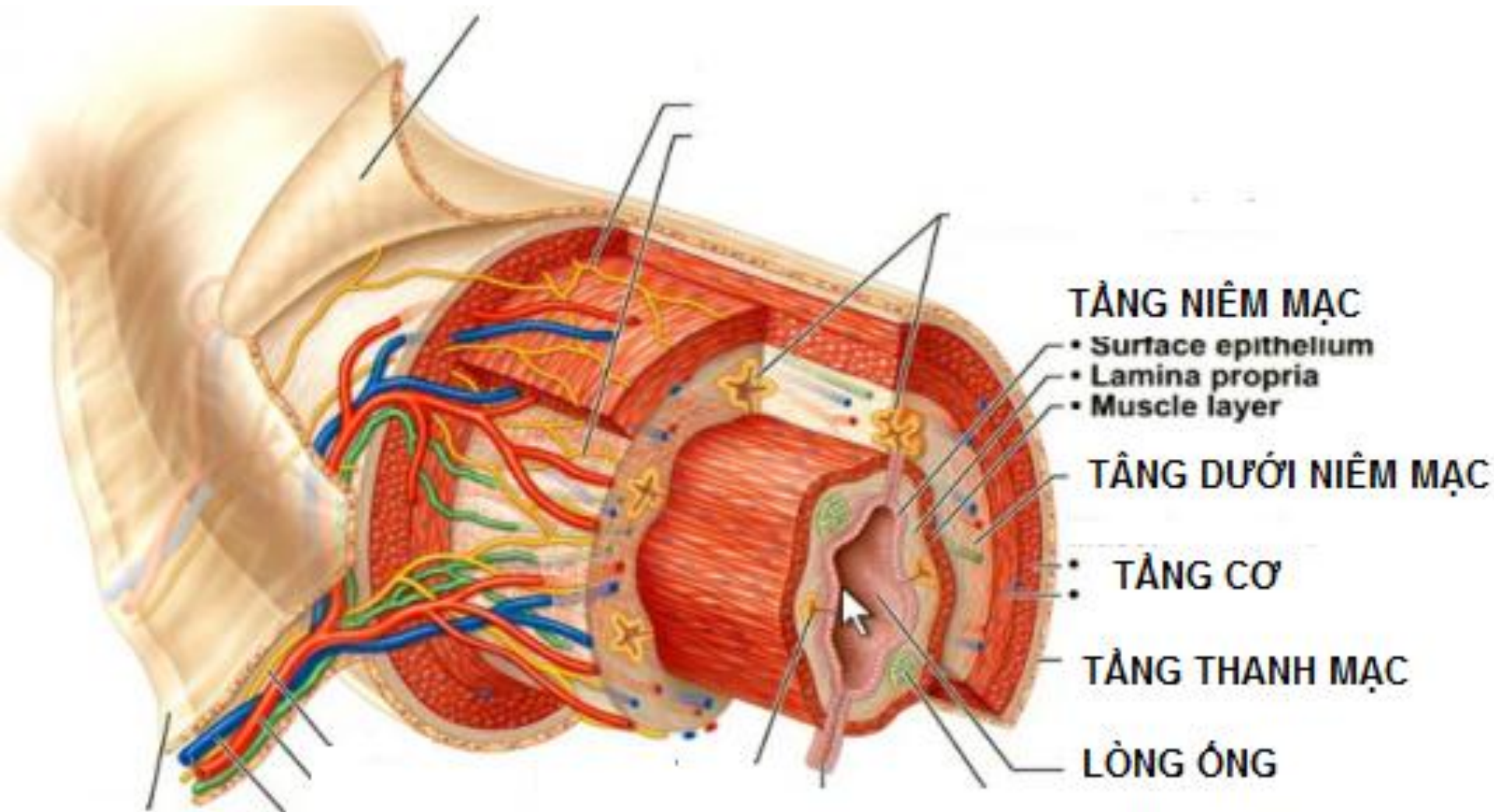
MỤC TIÊU

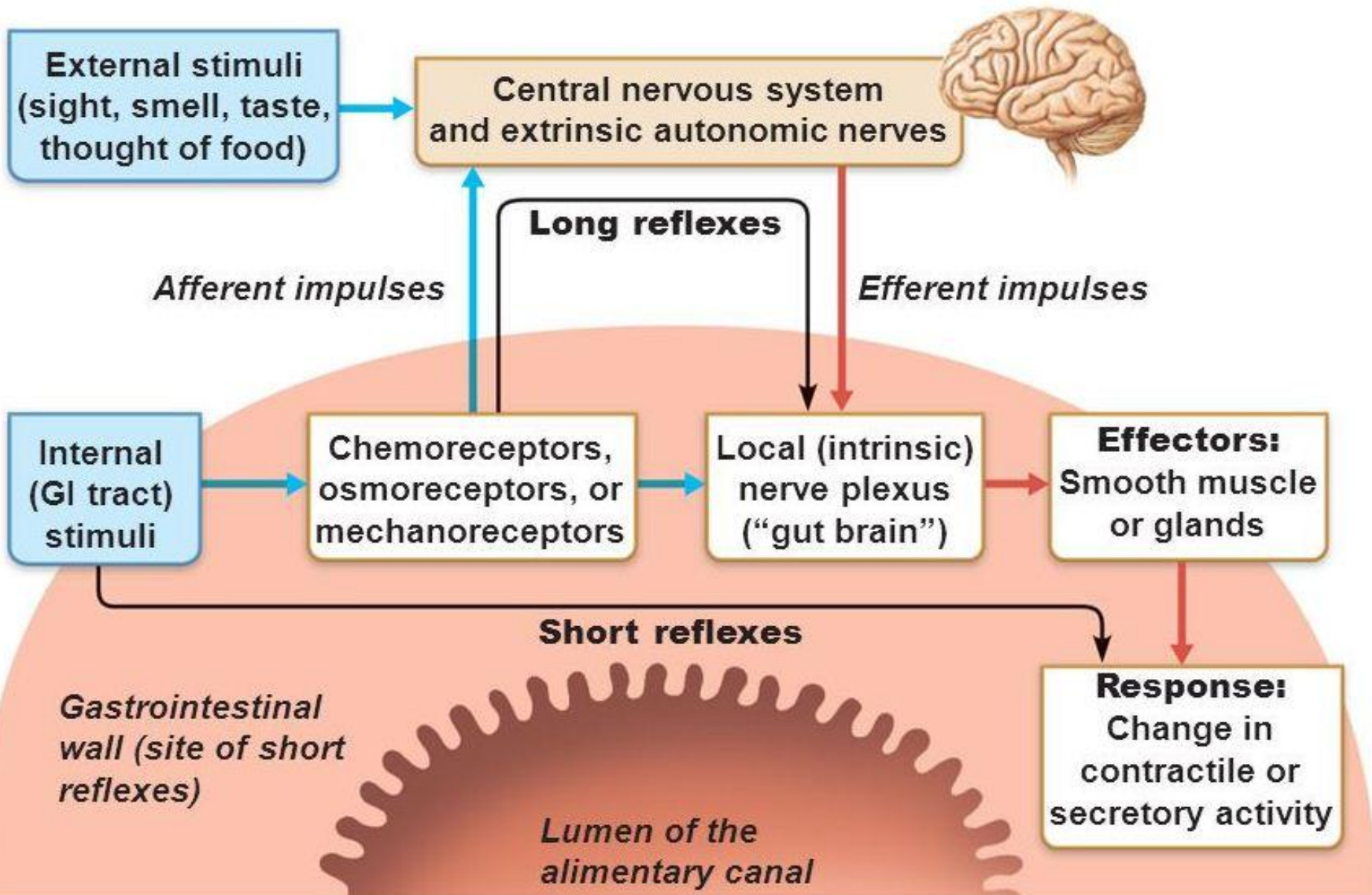
- 
- 1) Trình bày được quá trình vận chuyển các chất trong ống tiêu hóa.
 - 2) Giải thích được một số triệu chứng bệnh lý.



ĐẠI CƯỜNG

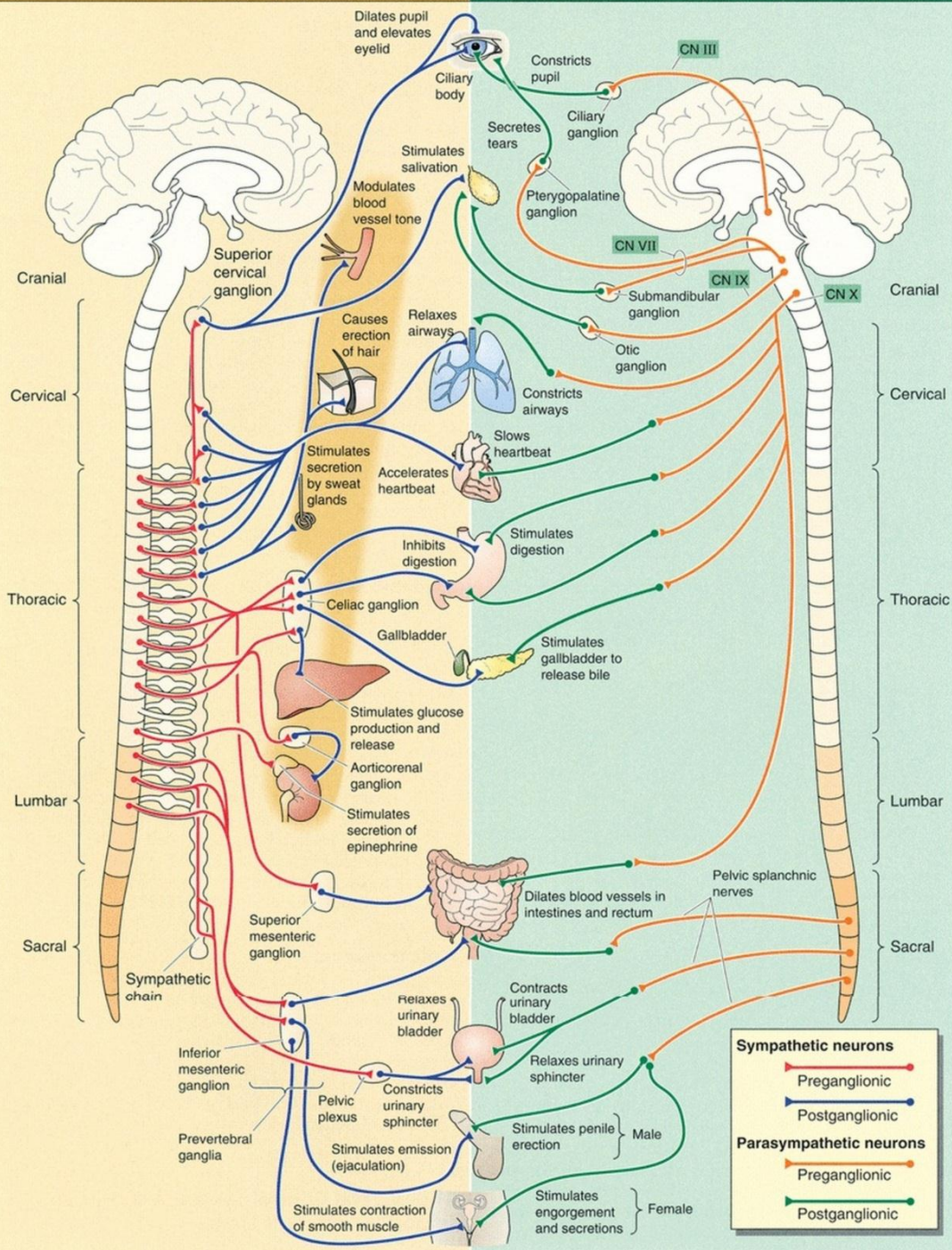
MÔ HỌC ỒNG TIÊU HÓA

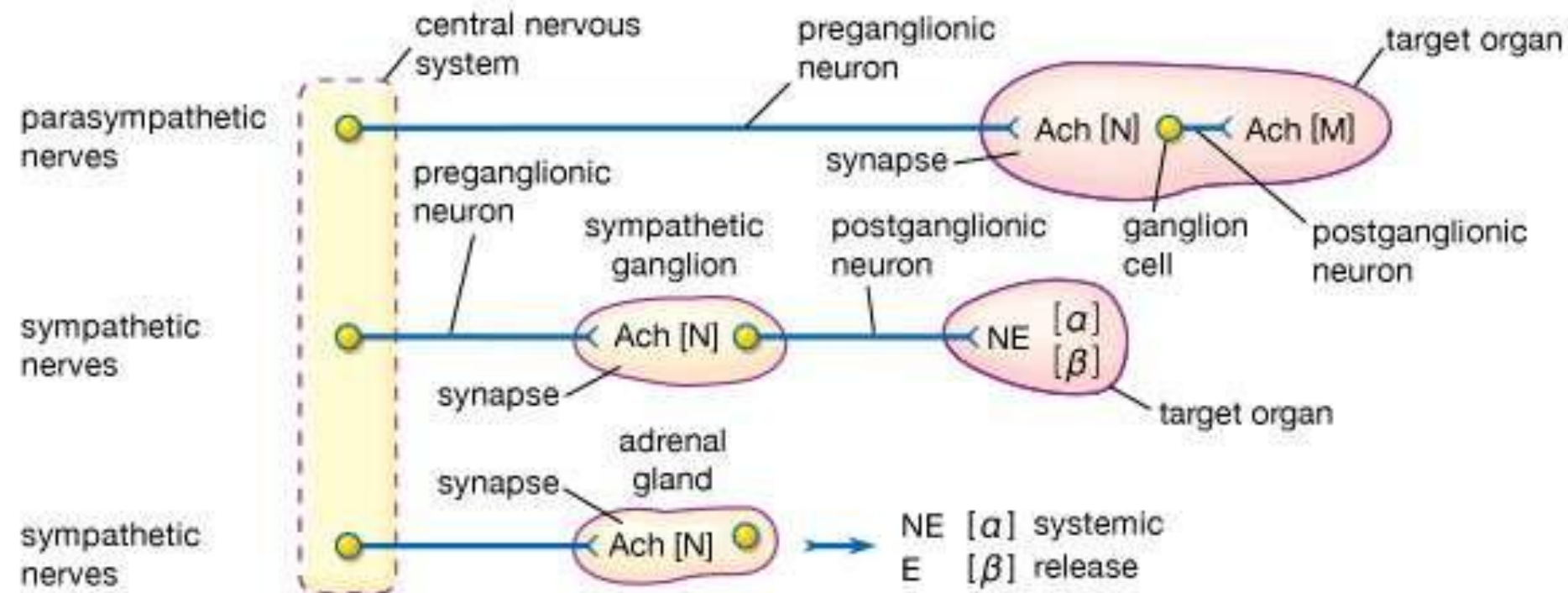




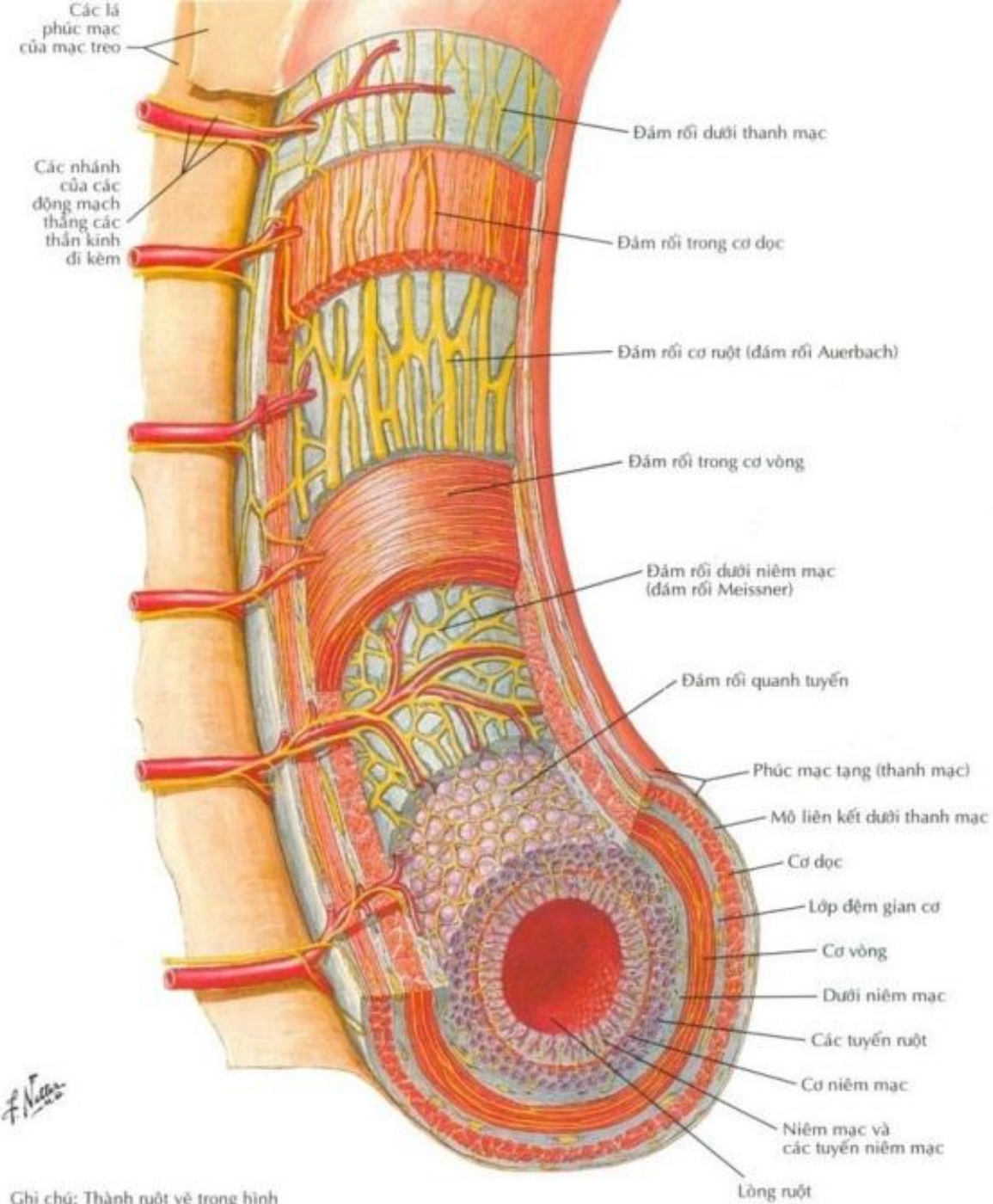
Sympathetic division

Parasympathetic division





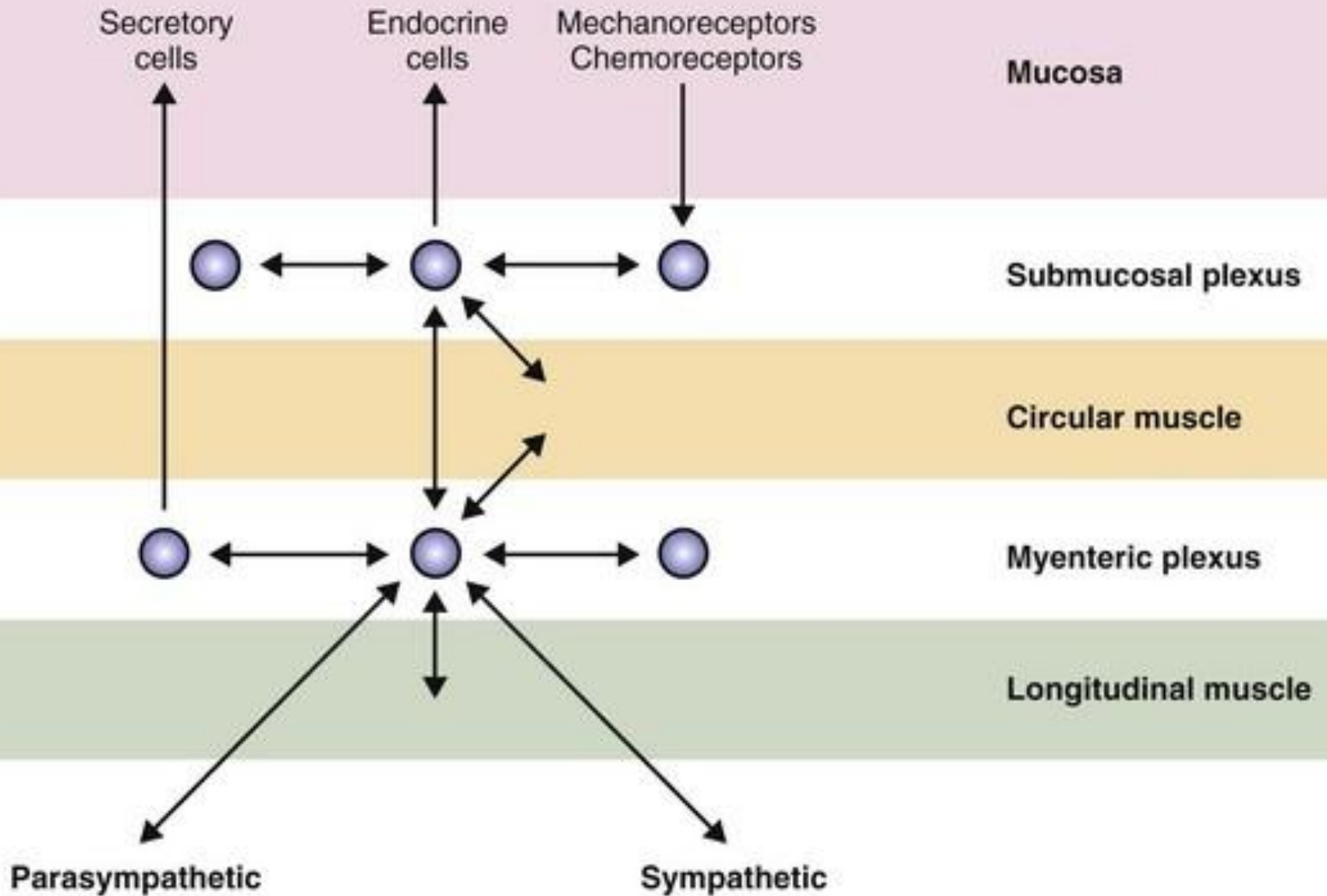
| | | | |
|-----|----------------|--------------|-----------------------------------|
| Ach | Acetylcholine | [N] | Nicotinic acetylcholine receptor |
| E | Epinephrine | [M] | Muscarinic acetylcholine receptor |
| NE | Norepinephrine | [α] | Norepinephrine receptor subtype |
| | | [β] | Norepinephrine receptor subtype |



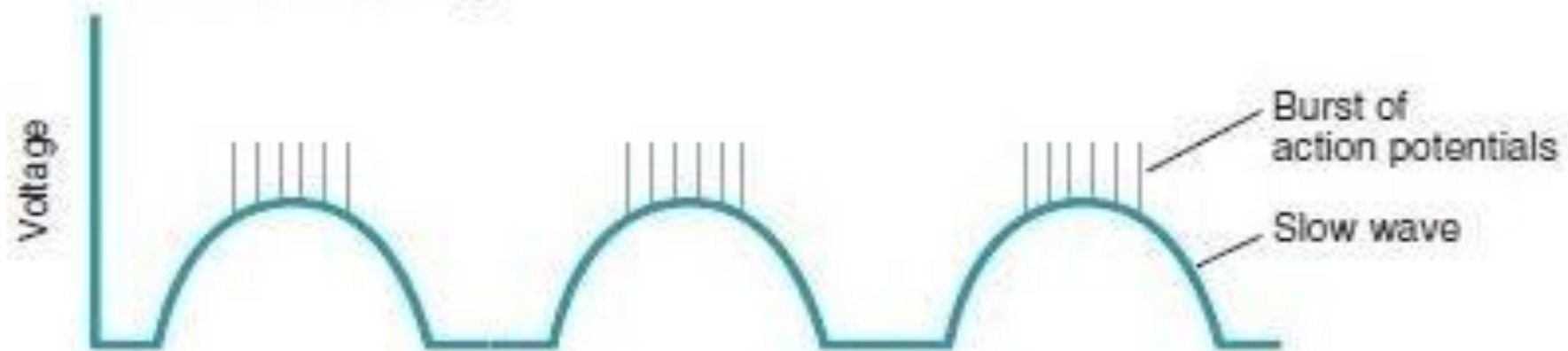
f. N. 2005

Ghi chú: Thành ruột vẽ trong hình dày hơn nhiều so với thực tế

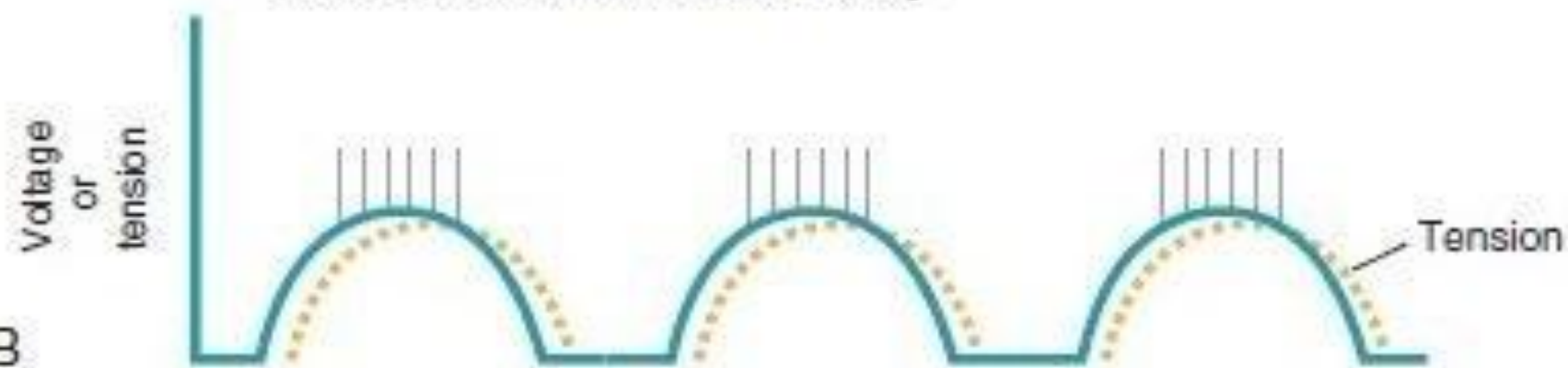
INTRINSIC NERVOUS SYSTEM



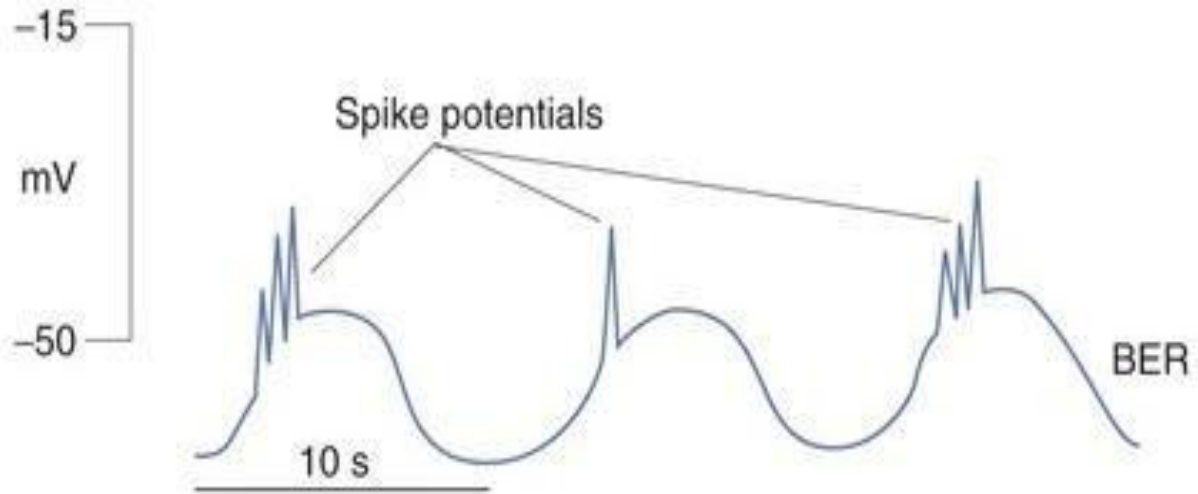
Electrical activity



Electrical and mechanical activity



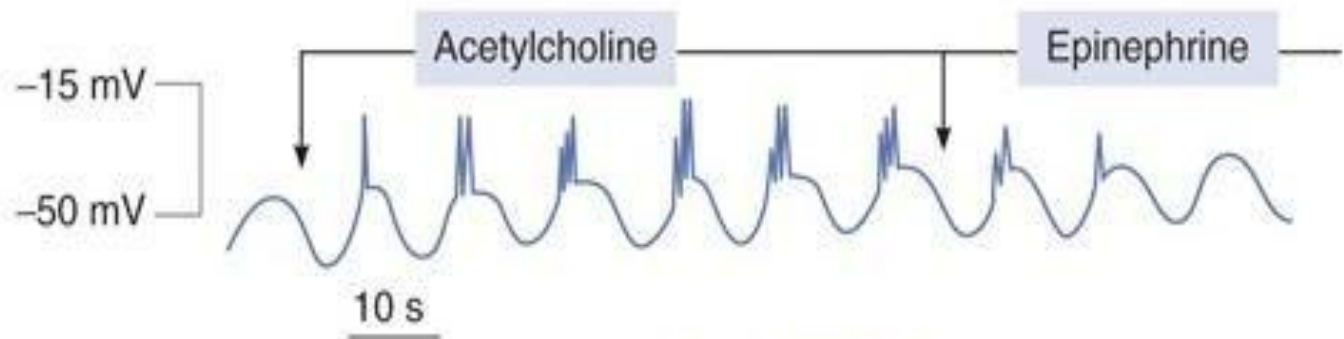
Electrical
recording



Mechanical
recording
(tension)



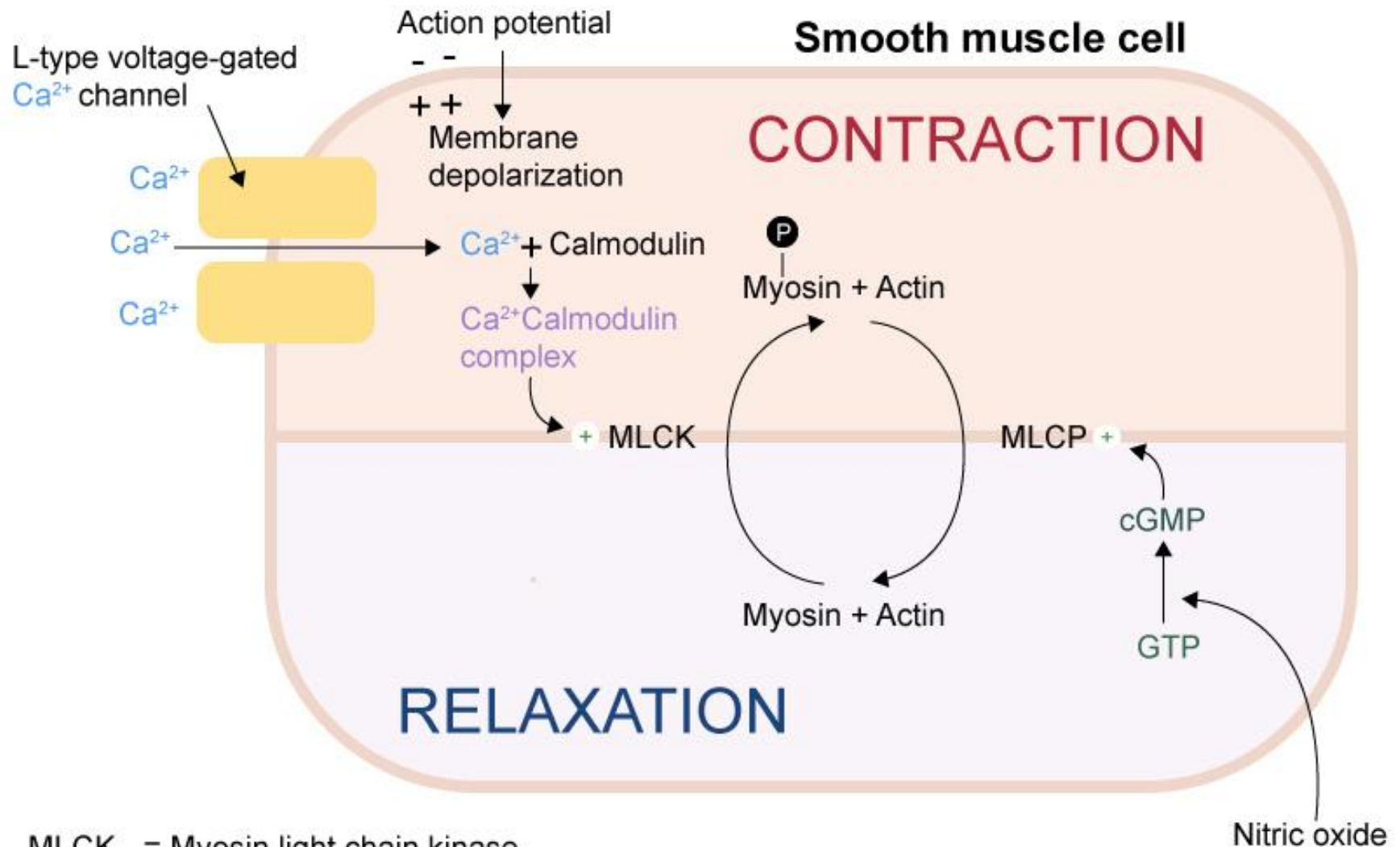
Electrical
recording



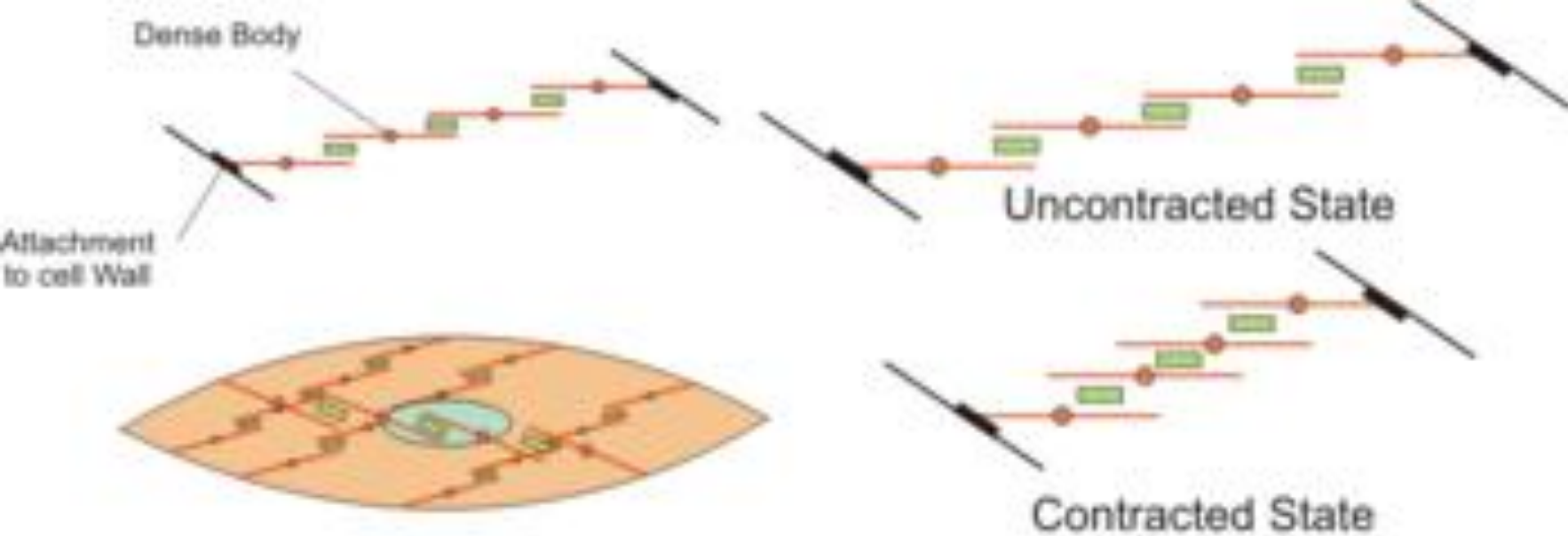
Mechanical
recording



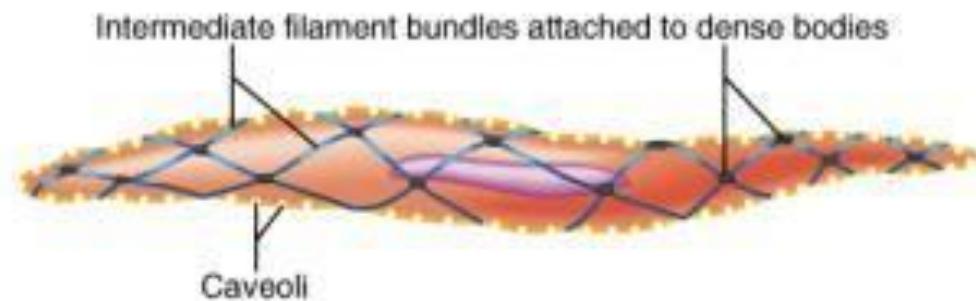
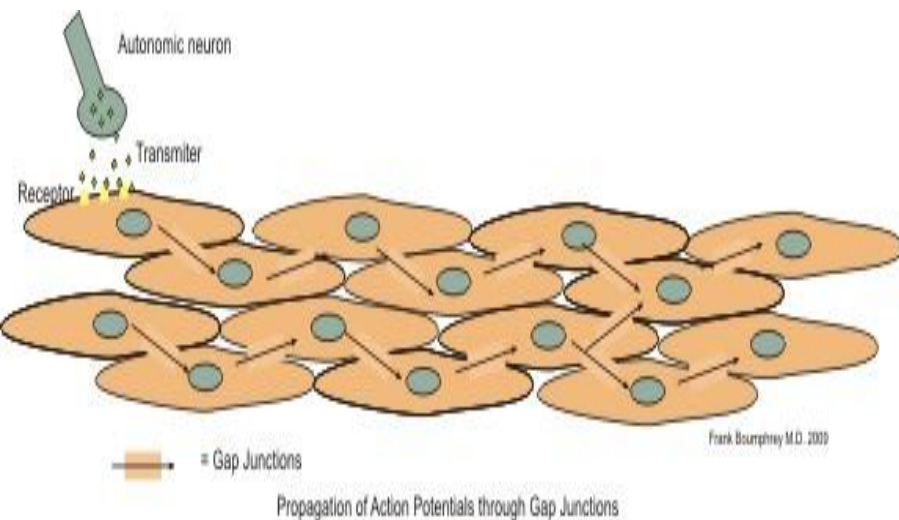
Smooth Muscle Contraction



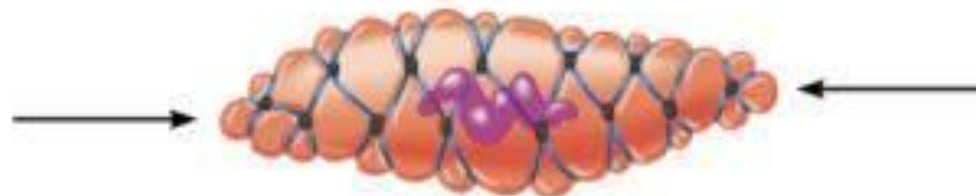
MLCK = Myosin light chain kinase
MLCP = Myosin light chain phosphatase
GTP = Guanosine triphosphate
cGMP = Cyclic guanosine monophosphate



Actin-myosin



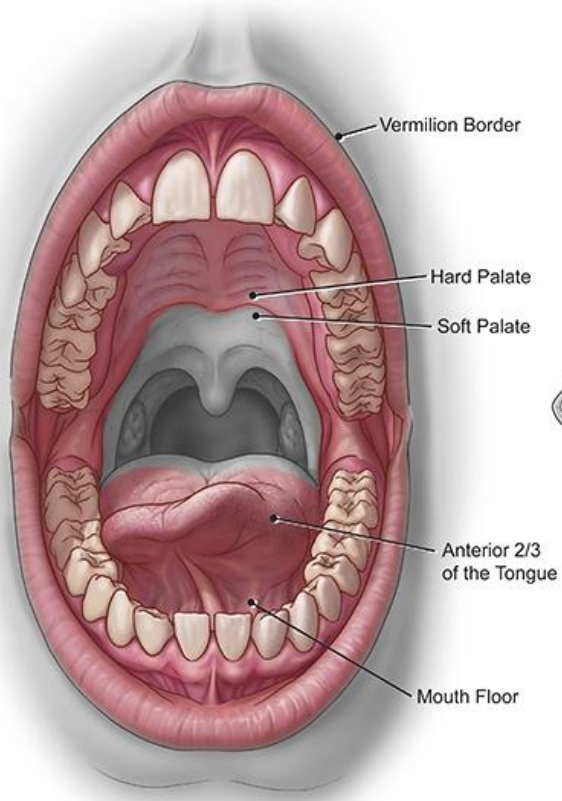
(a) Relaxed smooth muscle cell



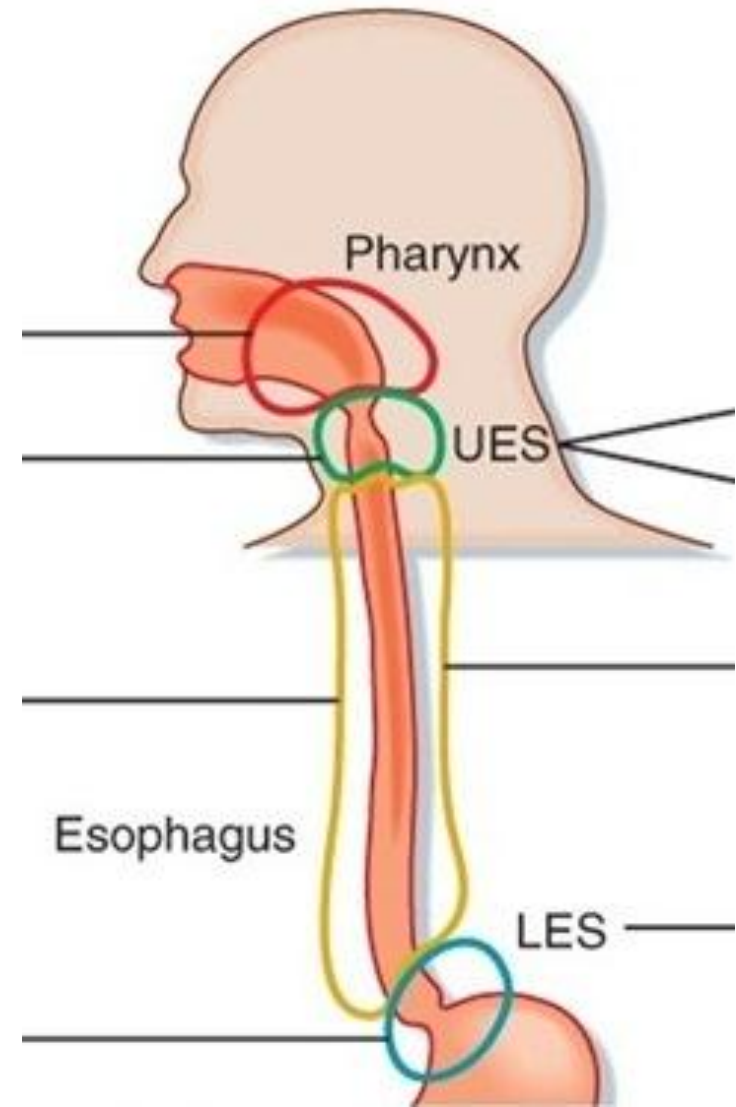
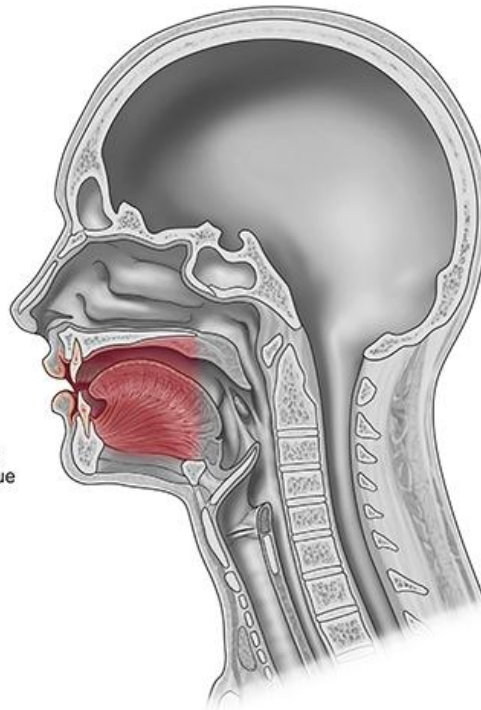
(b) Contracted smooth muscle cell

CÁC ĐOẠN ỐNG TIÊU HÓA

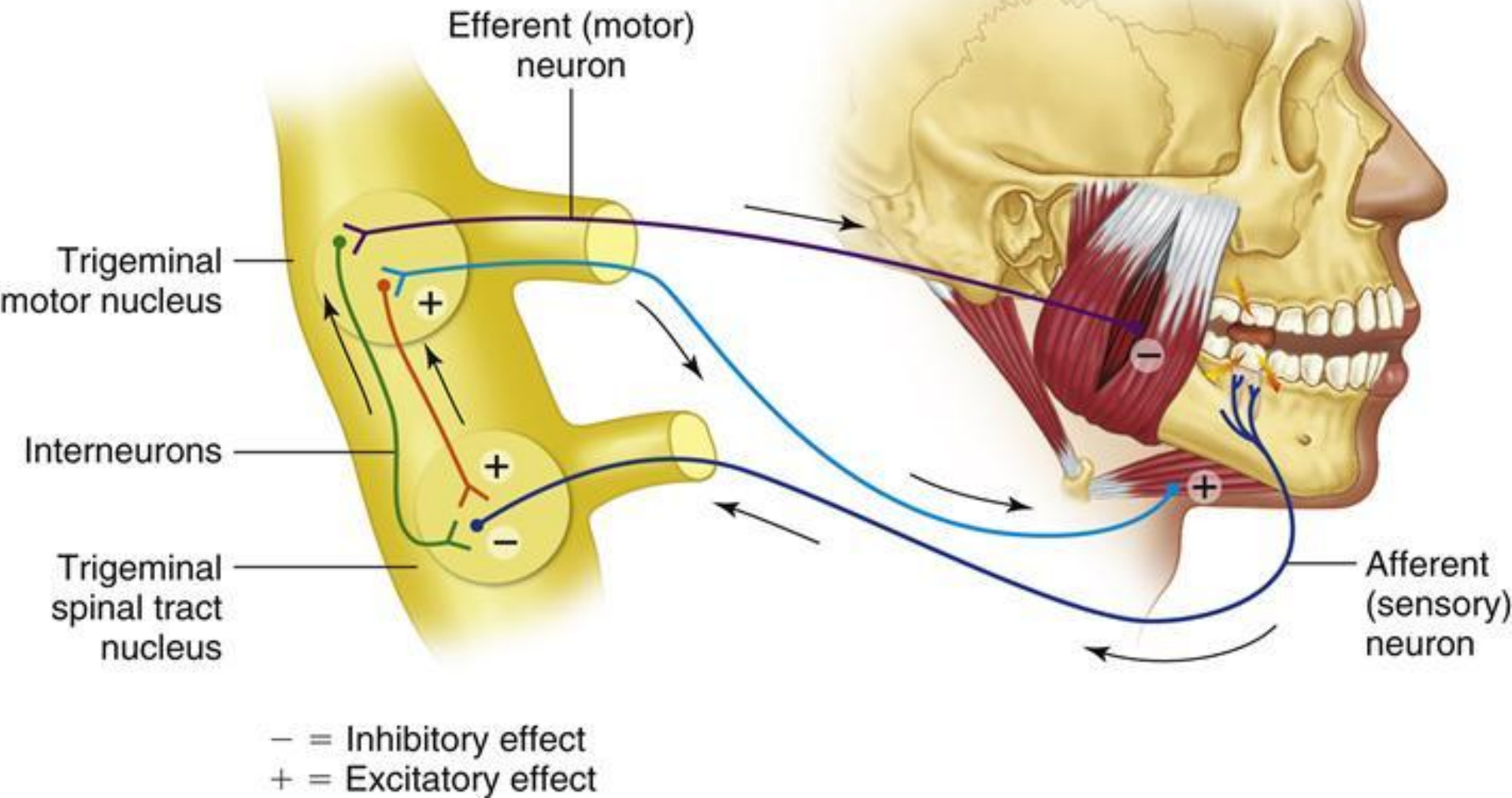
MIỆNG, HÀU, THỰC QUẢN



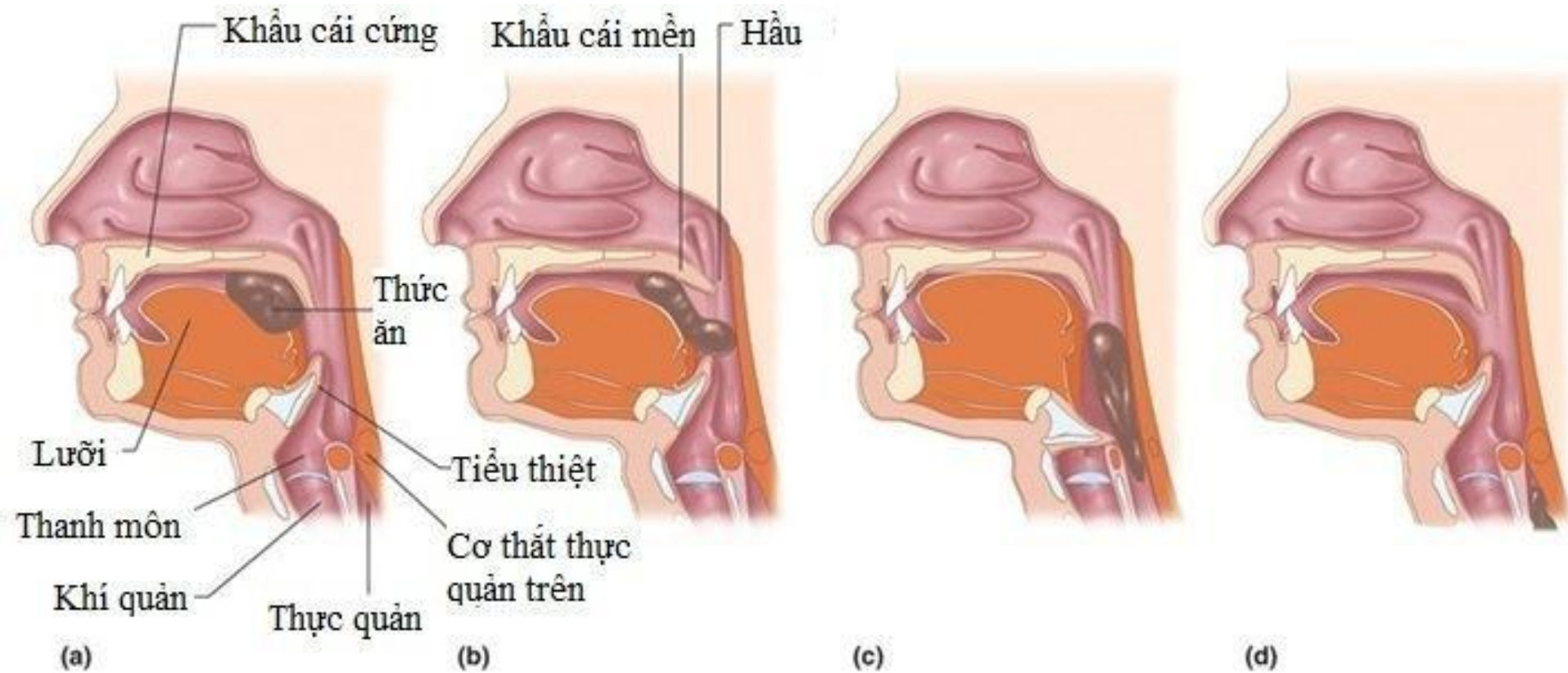
THE ORAL CAVITY
(represented by the colorized areas)

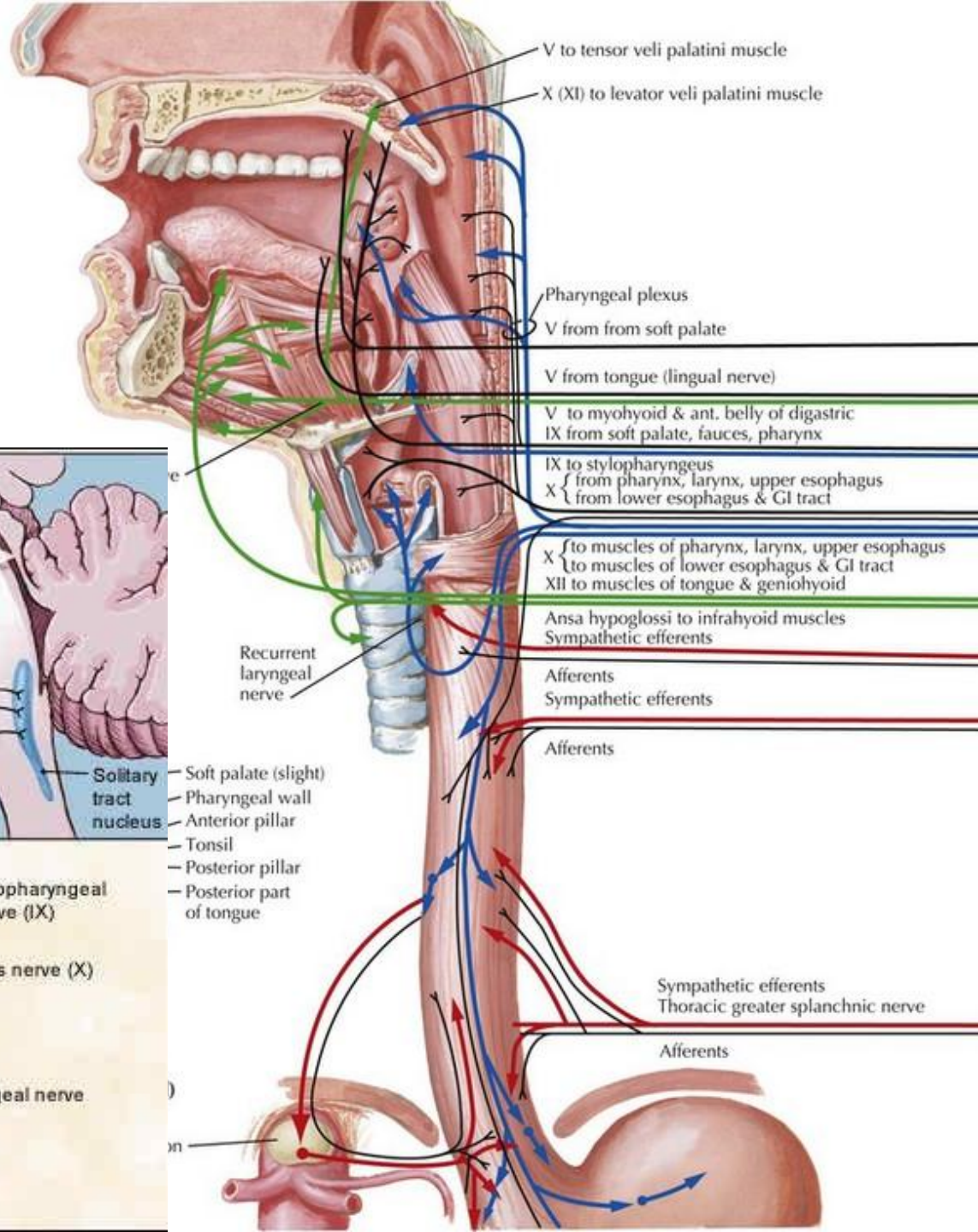
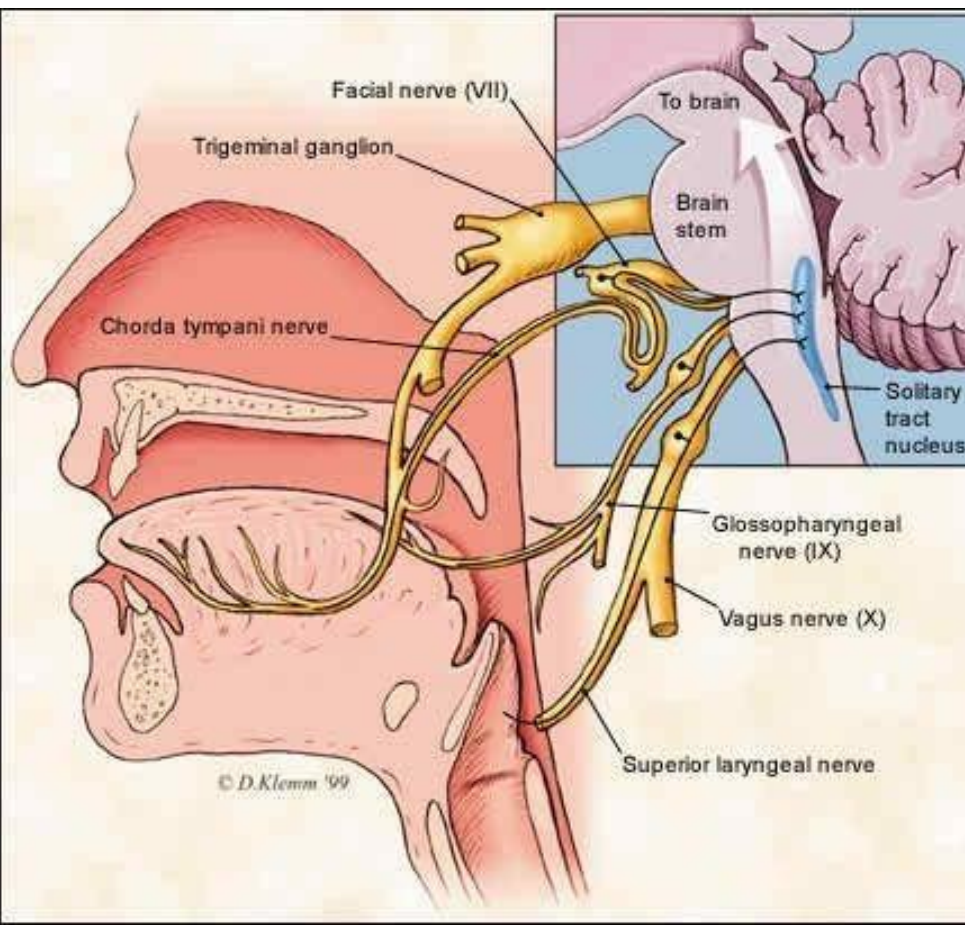


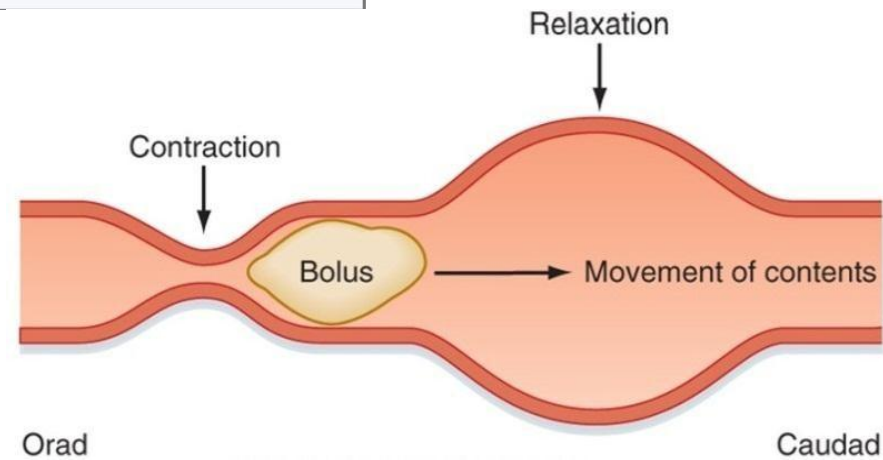
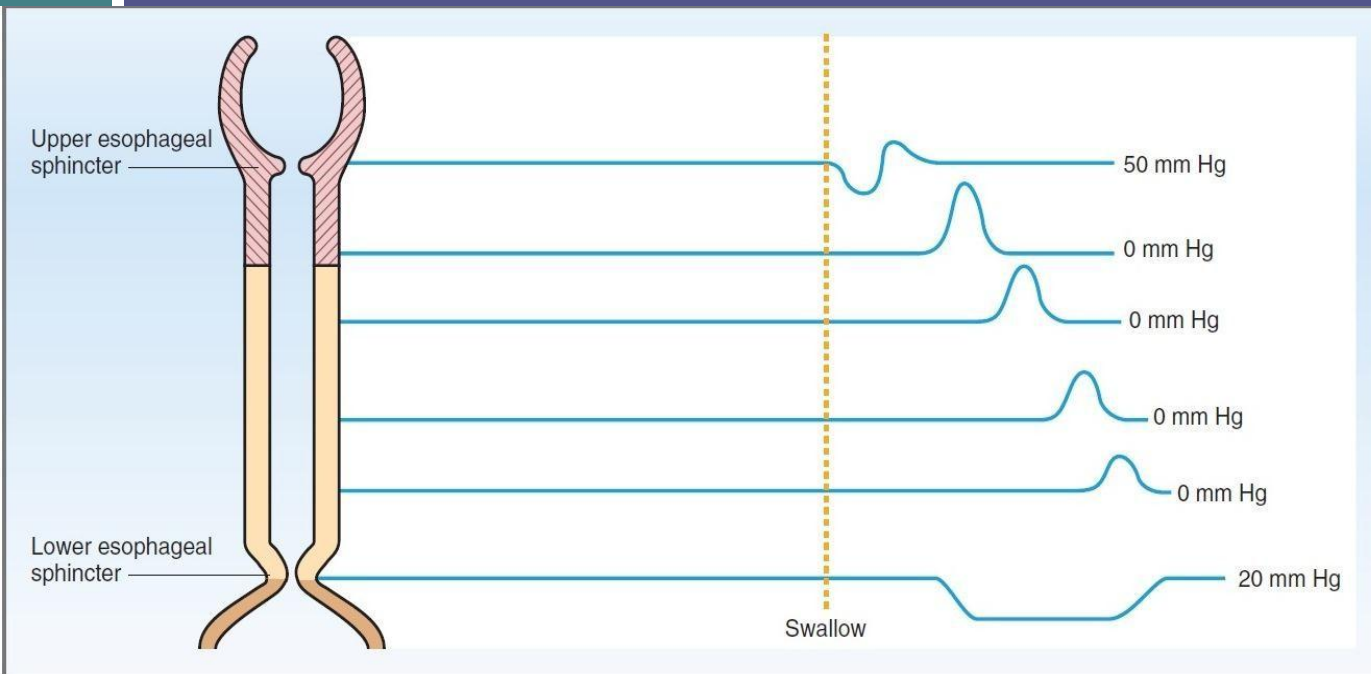
NHAI



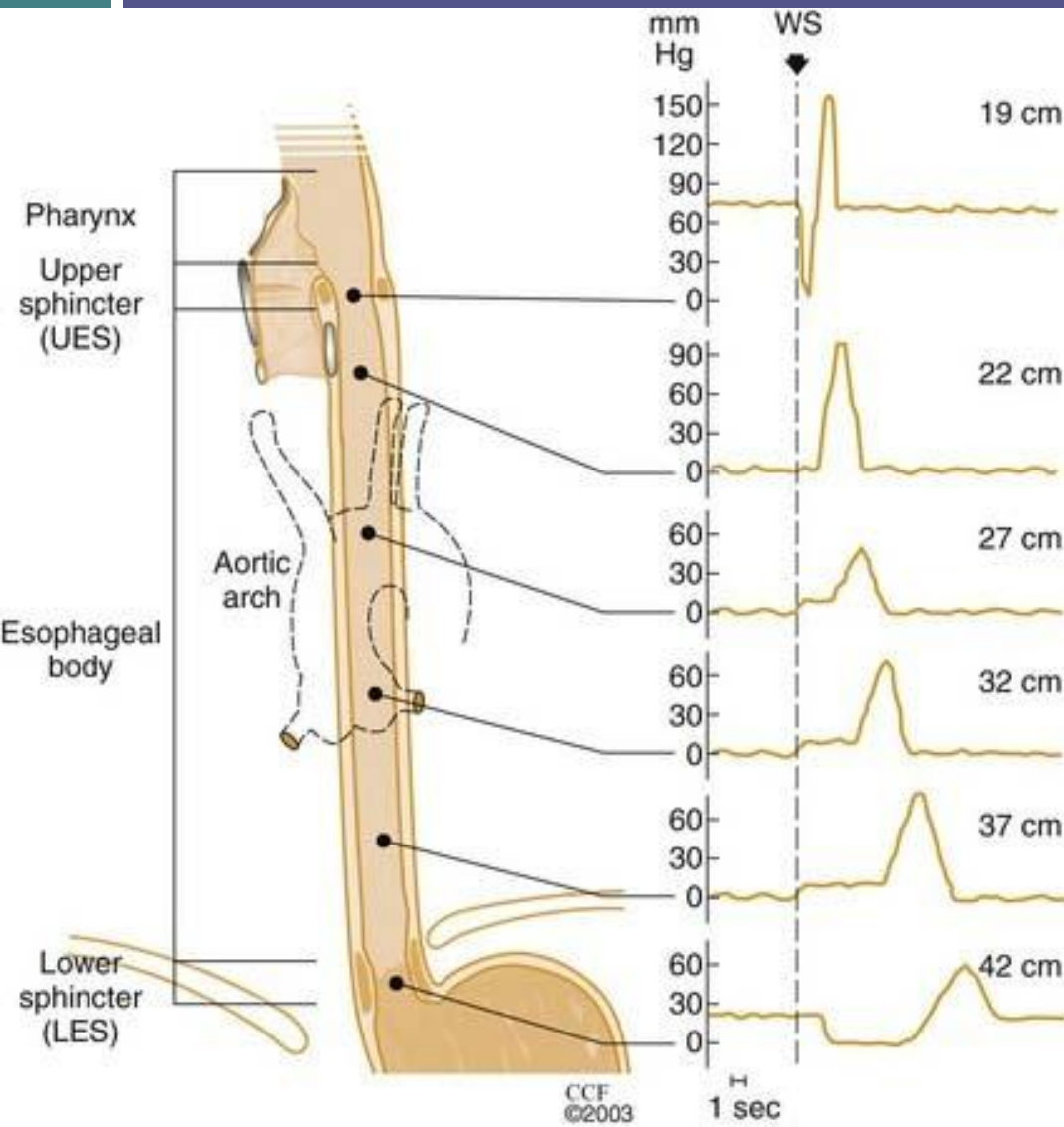
NUỐT



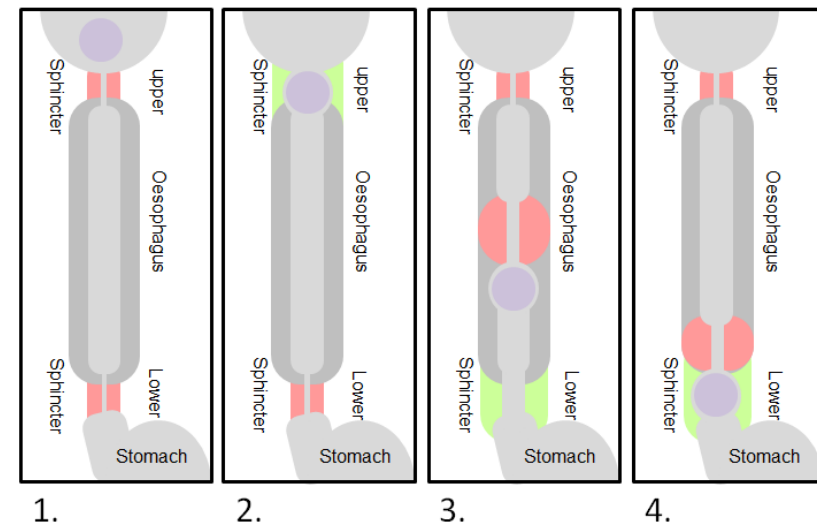




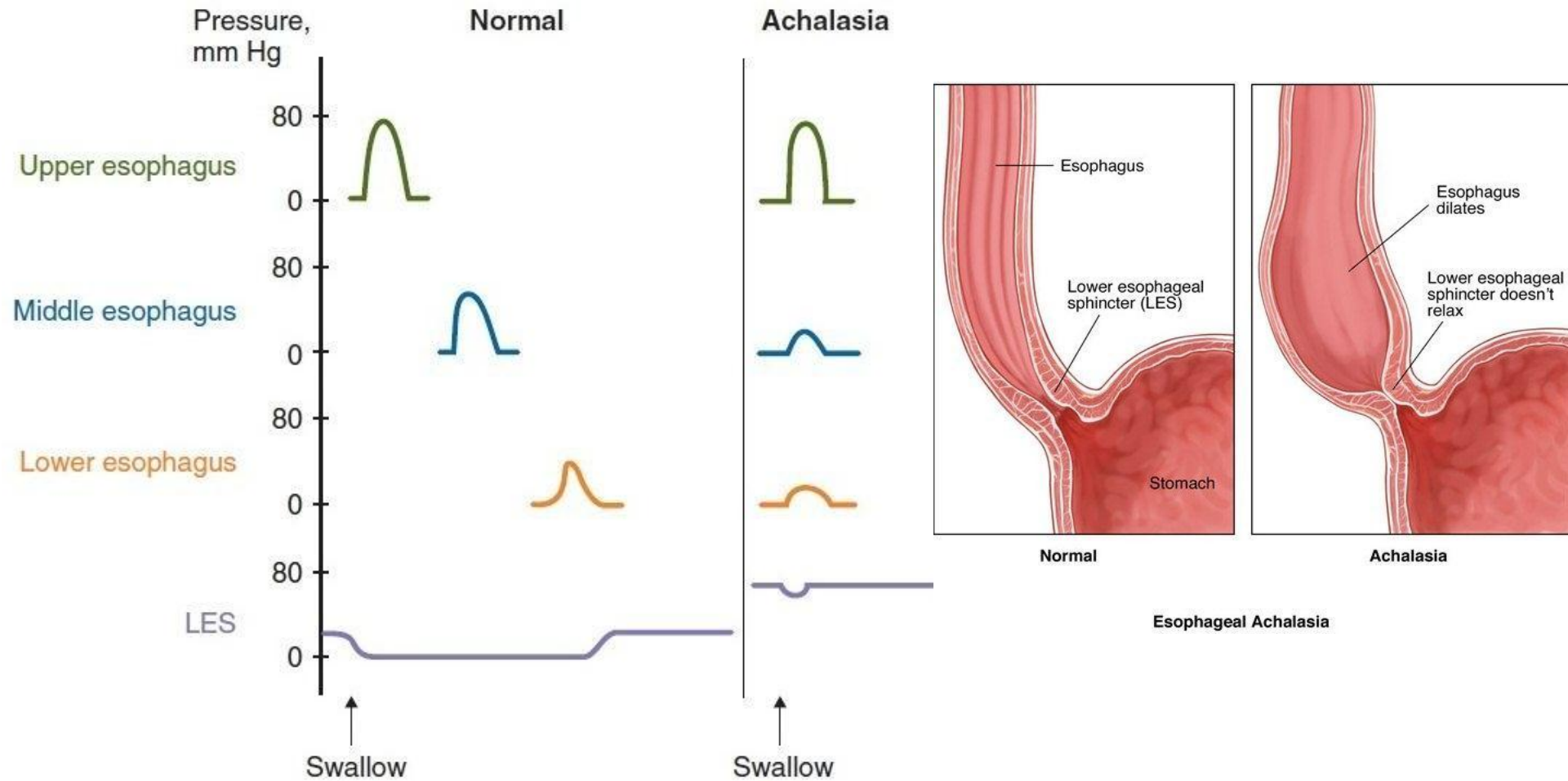
THỰC QUẢN



Normal swallow physiology



Co thắt tâm vị (Achalasia)



GERD (Gastroesophageal reflux)

What is GERD?

GERD (gastroesophageal reflux disease) or **heartburn** is a frequent disorder. About 1 in 10 adults has heartburn at least once a week. It is the problem of acid from the stomach. Stomach acid is a strong acid that is secreted into the upper abdomen and enters the mouth. Regurgitation of acid or bitter-tasting material into the throat and mouth, especially when lying down or sleeping. Constant chest discomfort on swallowing food or liquid foods, inflammation of the esophagus, weight loss and vomiting of blood are symptoms of other problems often associated with GERD. Usually a description of symptoms will allow a physician to establish the diagnosis of heartburn.

GERD

(gastroesophageal reflux disease)

Under normal circumstances, food passes into the stomach from the esophagus and is prevented from coming back up by the esophagus by the lower esophageal sphincter, which remains tight (closed) except when you swallow food. Sometimes, however, the sphincter muscle relaxes for **gastroesophageal reflux** (heartburn) and allows stomach acid to come back up the esophagus, producing the symptoms of heartburn.



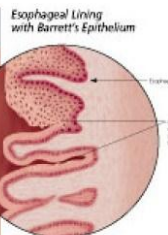
Normal esophageal lining



Esophageal lining with esophagitis

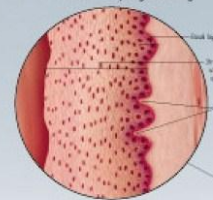


Esophageal lining with Barrett's epithelium



Barrett's Esophagus

Normal Esophageal Lining



Taking Control of GERD

- Have a complete physical exam by a physician for a diagnosis
- Understand heartburn and its treatment
- Take prescribed medications according to your plan
- Eat three balanced meals a day, reduce size of portions
- Do not eat 2 to 3 hours before going to bed
- Avoid stress, weight to decrease pressure on your stomach, which may reduce heartburn
- Avoid alcohol, tea, chocolate and peppermint, especially for the lower esophageal sphincter
- Don't smoke
- Avoid tight clothing and high heels
- Follow all of your physician's instructions
- If your heartburn becomes worse, discuss options with your physician.

Effective control of GERD can prevent most of its complications.

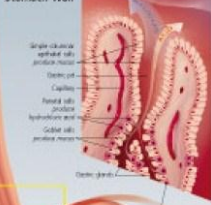


Barrett's Esophagus

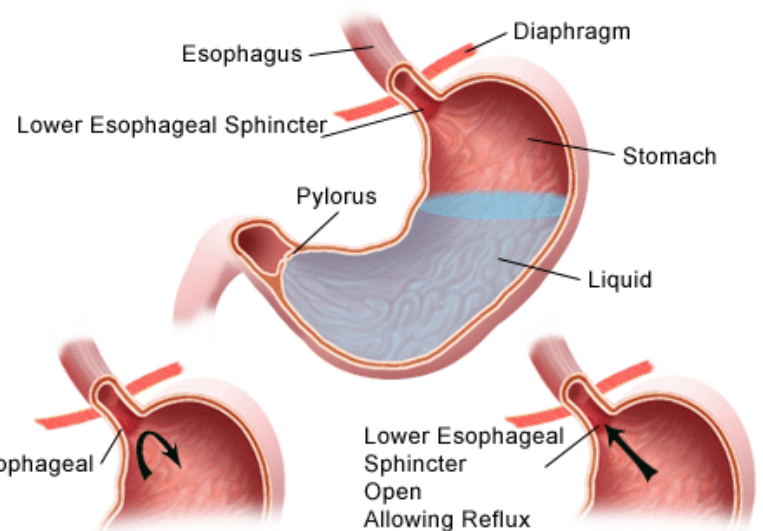
Stomach Acid

Undigested food makes the stomach acid being pushed through the esophagus by stomach waves for mechanical, not chemical, digestion. There is the stomach, food enters with hydrochloric acid and enzymes produced for the stomach lining to begin the digestion of proteins. **Stomach acid** is produced from flowing back up into the esophagus by the closing of the **gastroesophageal junction**.

Stomach Wall



Gastroesophageal Reflux



Lower Esophageal Sphincter Closed

Cancer of the Esophagus

Most cancers form in the middle or lower part of the esophagus. The principal symptoms of an esophageal tumor is progressive difficulty in swallowing, beginning with solid foods. A well-established history of reflux may be evident. As the condition worsens, weight loss, the regurgitation of food and food resulting from probably will occur. Nearly 90 percent of esophageal tumors are malignant. Any difficulty in swallowing requires immediate attention from a physician for diagnosis and treatment.

Diet and Medication

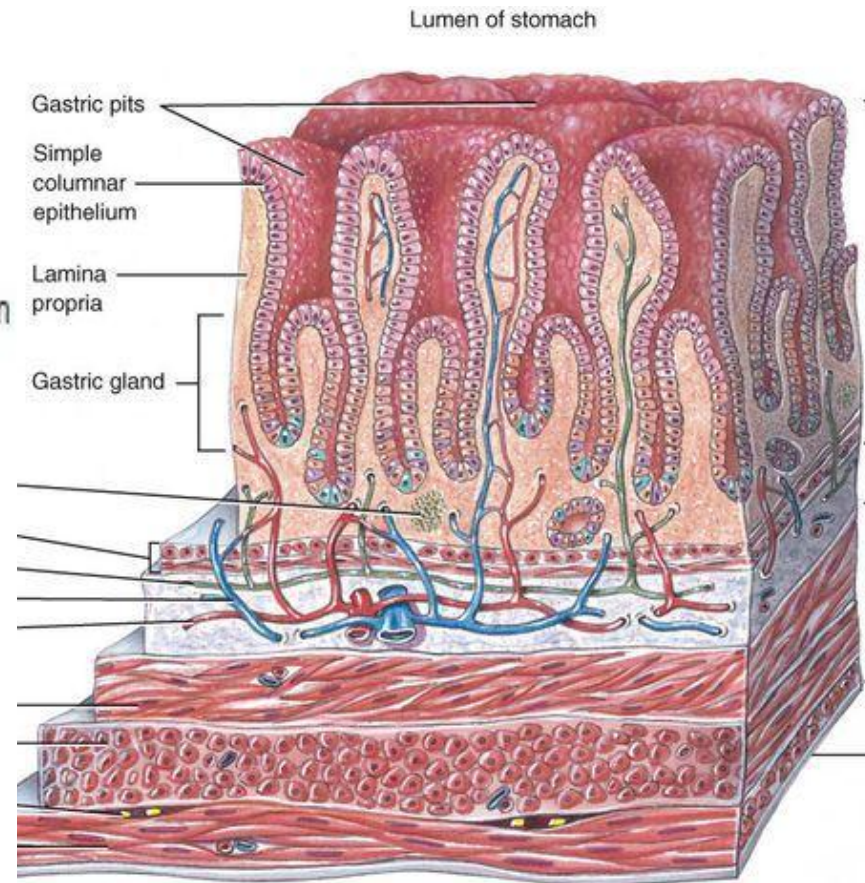
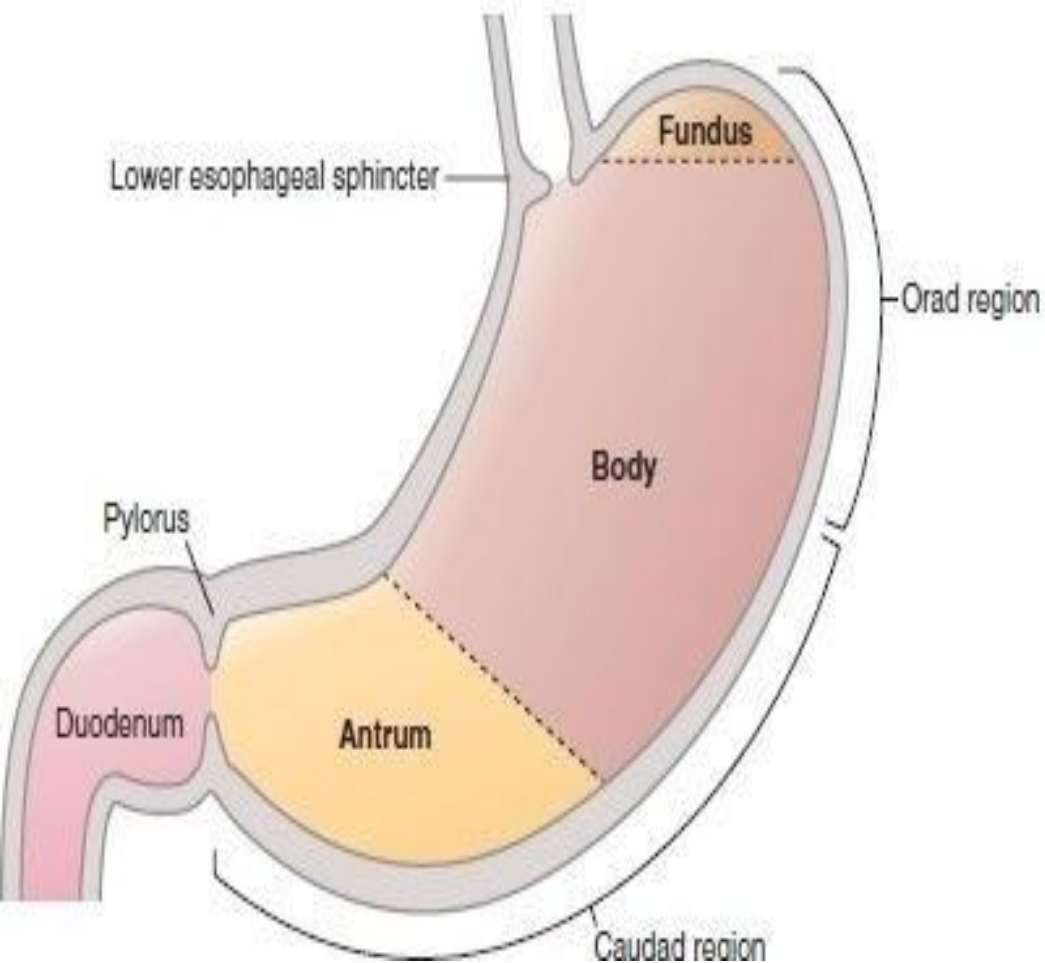
The ultimate goal of treating heartburn is to produce freedom from symptoms and prevent attacks. Improvements in lifestyle changes and the above may be enough to control GERD, especially in mild cases. Often, improvements in diet need to be combined with medication to control GERD. Due to the risk of complications in the body that affects digestive system, there are several different types of medications. Your physician will determine which is best for you and may eventually suggest taking more than one.

And **Heartburn** increases and production in your stomach.

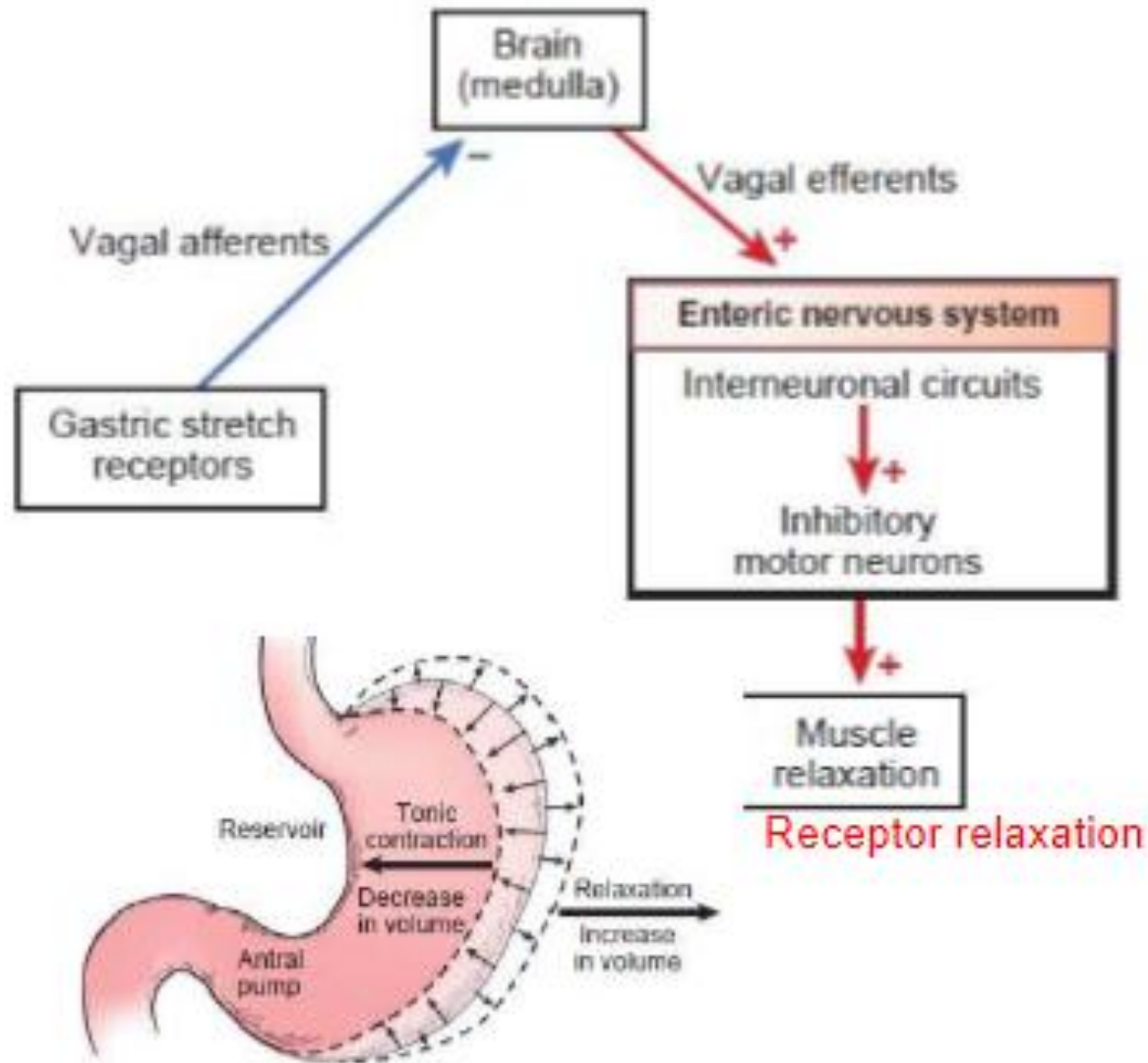
Over-the-counter and some prescription medications of stomach acid production and relieve heartburns when taken.

Surgery is rare and is only a viable solution for those with severe symptoms, complications despite medications and lifestyle changes.

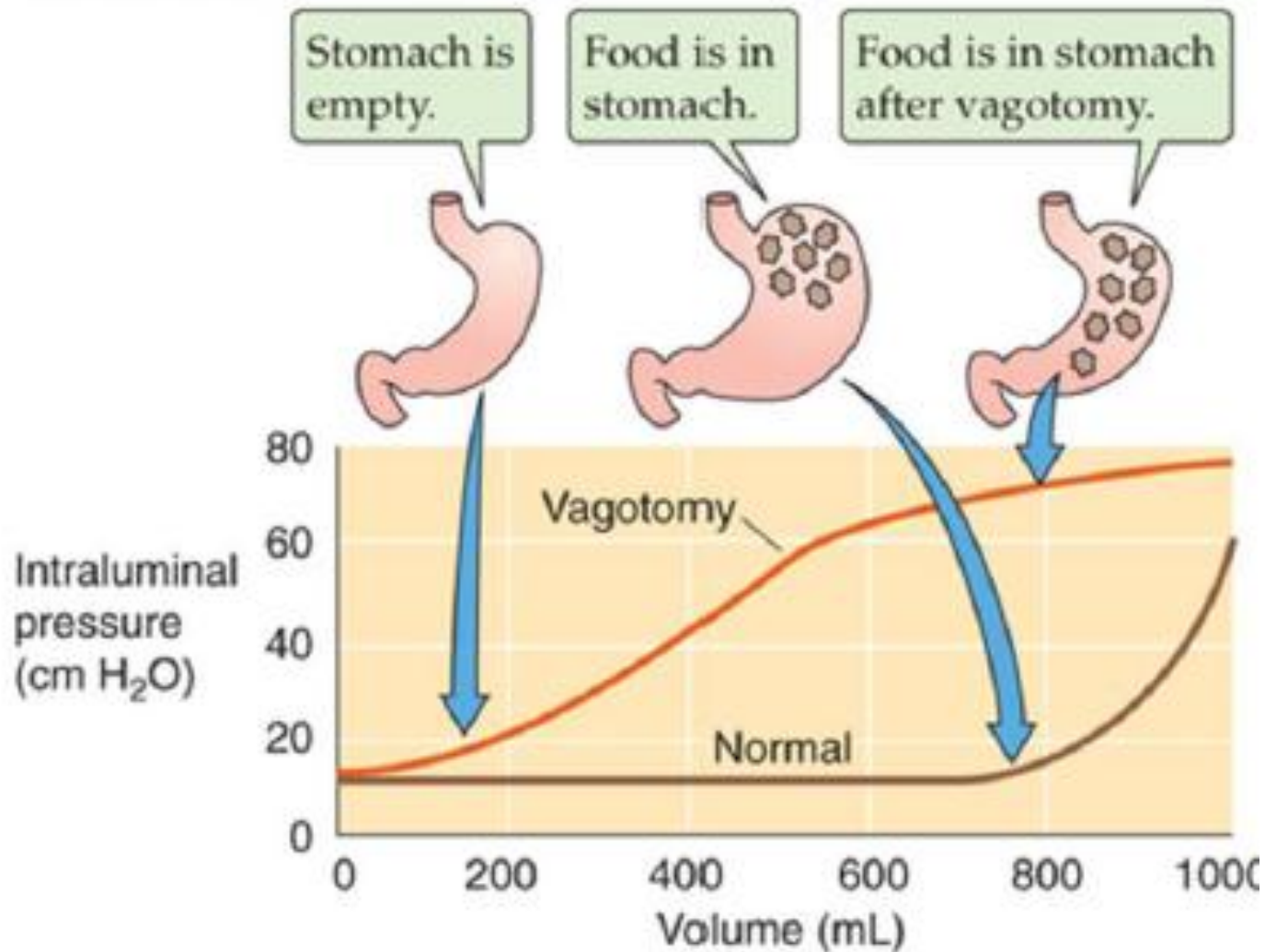
DẠ DÀY



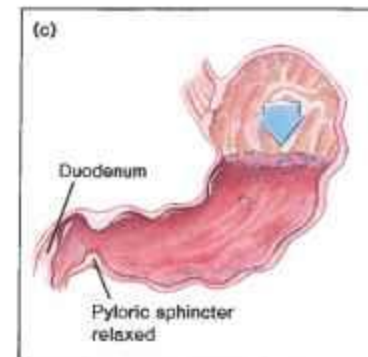
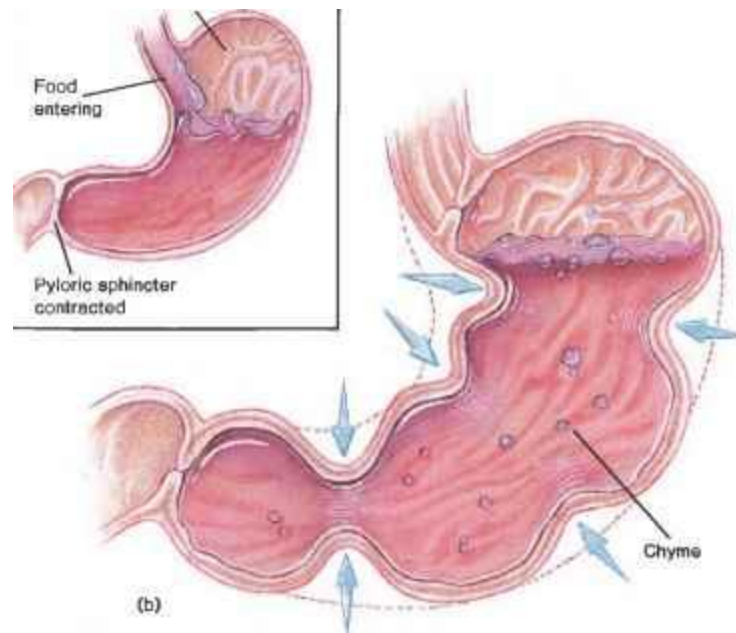
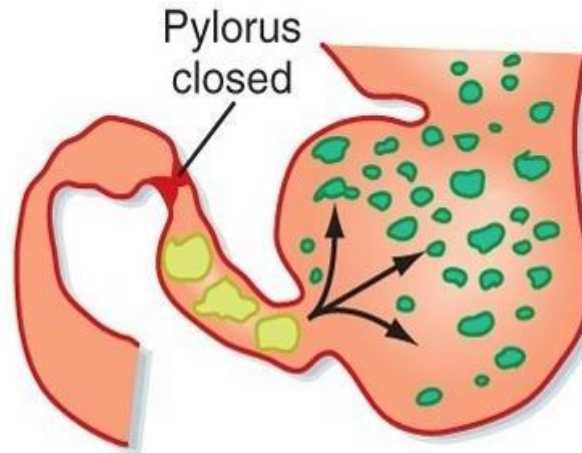
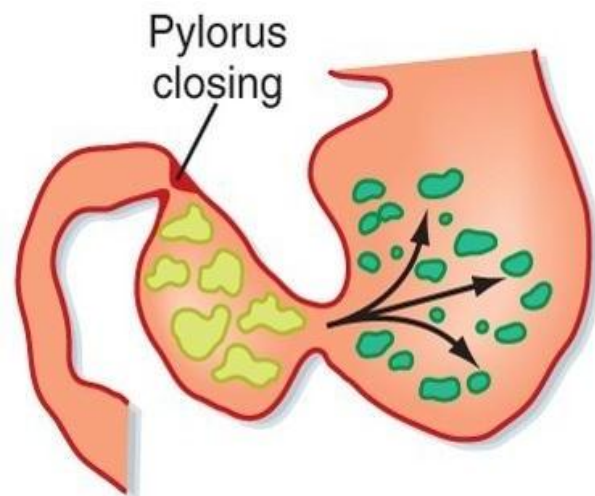
Giãn tiếp nhận



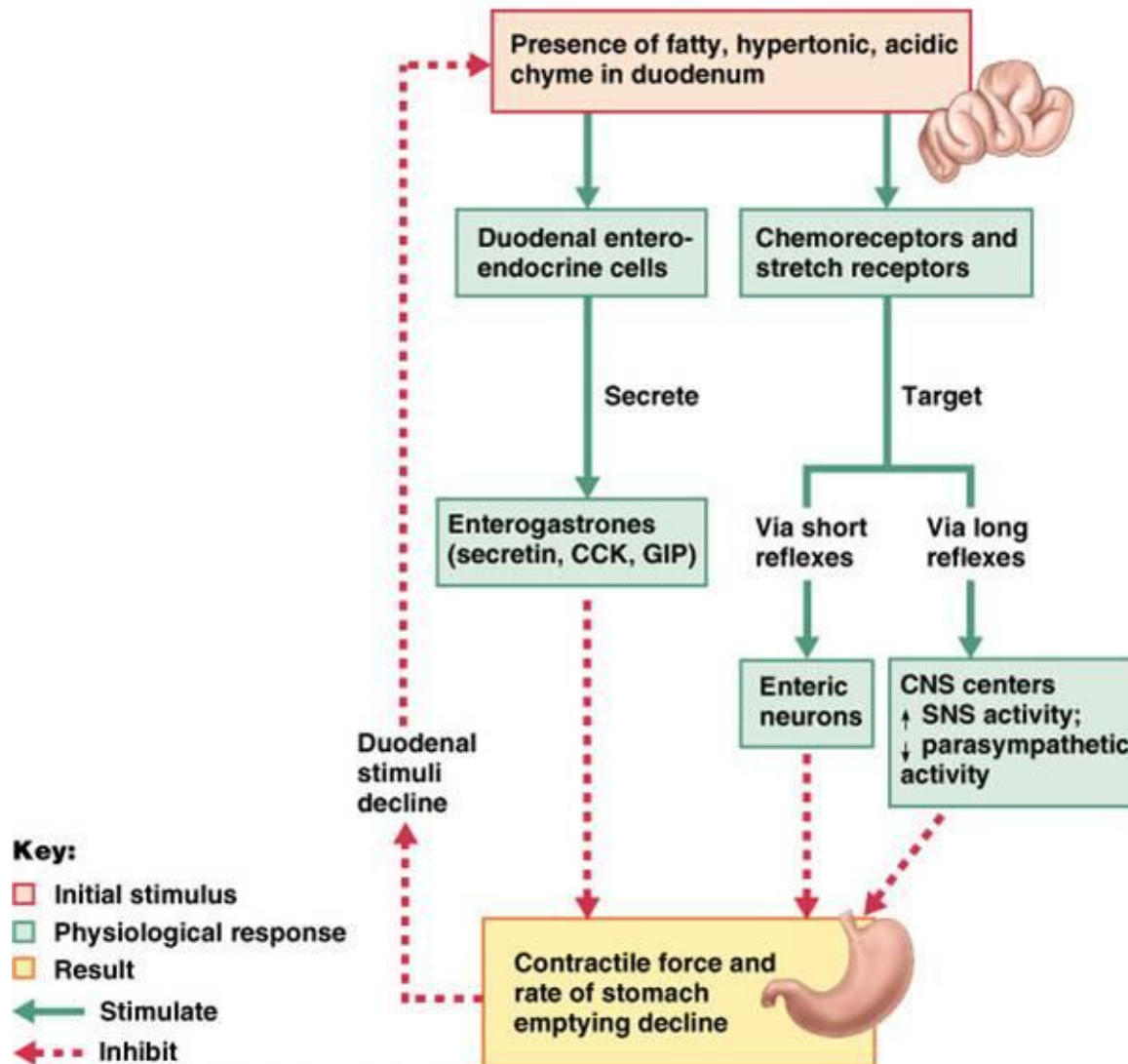
A GASTRIC ACCOMMODATION



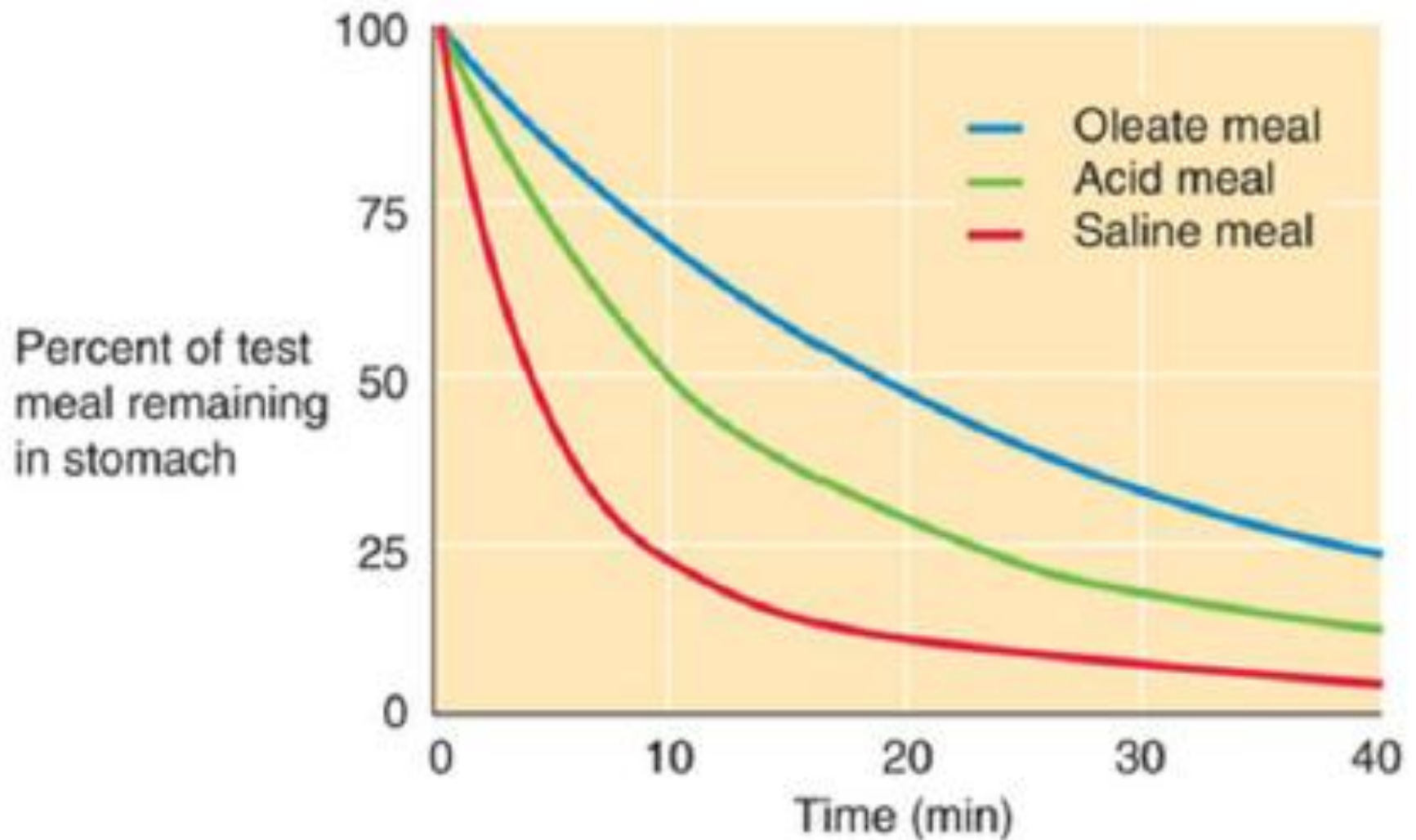
Nhào trộn



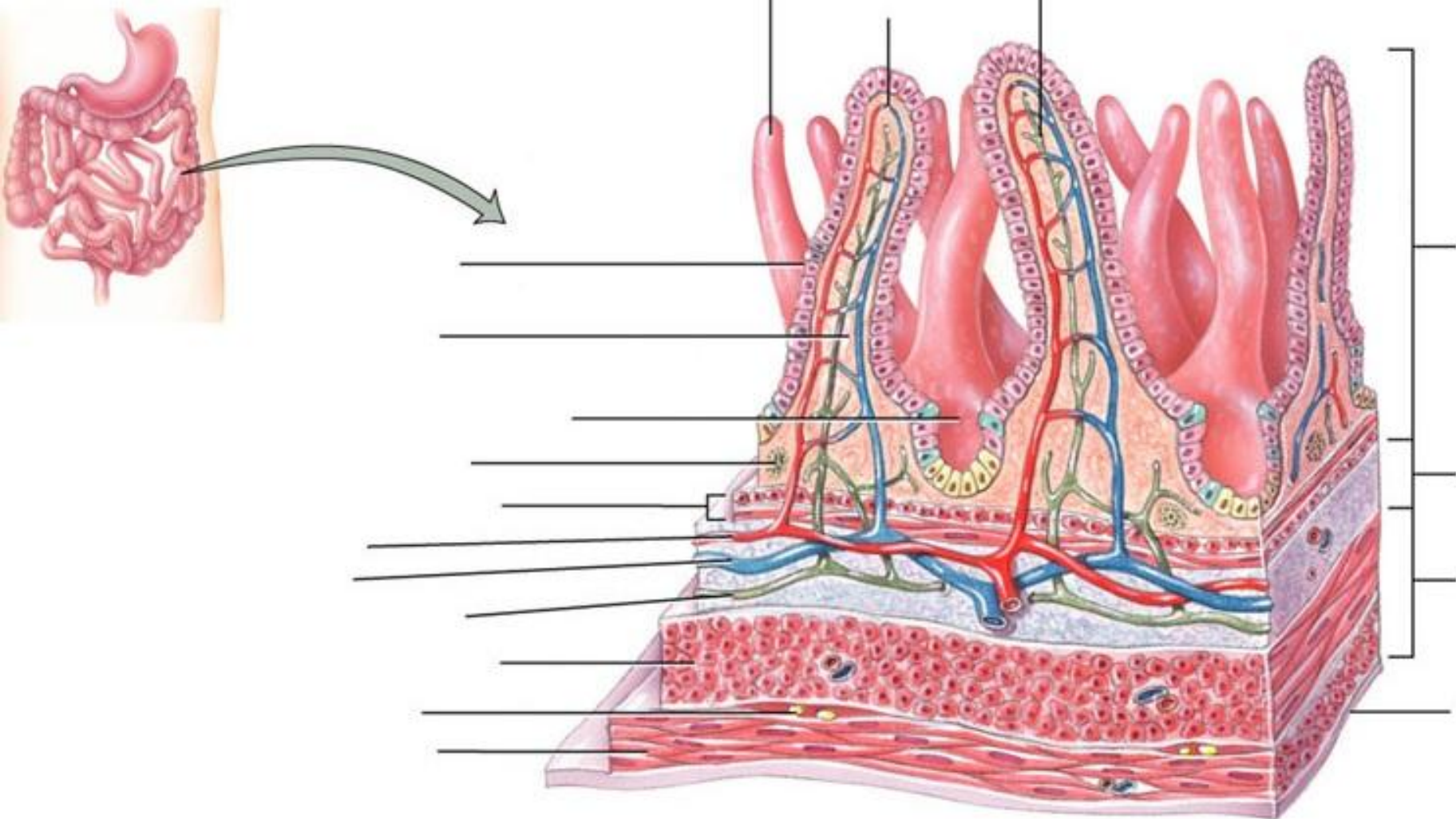
Thoát thức ăn khỏi dạ dày



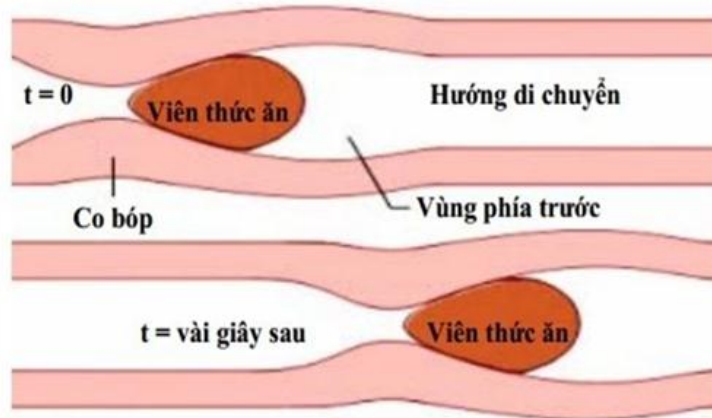
B GASTRIC EMPTYING



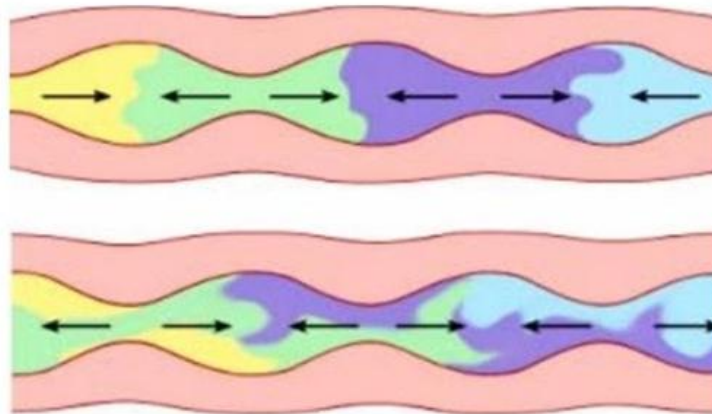
RUỘT NON



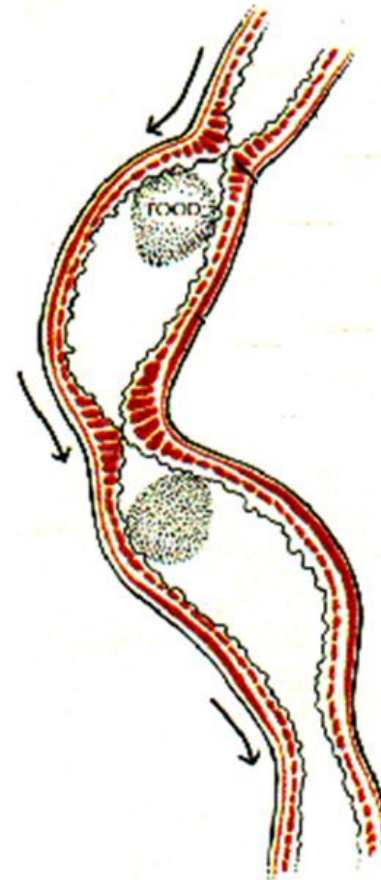
Phân đoạn



a

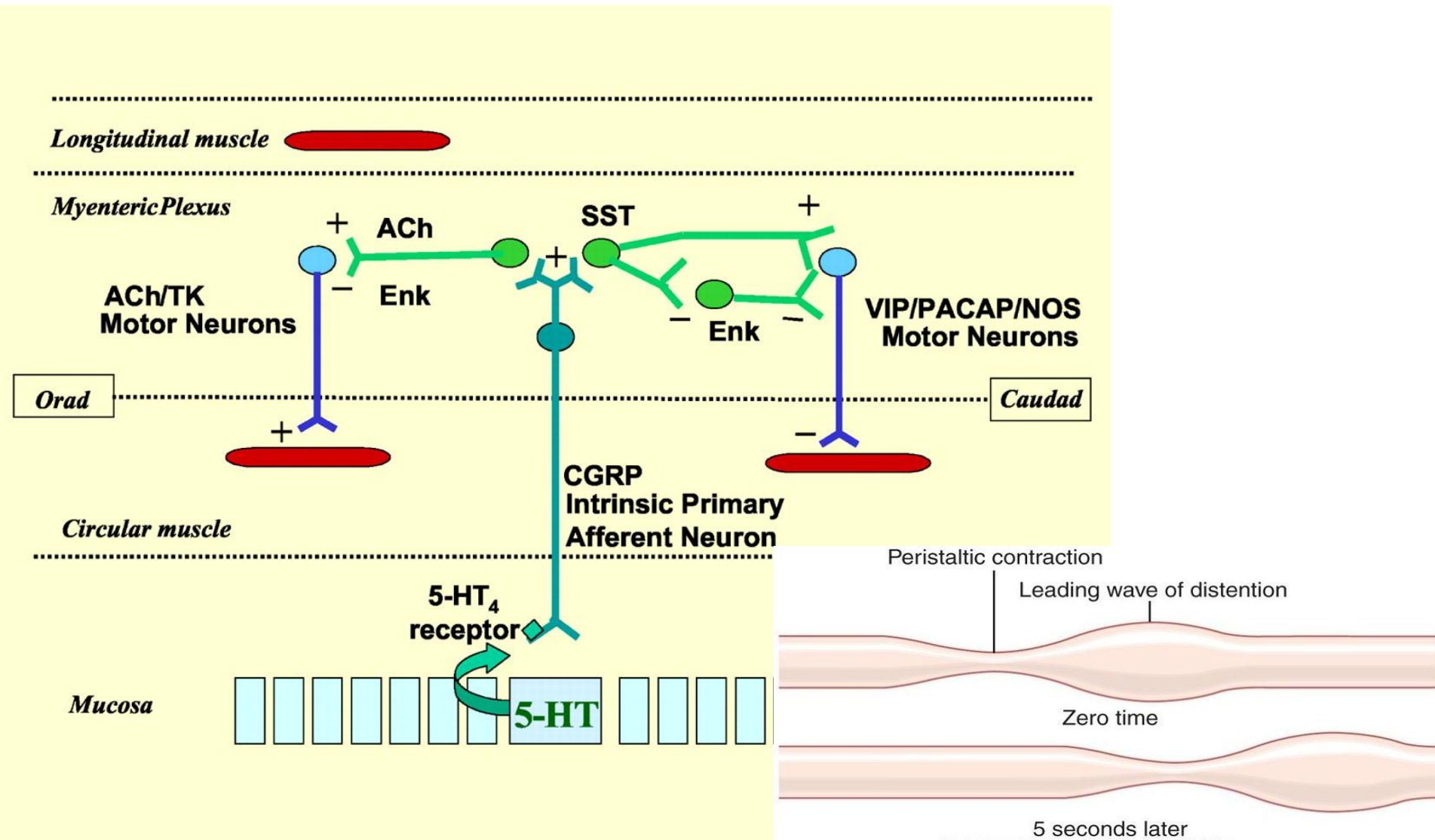


b

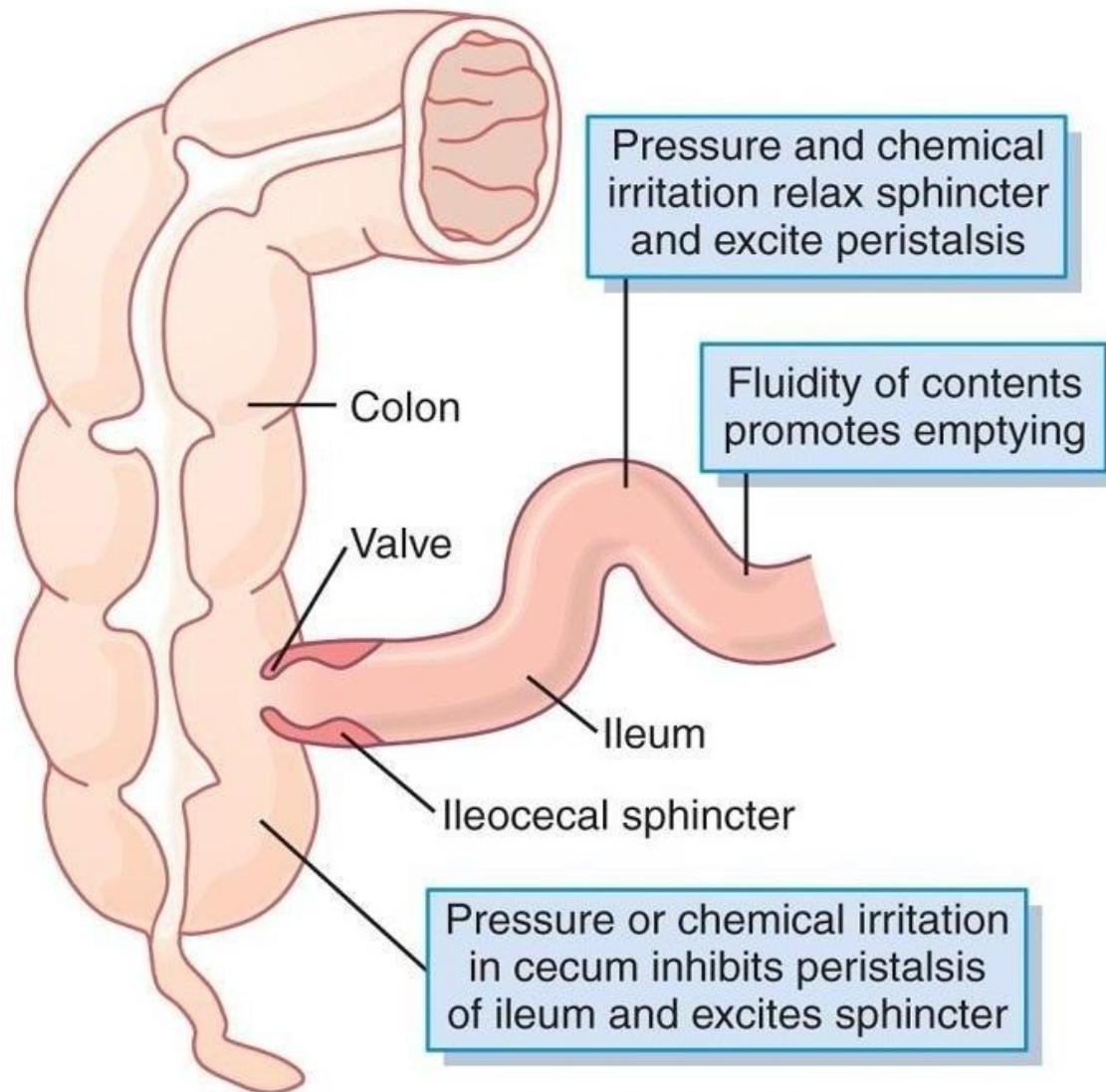


c

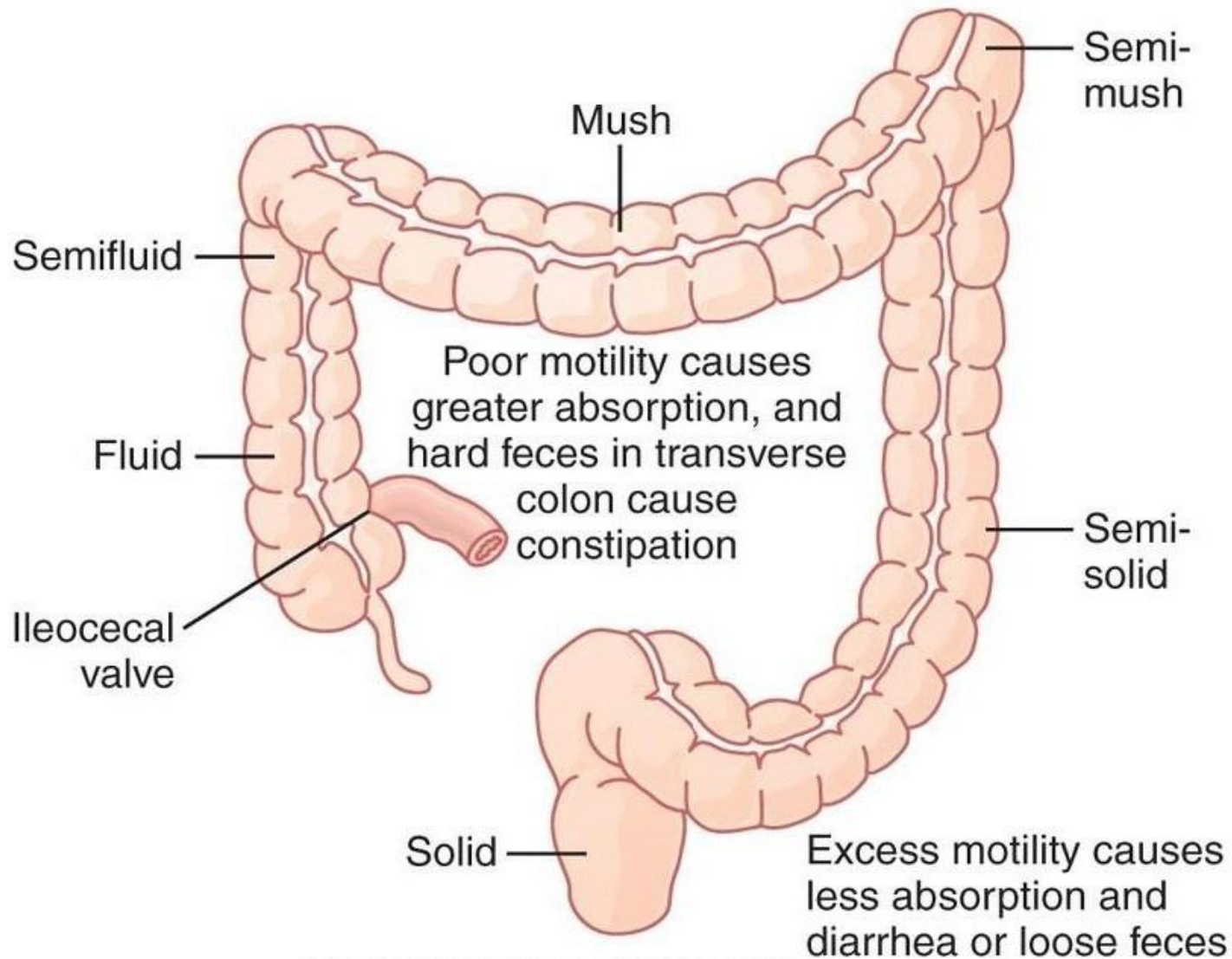
Nhu động



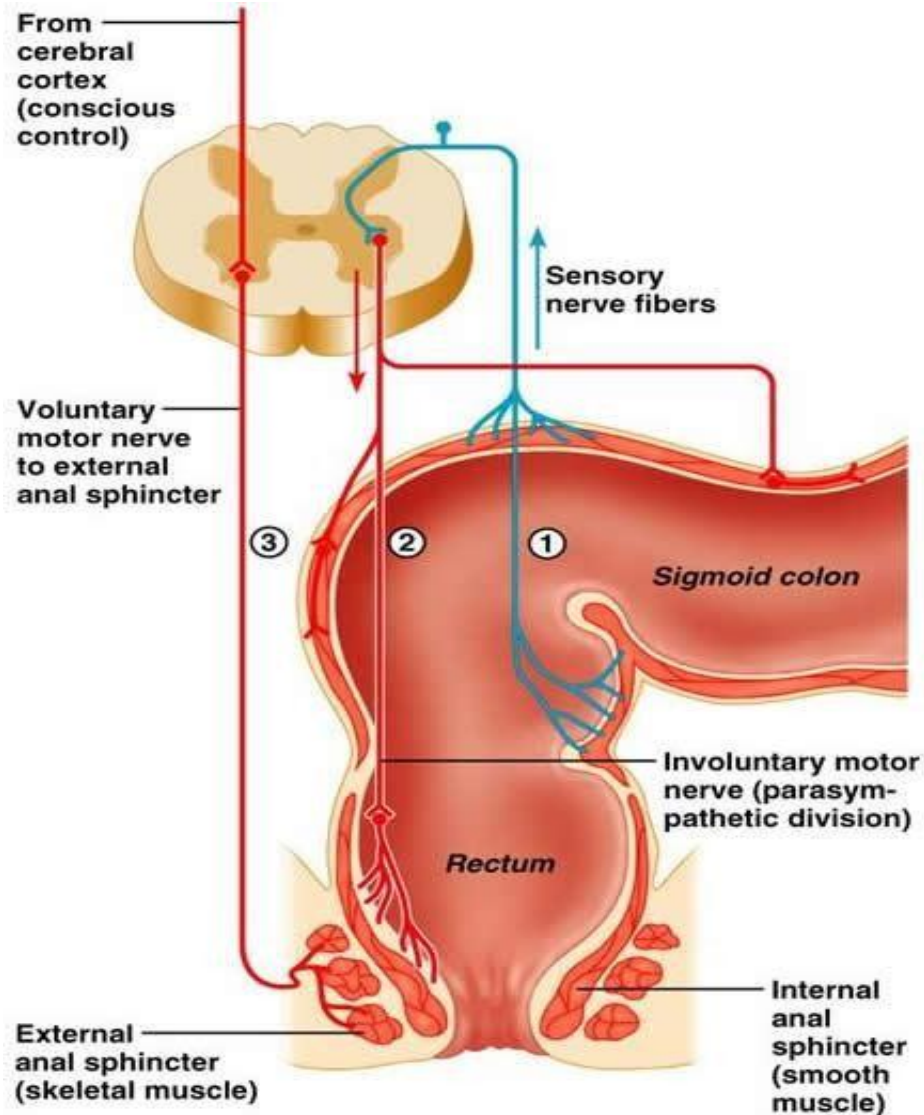
Phản xạ hồi tràng dạ dày



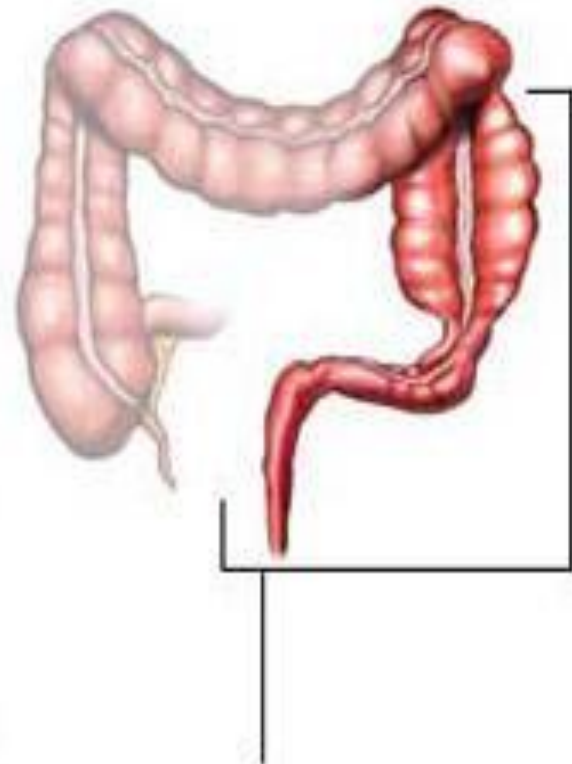
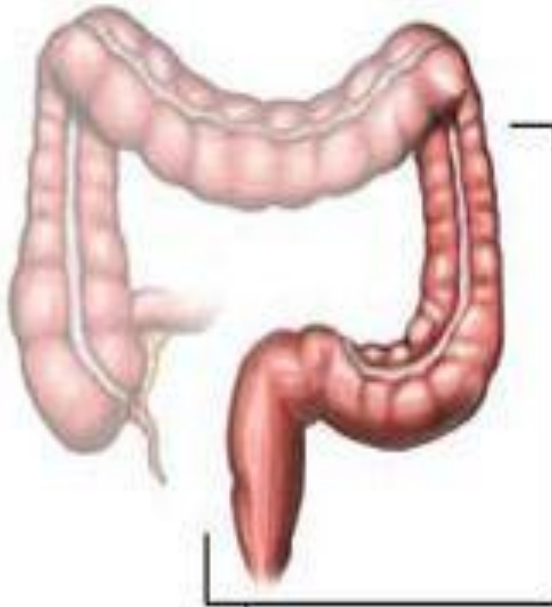
RUỘT GIÀ (ĐẠI TRÀNG)



Sự tổng phân



Hirschsprung



CẢM ƠN ĐÃ CHÚ Ý LẮNG NGHE