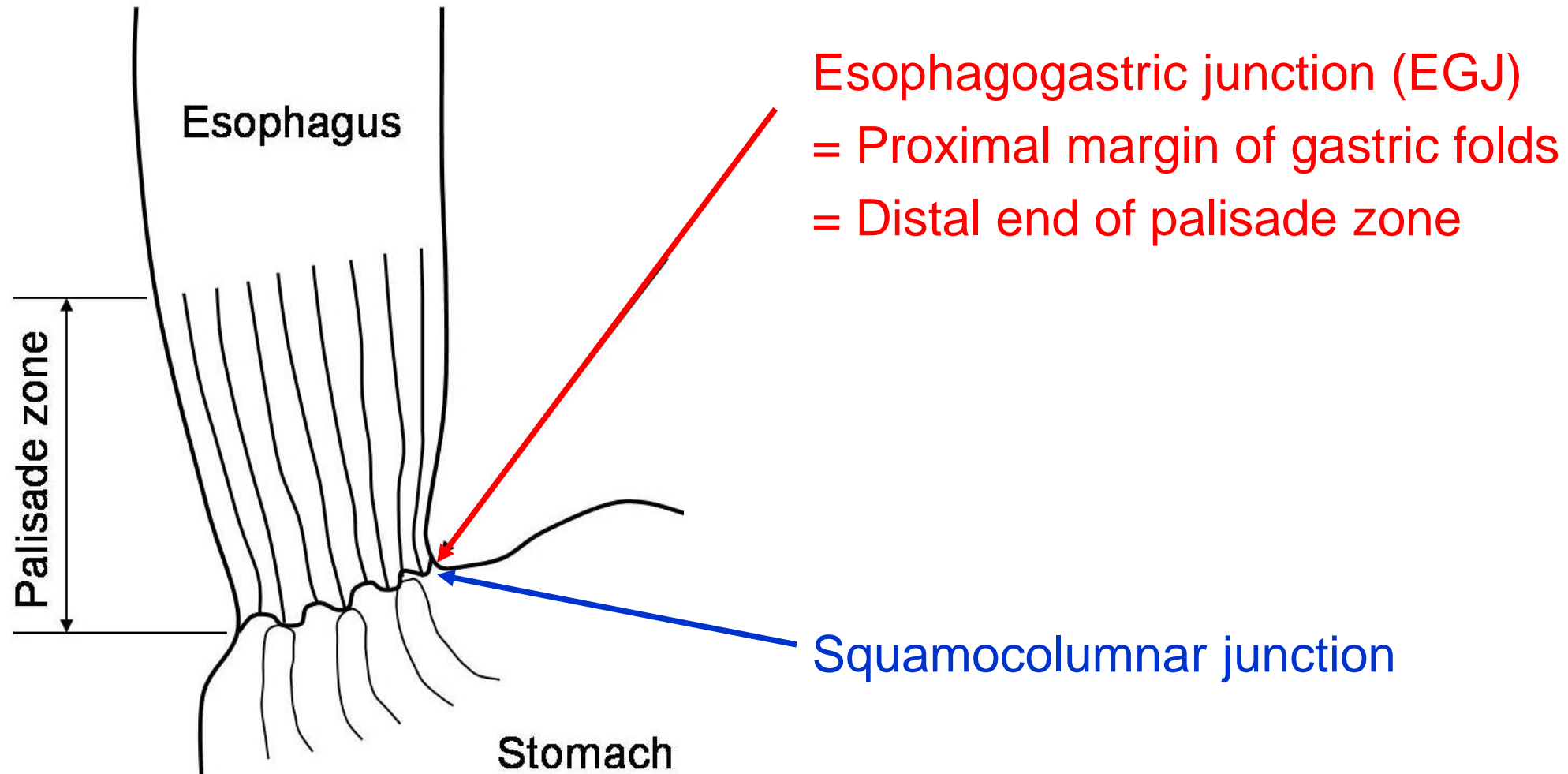


18.01.02
topic review

Hiatal hernia Barrett's esophagus

IM R3 송주혜

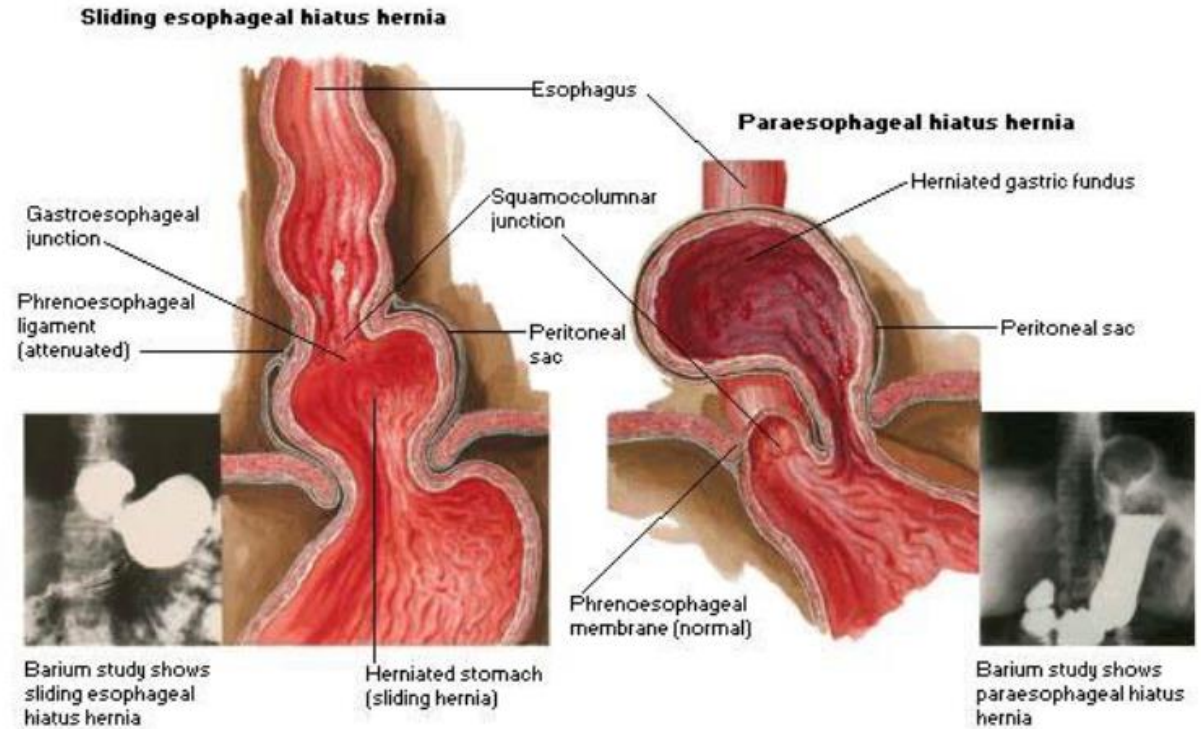
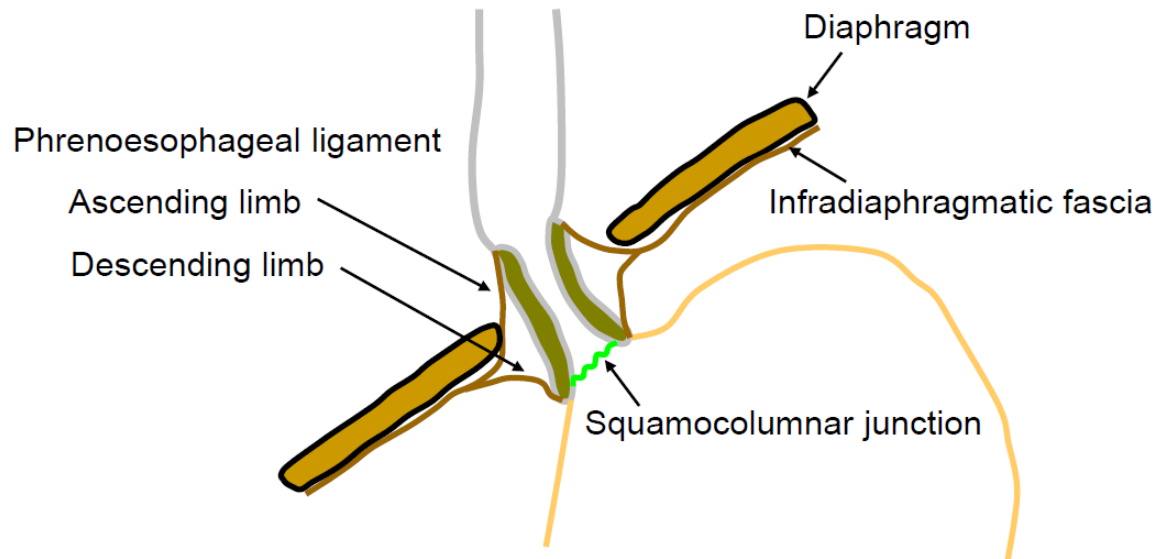
Endoscopic anatomy of EGJ



Hiatal hernia

Definition

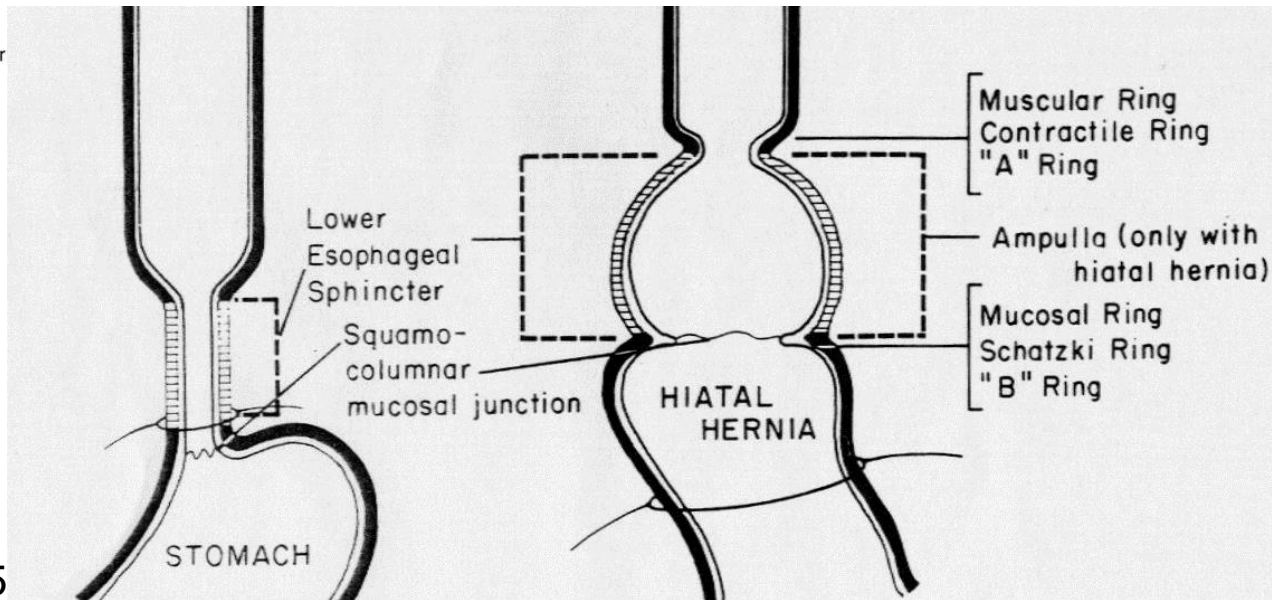
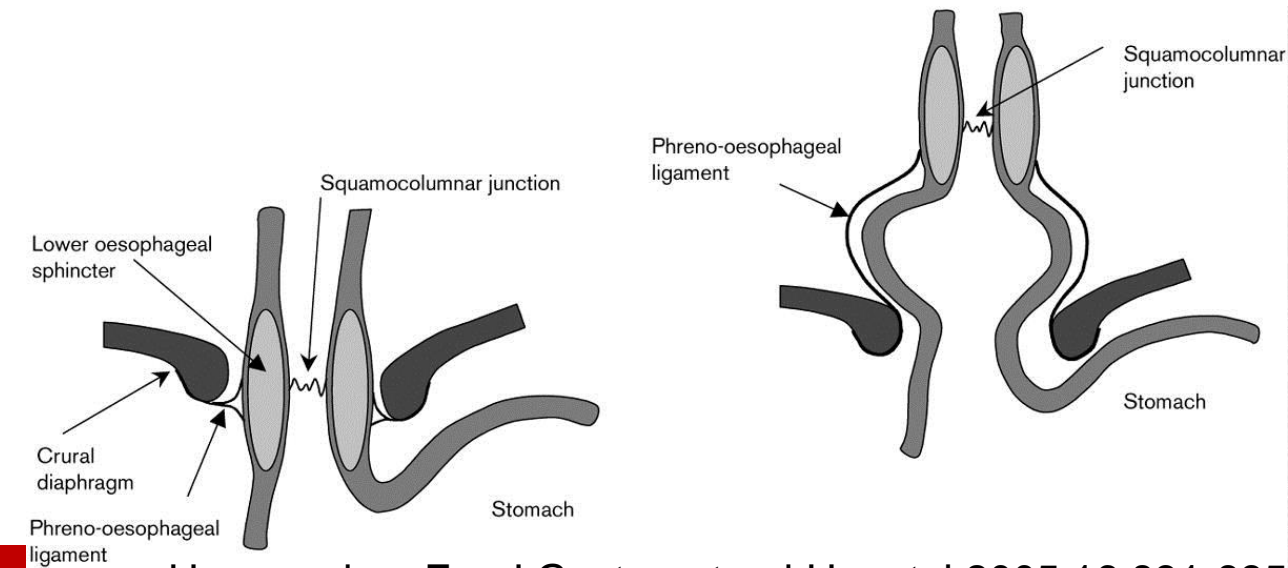
- 횡격막의 식도열공 주변 취약부를 통해 식도위접합부 또는 위의 일부가 흉강 내측으로 탈장



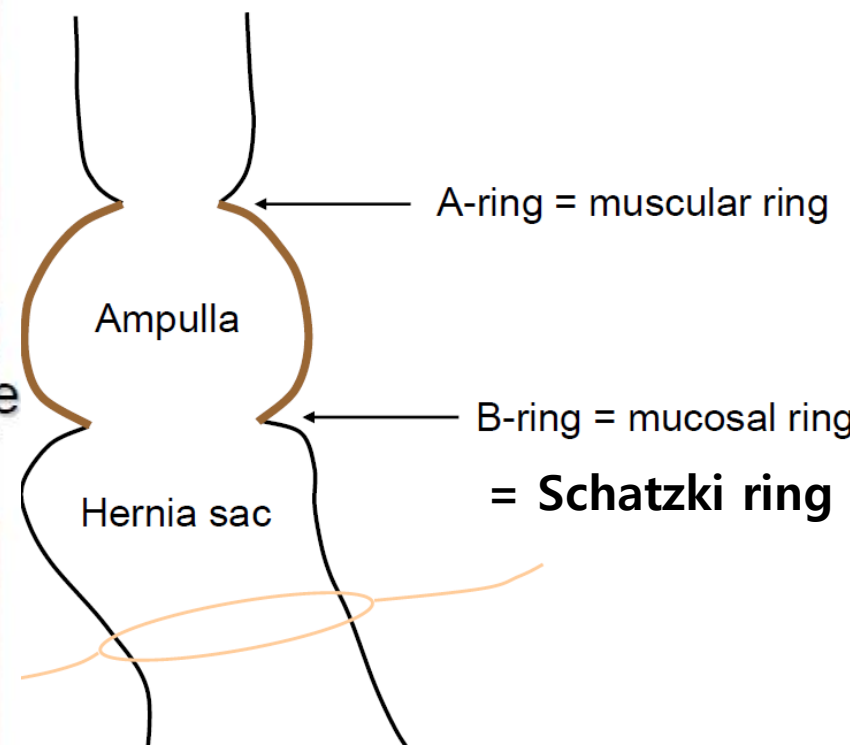
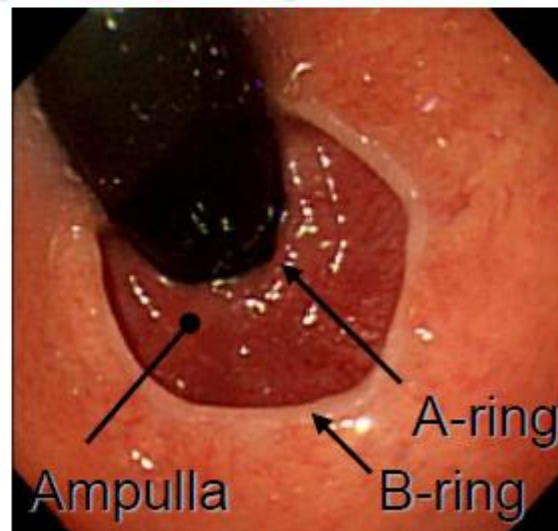
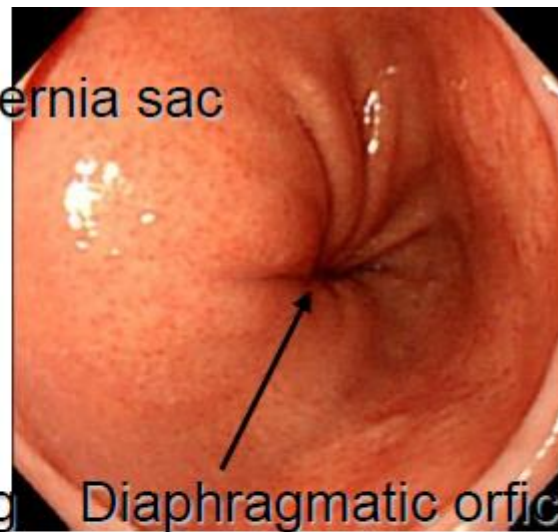
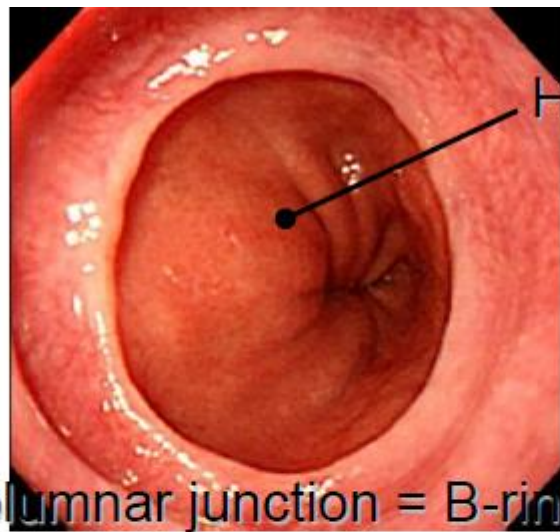
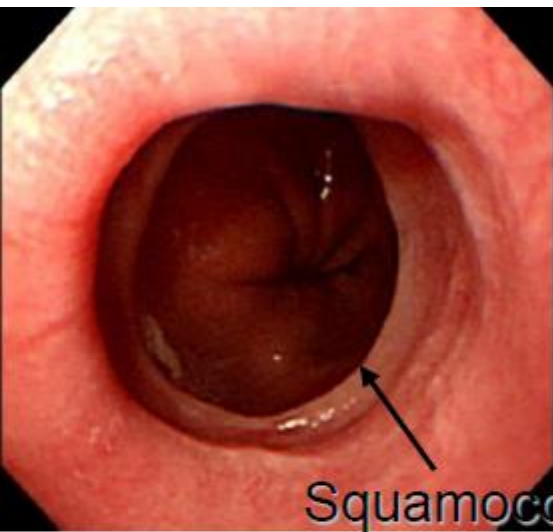
Type of Hiatal hernia

Type 1 : 활주열공탈장(sliding hiatal hernia)

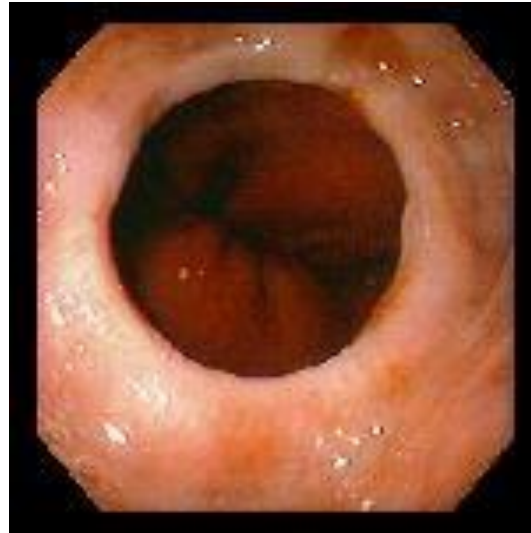
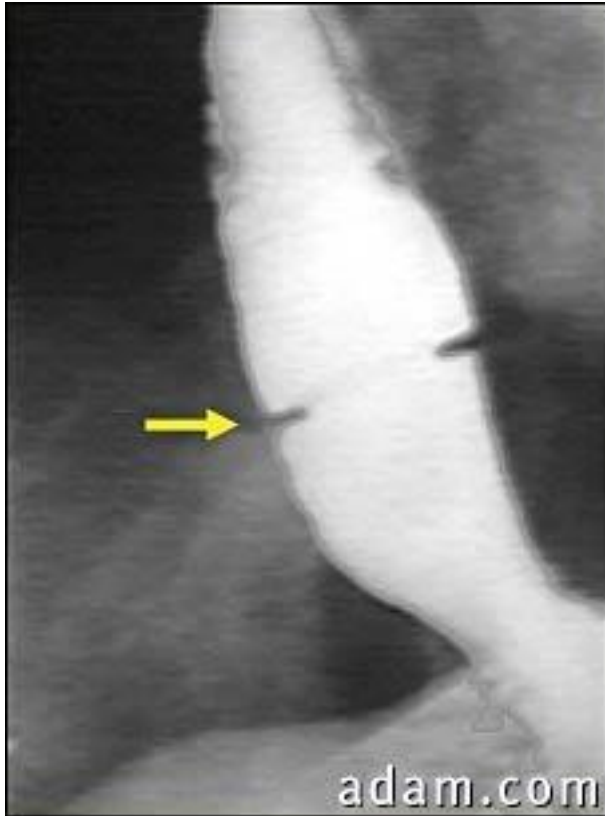
- 식도열공 주위에서 식도를 횡격막에 부착시켜 주는 횡격막식도 인대 (phrenoesophageal ligament)가 헐거워져서 하부식도와 위식도접합부, 위의 상부 일부가 흉강 내로 미끄러져 들어가는 형태의 탈장.



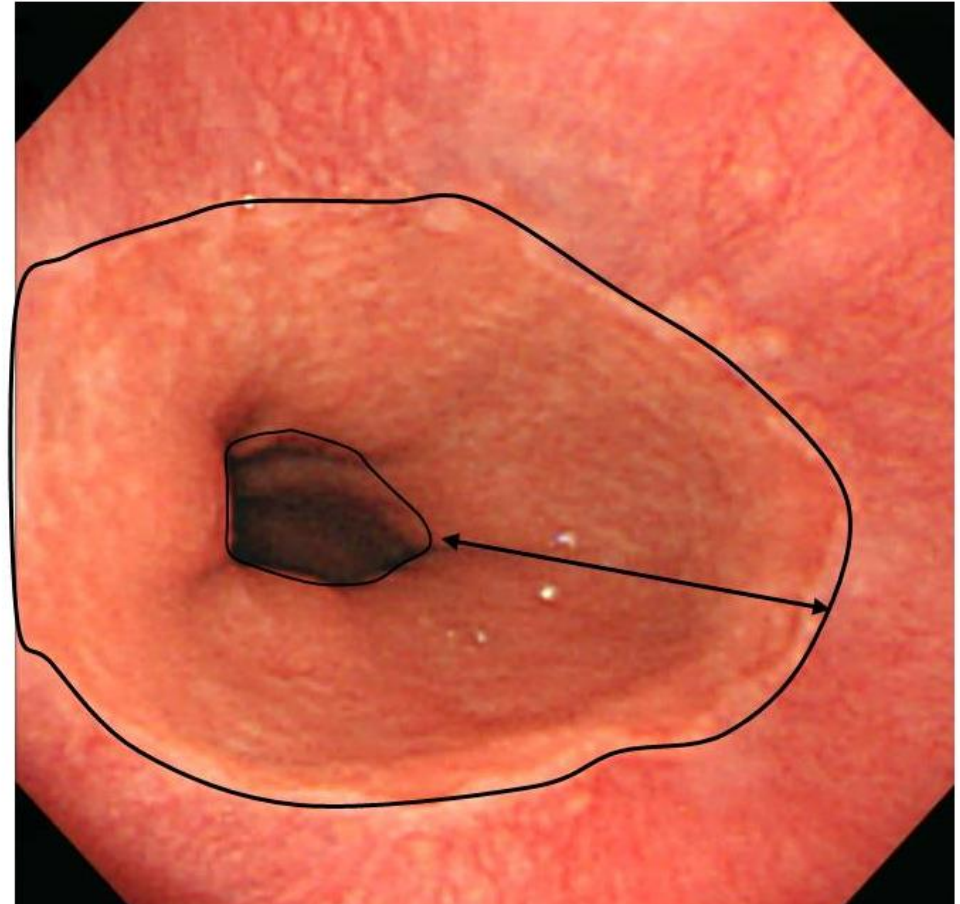
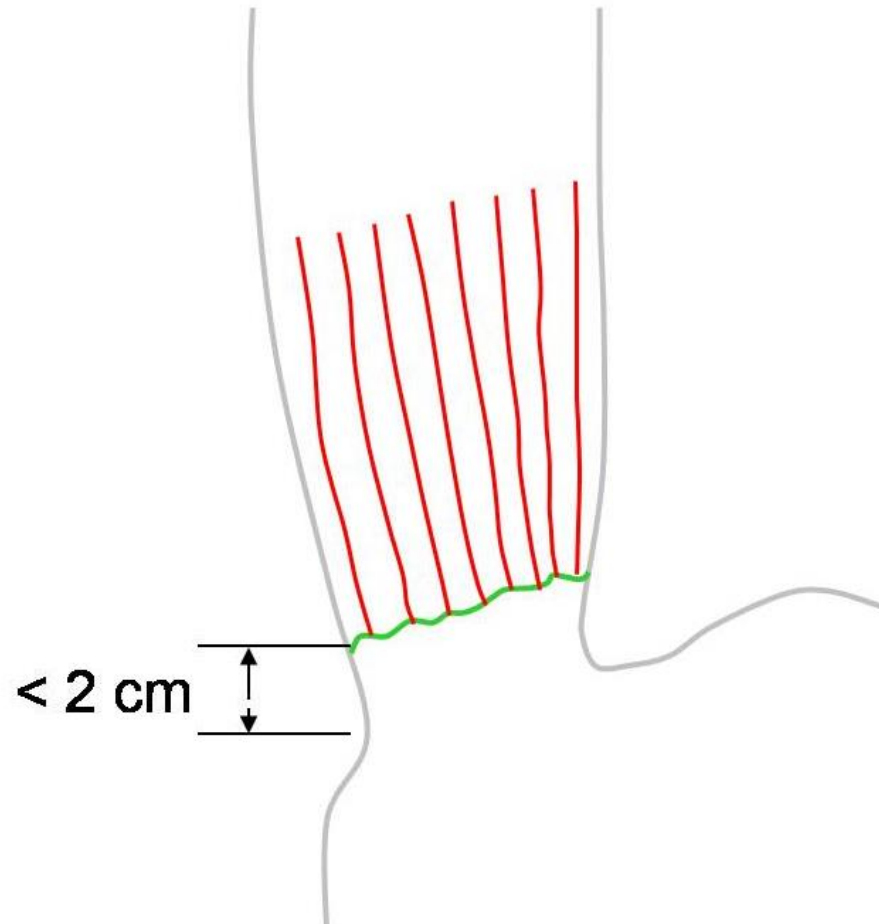
- 전체 식도열공탈장의 95%
- 역류성 식도염을 일으키는 주요 원인 중 하나
- 악화 인자 : 비만, 무거운 것을 드는 운동, 임신, 위식도역류나 식도점막의 산화에 의해 유발되는 식도의 종주근육의 긴장성 수축



Schatzki ring



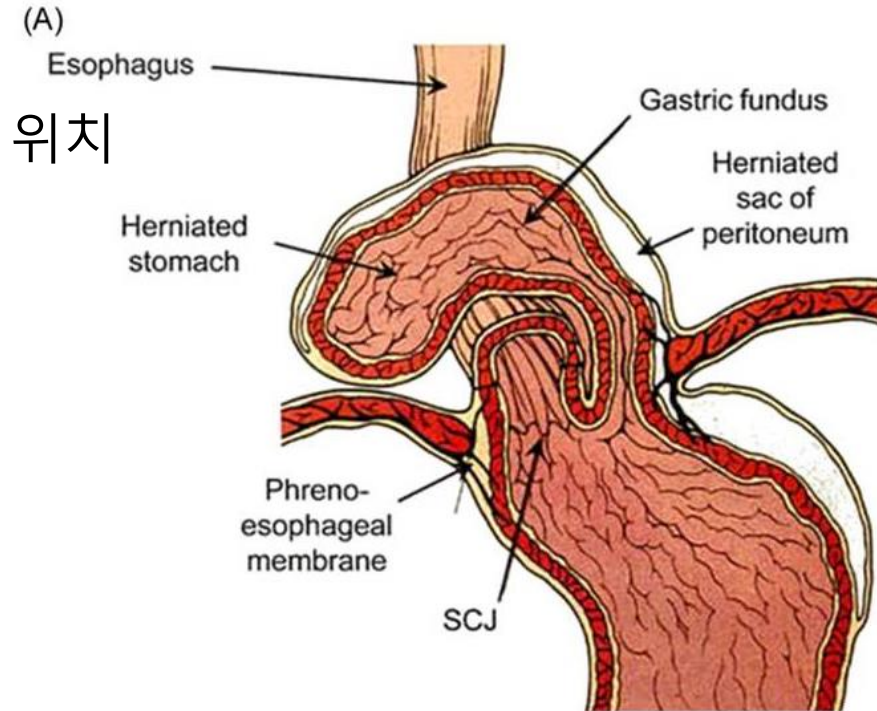
Short Segment Hiatal Hernia(SSHH)

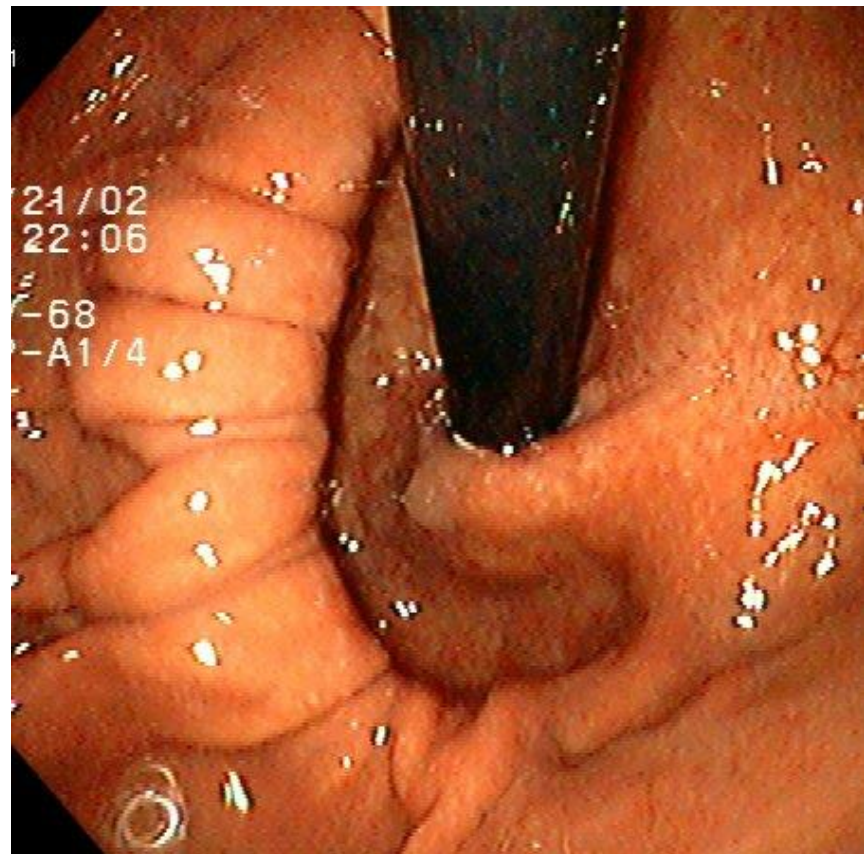
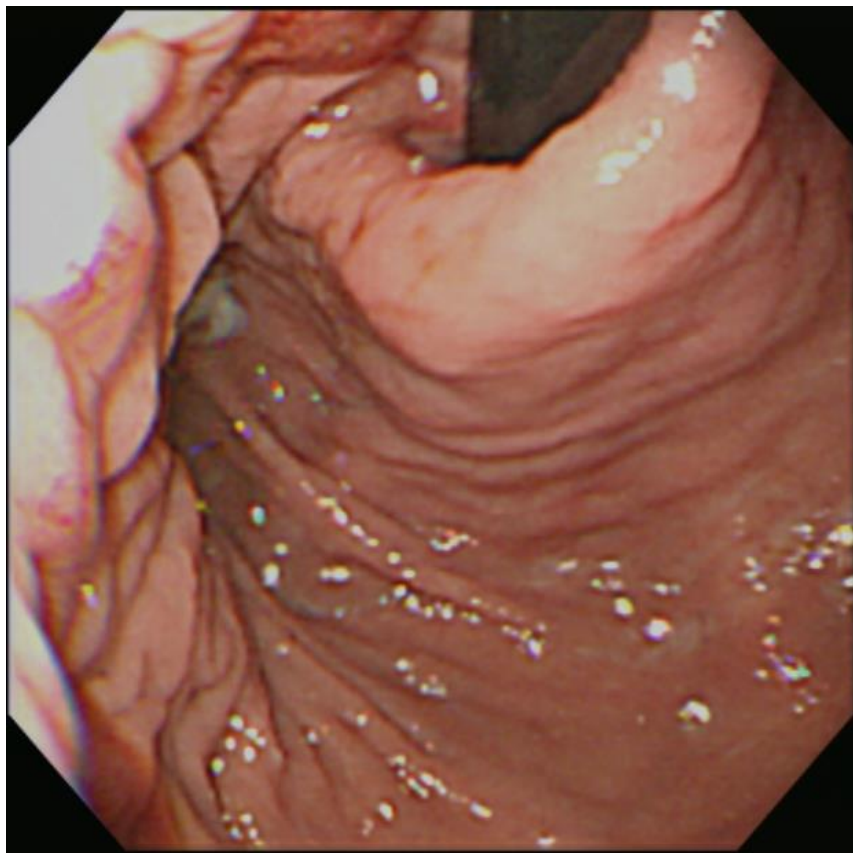


Type of Hiatal hernia

Type 2 : 식도주위탈장(para-esophageal hernia)

- 횡격막식도 인대의 손상은 없고, 열공 자체가 늘어나서 그 틈으로 위의 일부(특히 위분문부)가 흉강으로 빠져 들어가는 형식의 탈장.
- GEJ 이 diaphragmatic orifice와 같은 level, 즉 정상 높이에 위치
- 매우 드문 형태.

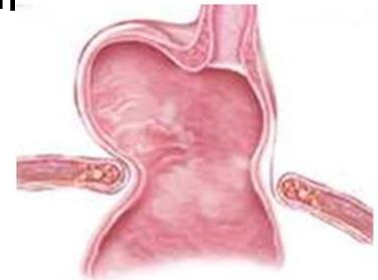
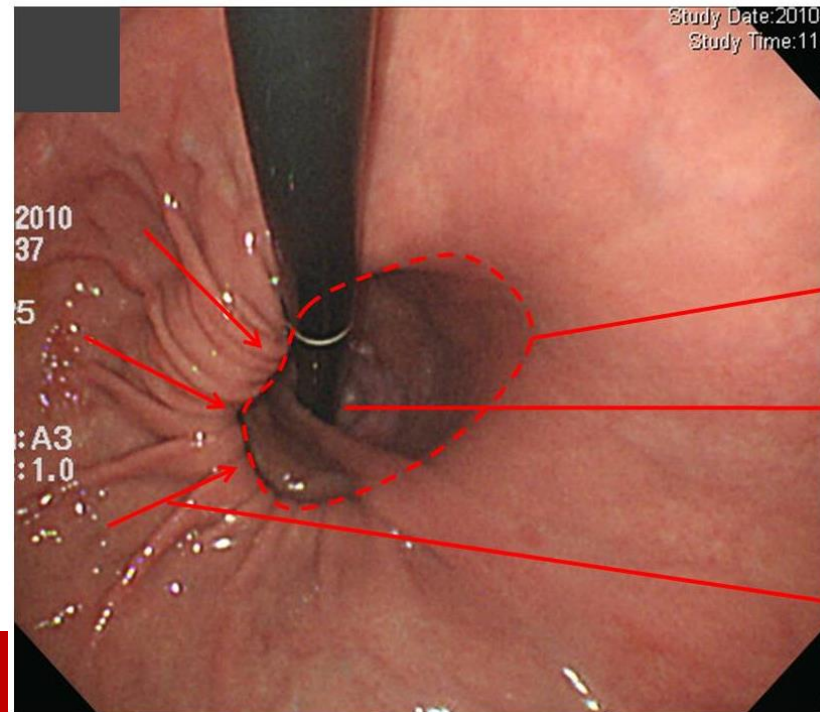




Type of Hiatal hernia

Type 3 : Type 1 + Type 2 (mixed)

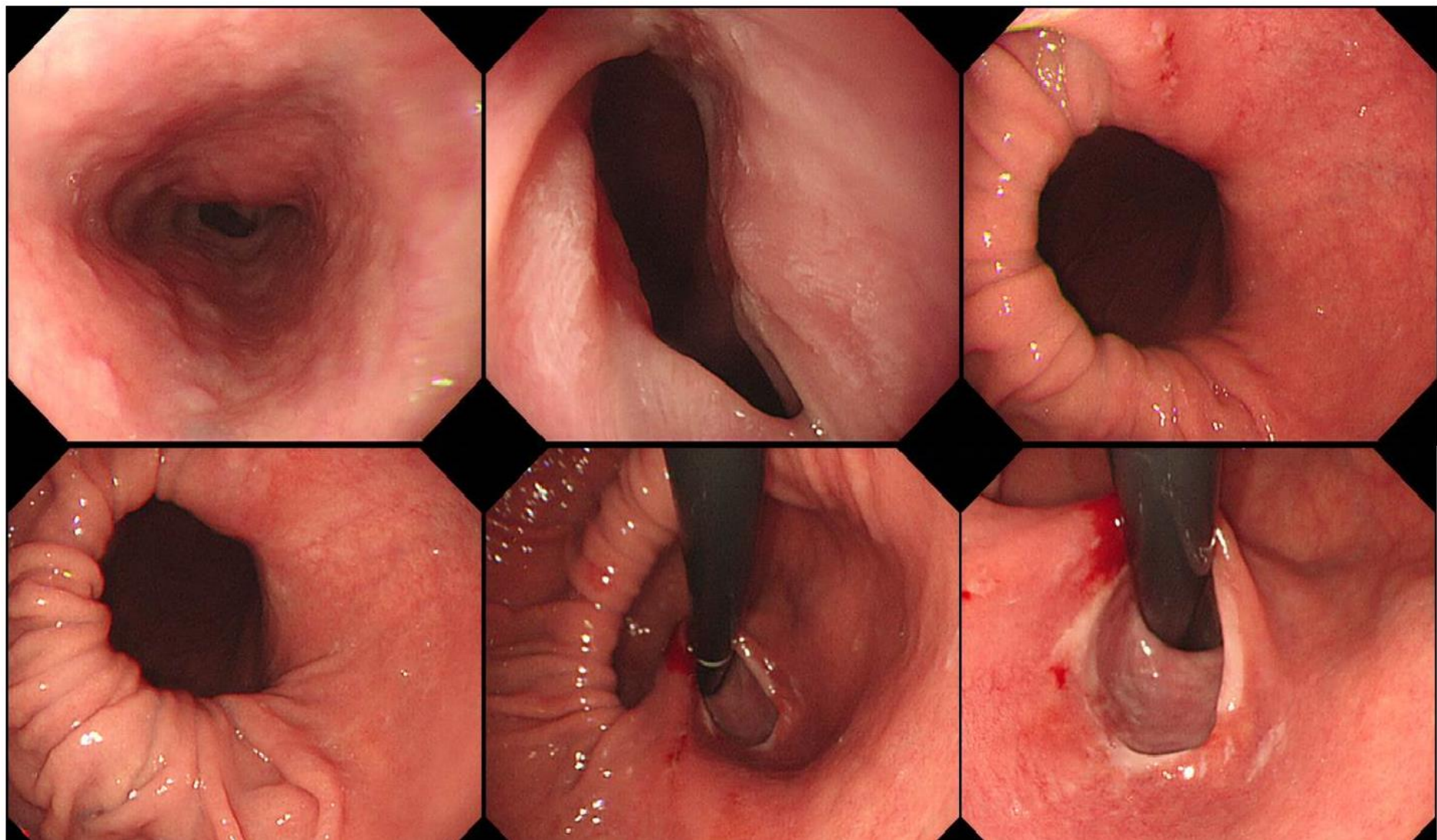
- 횡격막식도인대의 손상으로 위식도 접합부가 밀려 올라가면서 열공 자체가 커지고 이를 통하여 위 분문부가 흉강 안으로 빠져 들어간 형태



Diaphragmatic orifice

Location of GE junction
(elevated relative to the level
of diaphragmatic orifice)

Gastric folds converging to
the paraesophageal hernia



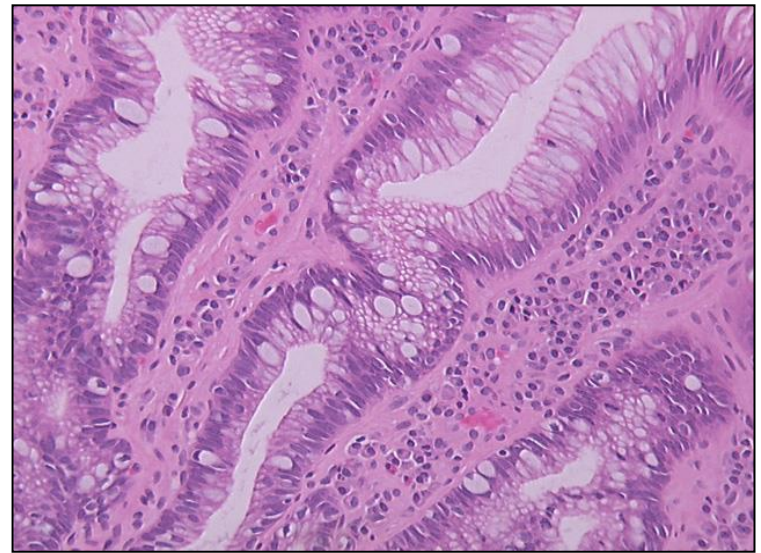
Barrett's esophagus

Definition

만성적인 역류성 식도염. 편평상피로 된 정상적인 식도점막이 점차 탈락되고 원주상피로 변화, 조직학적으로 특수 장상피화생이 증명되어야 함



**SCJ displaced proximal
to EG junction**

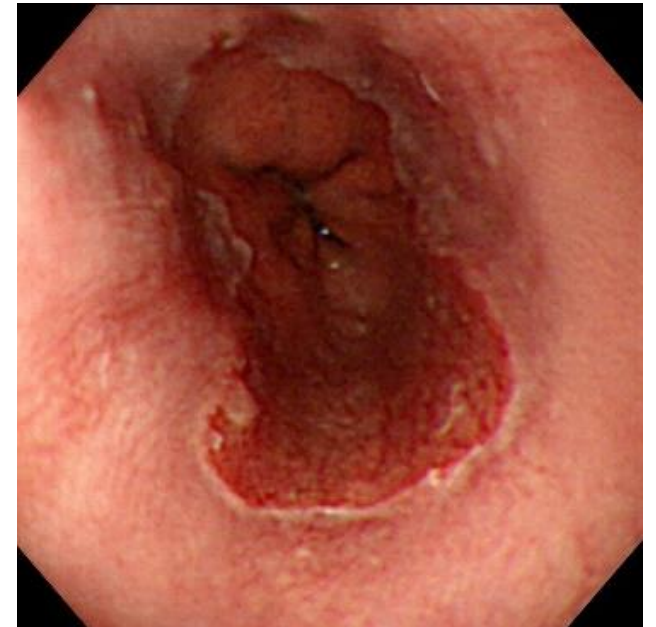
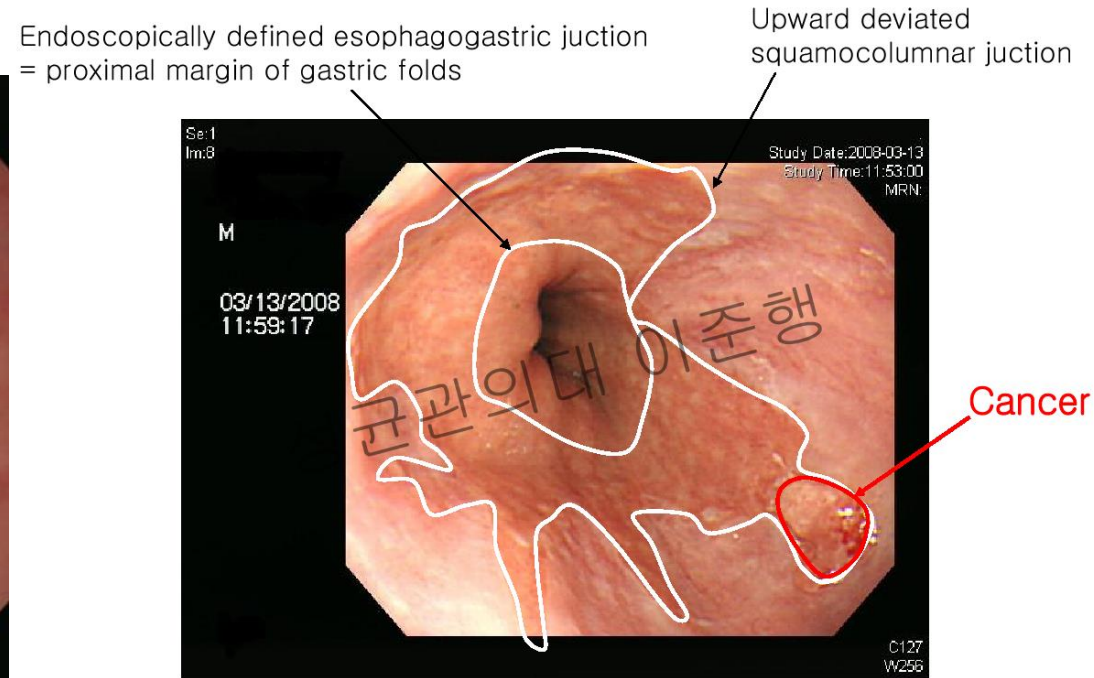
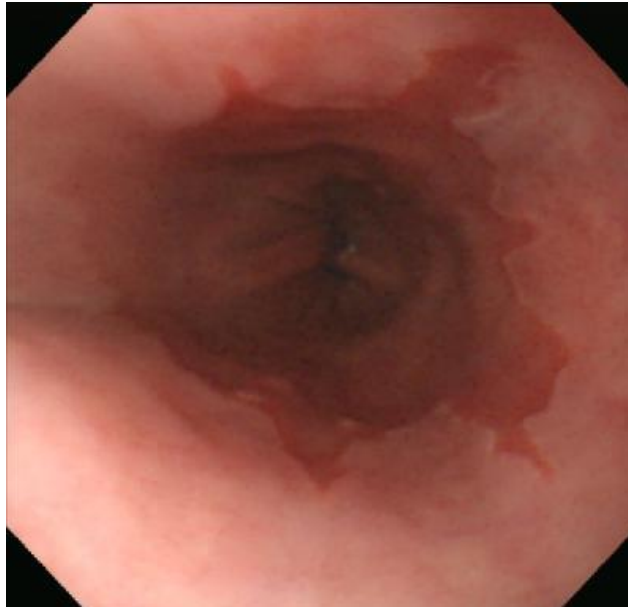


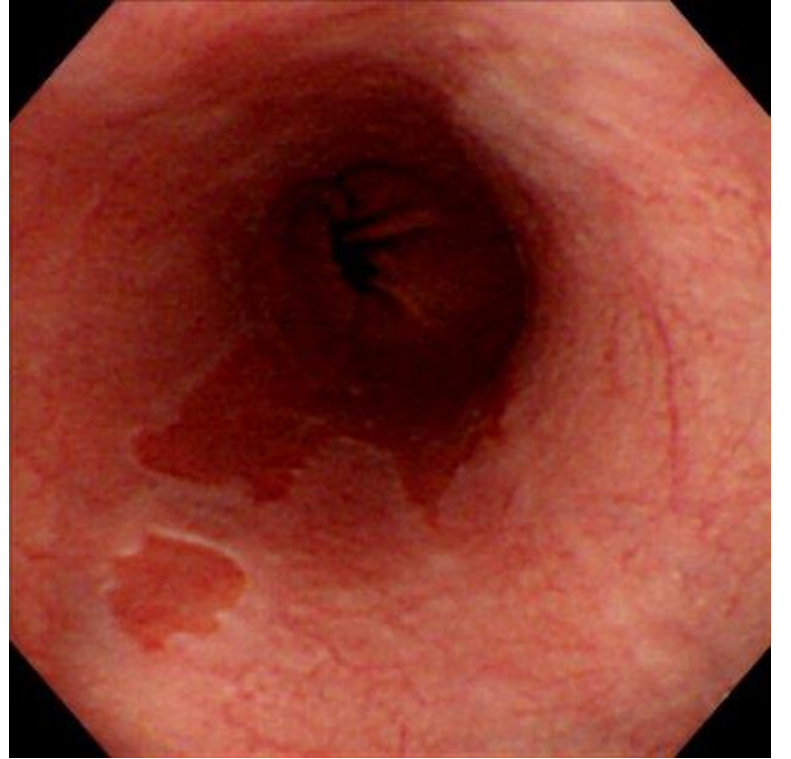
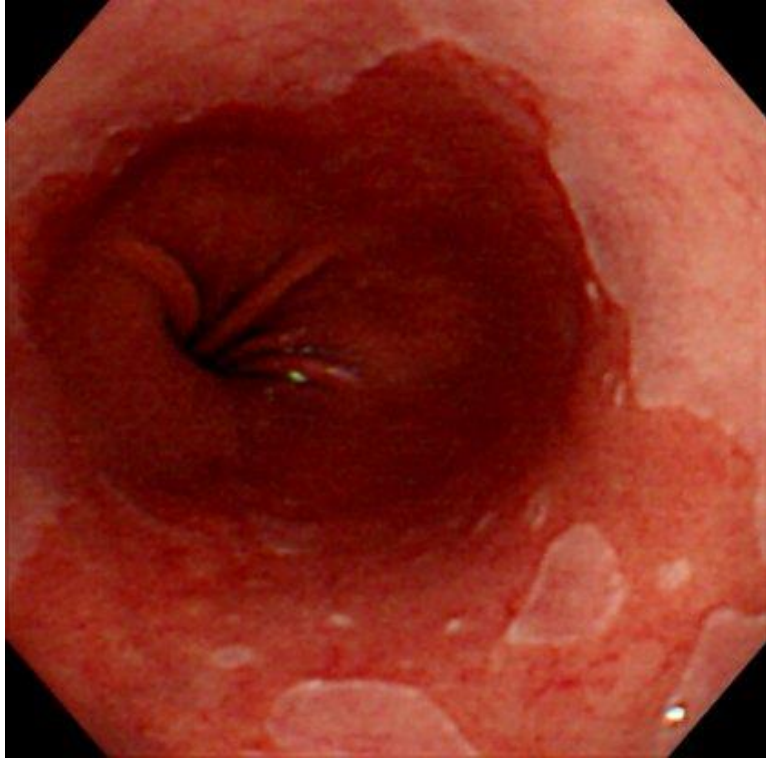
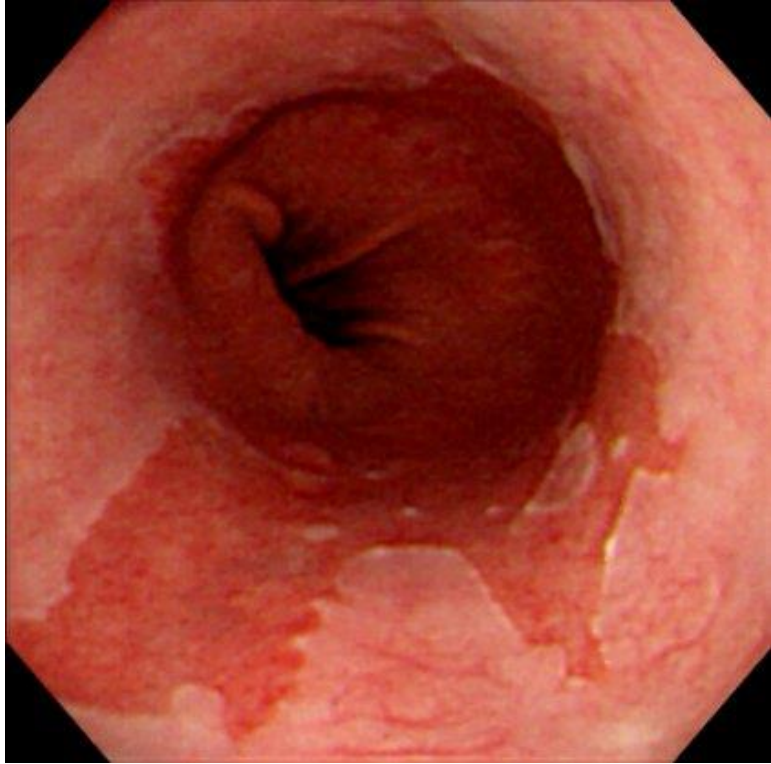
**Intestinal metaplasia
positive Goblet cells**

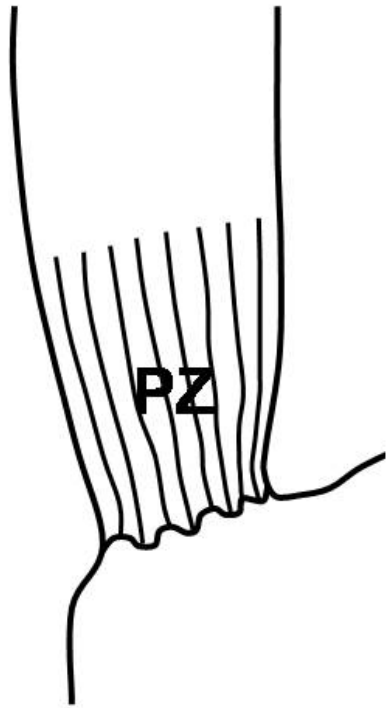
Endoscopic findings

- 바렛식도의 가장 중요한 내시경 소견은 EGJ 보다 상방으로 이동한 SCJ

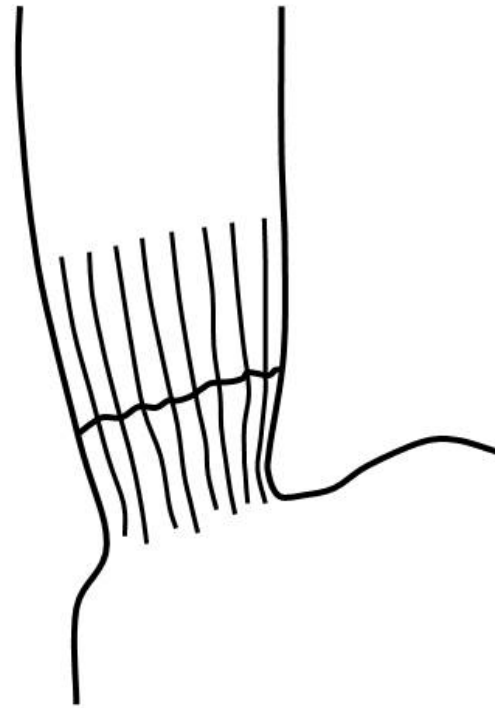
cf) 정상 SCJ 은 분홍빛을 띤 회색의 편평상피 와 연어빛 붉은 오렌지색인 원주상피간의 색조차이로 관찰됨



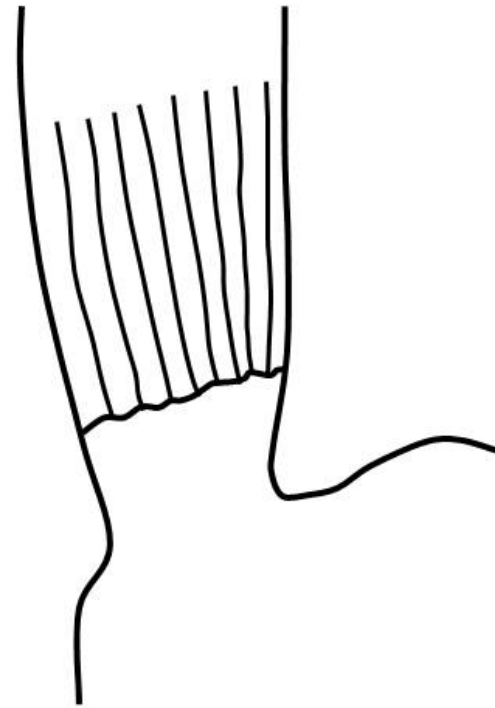




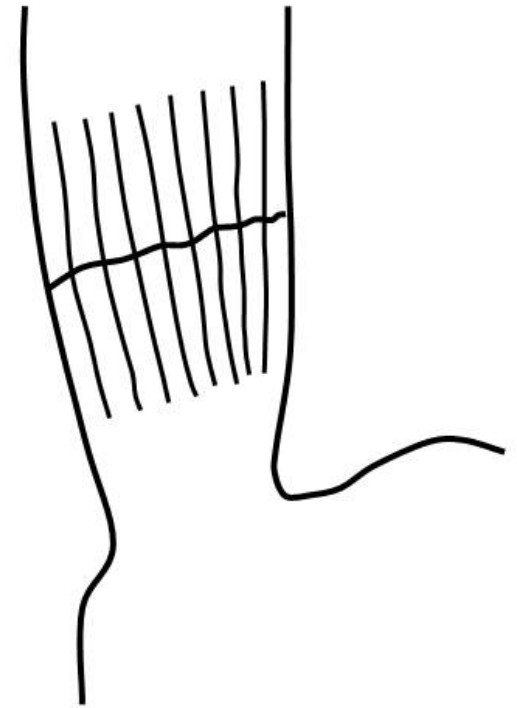
Normal



Barrett esophagus

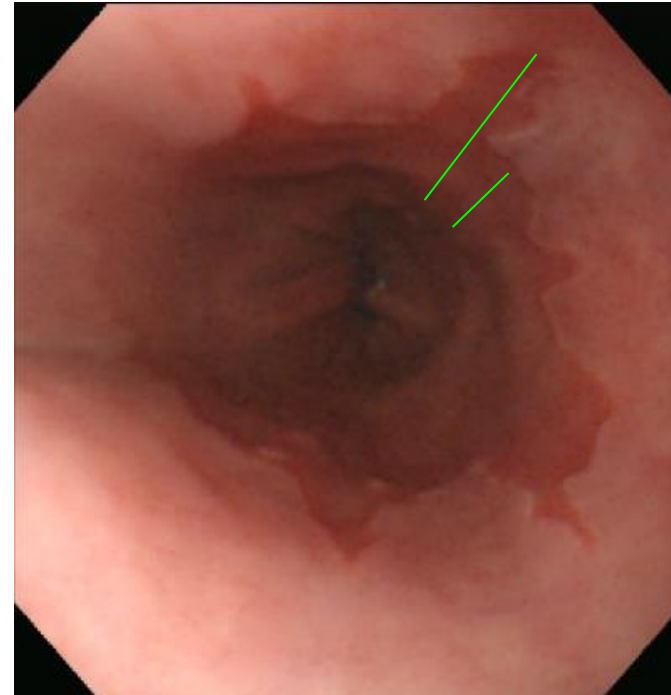
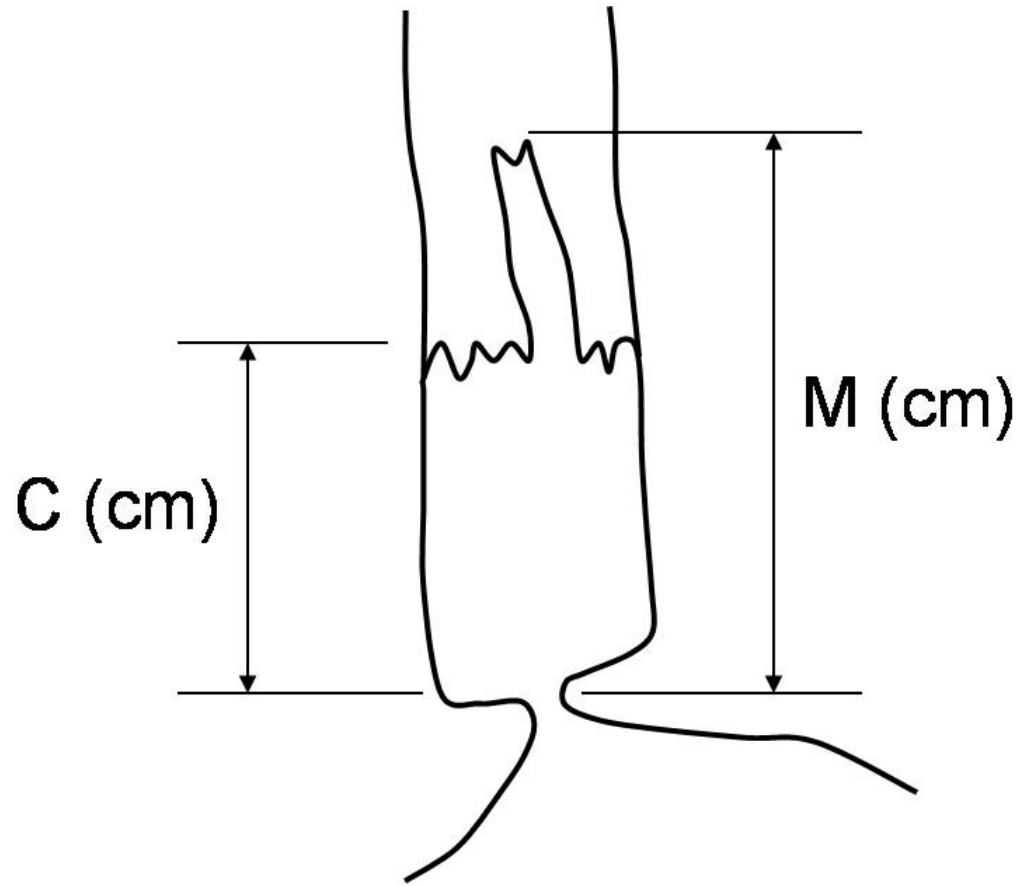


Hiatal hernia



Hiatal hernia + BE

Length of Barrett esophagus (Prague method)



- M: maximum length
- C: circumference length
- 표기 예: **C3M5**

2015 Australian Guideline for diagnosis and management of Barrett's esophagus and early esophageal adenocarcinoma

- Barrett's esophagus (BE), a common condition, is the only known precursor to esophageal adenocarcinoma (EAC).
There is uncertainty about the best way to manage BE, since **most people with BE never develop EAC** and most patients diagnosed with EAC have no preceding diagnosis of BE.

- For the Australian guidelines however, the presence of intestinal metaplasia with morphologically typical goblet cells was considered necessary for the diagnosis of BE.
- Biopsies from the tubular esophagus containing columnar mucosa without intestinal metaplasia should be given a descriptive diagnosis (e.g. columnar mucosa without intestinal metaplasia), but it is currently recommended that these are not diagnosed as BE until the biological significance of this entity is clarified.

- Random **four-quadrant biopsies at 2cm intervals** are the mainstay for tissue sampling. (Recommendation grade B)
- **Symptomatic** patients with BE should be treated with **Proton Pump Inhibitor therapy (PPI)**, with the dose titrated to control symptoms. (Grade C)
- There is insufficient evidence to recommend the use of acid suppressive therapy for the regression of BE (Grade B).

The effect of PPIs on Barrett's esophagus

- Coincident with the increase in GORD (and OAC), PPI use has increased dramatically during the past two decades. With some support from animal studies, this has led to the hypothesis that PPIs may actually promote the development of BO and OAC.
- However, in **meta-analysis of seven observational studies** with 2813 **patients with BO, PPI use was associated with a 71% reduction in risk of OAC and/or BO with high-grade dysplasia** in patients with BO (adjusted OR 0.29; 95% CI 0.12 to 0.79) OAC.
Gut 2014;63:1185–1193
- In Barrett's esophagus, **acid reflux** can lead to **increased cell proliferation, decreased apoptosis, production of reactive oxygen species, DNA damage, and esophageal production of proinflammatory and proliferative cytokines.**
- **Although there are no randomized, controlled trials** proving that PPI treatment reduces the risk of neoplastic progression in Barrett's esophagus, the bulk of clinical studies published on this issue support **a cancer-preventive effect for PPIs.**
- The indirect evidence supporting a **cancer-protective role for PPIs** is strong enough to **warrant PPI treatment of virtually all patients with Barrett's esophagus** after they have been informed of the potential risks of long-term PPI therapy.

- Long term outcome studies do not yet support ablation in patients without dysplasia. (Grade B) Ablation of BE should remain limited to individuals with HGD in BE who are at imminent risk of developing esophageal adenocarcinoma. (Grade B)
- Patients with Barrett's Esophagus length equal to or greater than 3cm may have intensive surveillance, possibly every two to three years following the Seattle protocol. (Grade D)

2016 ACG clinical guideline : Diagnosis and Management of Barrett's Esophagus

- Endoscopic biopsy **should not be performed** in the presence of a normal Z line or a Z line with **< 1 cm** of variability (strong recommendation, low level of evidence).
- patients with nondysplastic BE should undergo endoscopic surveillance no more frequently than every 3-5 years.
- Patients with BE should receive **once-daily PPI therapy**.

Surveillance biopsy

- 우리나라
서양보다 Barrett Esophagus가 드물고 대부분 단분절이며, Dysplasia를 동반한 경우는 거의 없음
바렛 식도 환자의 surveillance 내시경 간격은 중증도보다는 통상의 위암 검진 간격으로 진행 (1-2년에 한번)
- 서양
Barrett esophagus가 보이면 조직검사를 시행함
서양에서의 surveillance 간격은 길지만 surveillance 때에는 대부분 조직검사 시행
그러나 barrett esophagus surveillance가 outcome을 개선했다는 결과는 없음

In practice

- 1 cm 미만의 바렛식도가 의심되면 사진을 잘 찍어두고 결과지에 언급하지 않는다. 임상적 의의가 없는 소견으로 간주한다.
- 1 cm - 3 cm의 바렛식도가 의심되면 사진을 잘 찍어두고 조직검사를 2개 정도 시행하고 결과지에 r/o short segment Barrett's esophagus로 쓴다.
- 3 cm 이상의 바렛식도가 의심되면 사진을 잘 찍어두고 조직검사를 4개 정도 시행하고 결과지에 r/o long segment Barrett's esophagus로 쓴다.
- Dysplasia가 있거나 의심되면 전문가에게 의뢰한다.
- Dysplasia가 없으면 1년 후 추적내시경 검사를 시행한다. 추적내시경에서 자세히 관찰하여 특별히 의심되는 곳이 없으면 조직검사를 하지 않아도 좋다.

Reference

1. 2016 ACG clinical guideline :
Diagnosis and Management of Barrett's Esophagus
2. 2015 Australian Guideline for diagnosis and management of
Barrett's esophagus and early esophageal adenocarcinoma
3. 소화기 내시경 아틀라스
4. www.endotoday.com