

# CANCRO GASTRICO



**H<sub>4</sub>** PISTOIA. OSPEDALE SAN JACOPO.





# Epidemiologia

## Estimated New Cases

### Male

Lung & bronchus  
1,095,200  
Prostate  
903,500  
Colon & rectum  
663,600  
**Stomach  
640,600**  
Liver  
522,400  
Esophagus  
326,600  
Urinary bladder  
297,300  
Non-Hodgkin lymphoma  
199,600  
Leukemia  
195,900  
Oral Cavity  
170,900  
All sites but skin  
6,629,100

### Female

Breast  
1,383,500  
Colon & rectum  
570,100  
Cervix Uteri  
529,800  
Lung & bronchus  
513,600  
**Stomach  
349,000**  
Corpus uteri  
287,100  
Liver  
225,900  
Ovary  
225,500  
Thyroid  
163,000  
Non-Hodgkin lymphoma  
156,300  
All sites but skin  
6,038,400

## Estimated Deaths

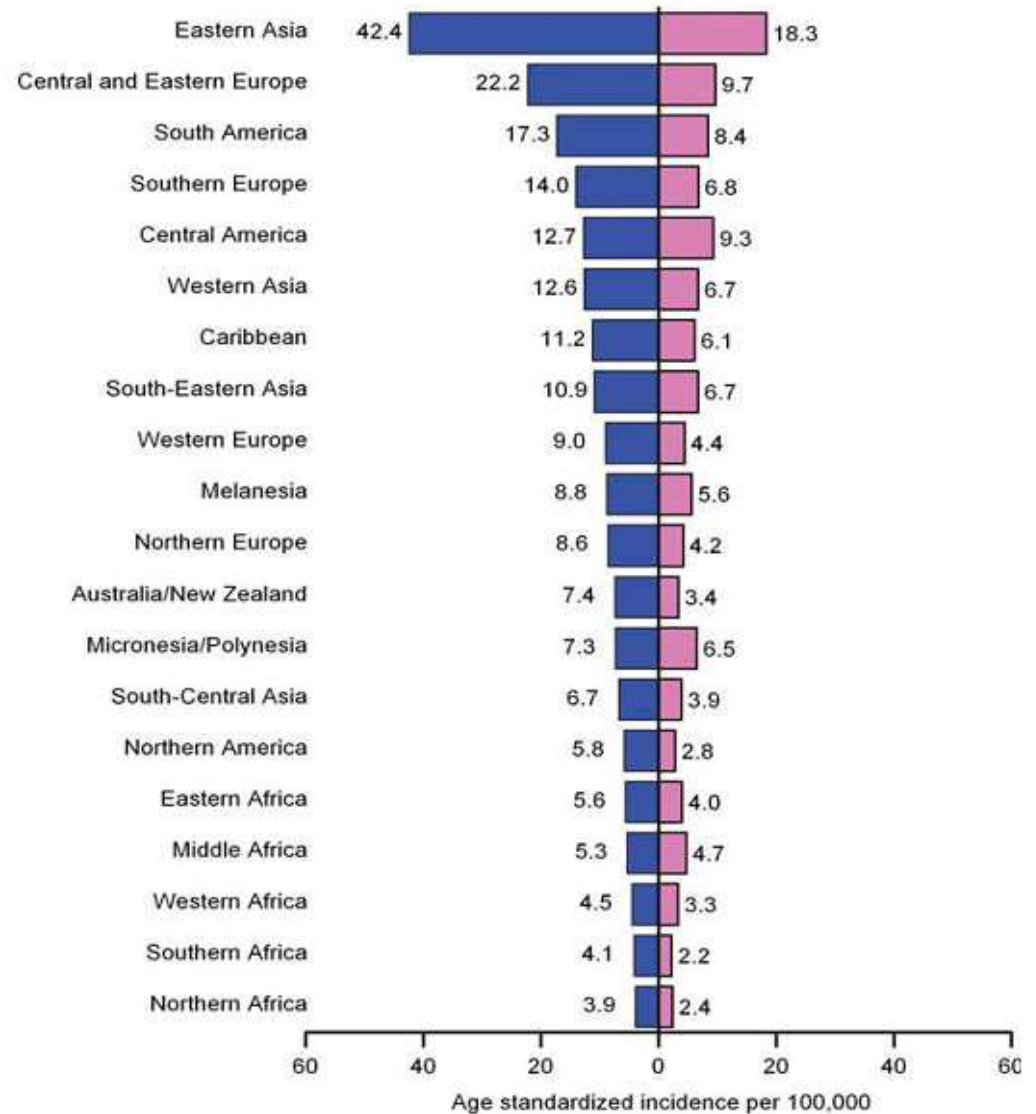
### Male

Lung & bronchus  
951,000  
Liver  
478,300  
**Stomach  
464,400**  
Colon & rectum  
320,600  
Esophagus  
276,100  
Prostate  
258,400  
Leukemia  
143,700  
Pancreas  
138,100  
Urinary bladder  
112,300  
Non-Hodgkin lymphoma  
109,500  
All sites but skin  
4,225,700

### Female

Breast  
458,400  
Lung & bronchus  
427,400  
Colon & rectum  
288,100  
Cervix Uteri  
275,100  
**Stomach  
273,600**  
Liver  
217,600  
Ovary  
140,200  
Esophagus  
130,700  
Pancreas  
127,900  
Leukemia  
113,800  
All sites but skin  
3,345,800

# Epidemiologia





# Fattori di rischio

## 1. Fattori di rischio

Dieta povera di vegetali e vitamine A e C

Dieta ricca di carne e/o cibi conservati (sale, nitrati, affumicati)

Fumo, Alcool

Infezione da HP

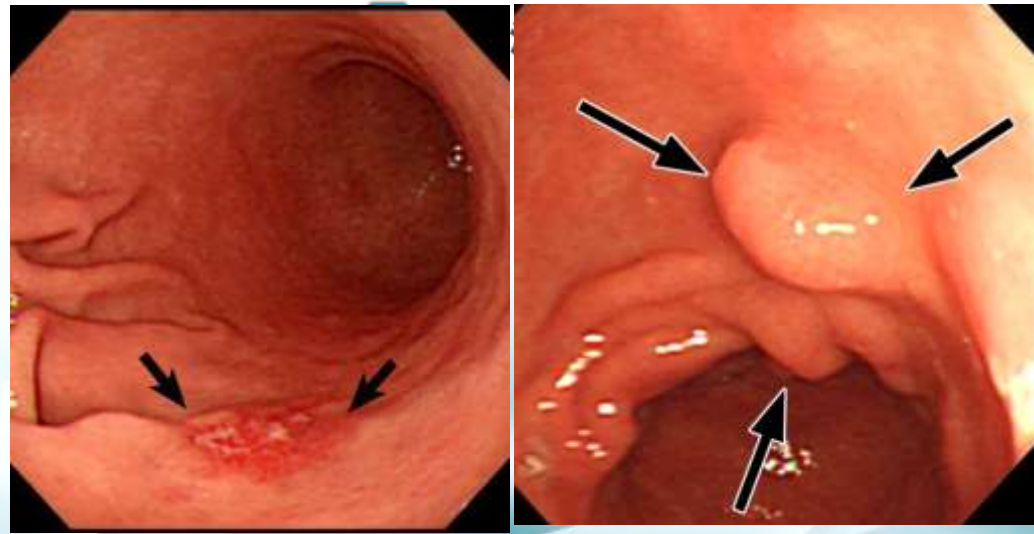
## 2. Lesioni precancerose

Gastrite cronica autoimmune e gastrite cronica antrale

Pregresso Intervento di resezione gastrica

Polipi adenomatosi

# Pathology



## 1. Early gastric cancer (EGC)

Lesione gastrica confinata alla mucosa o alla sottomucosa, a prescindere dalla presenza o meno di linfonodi positivi

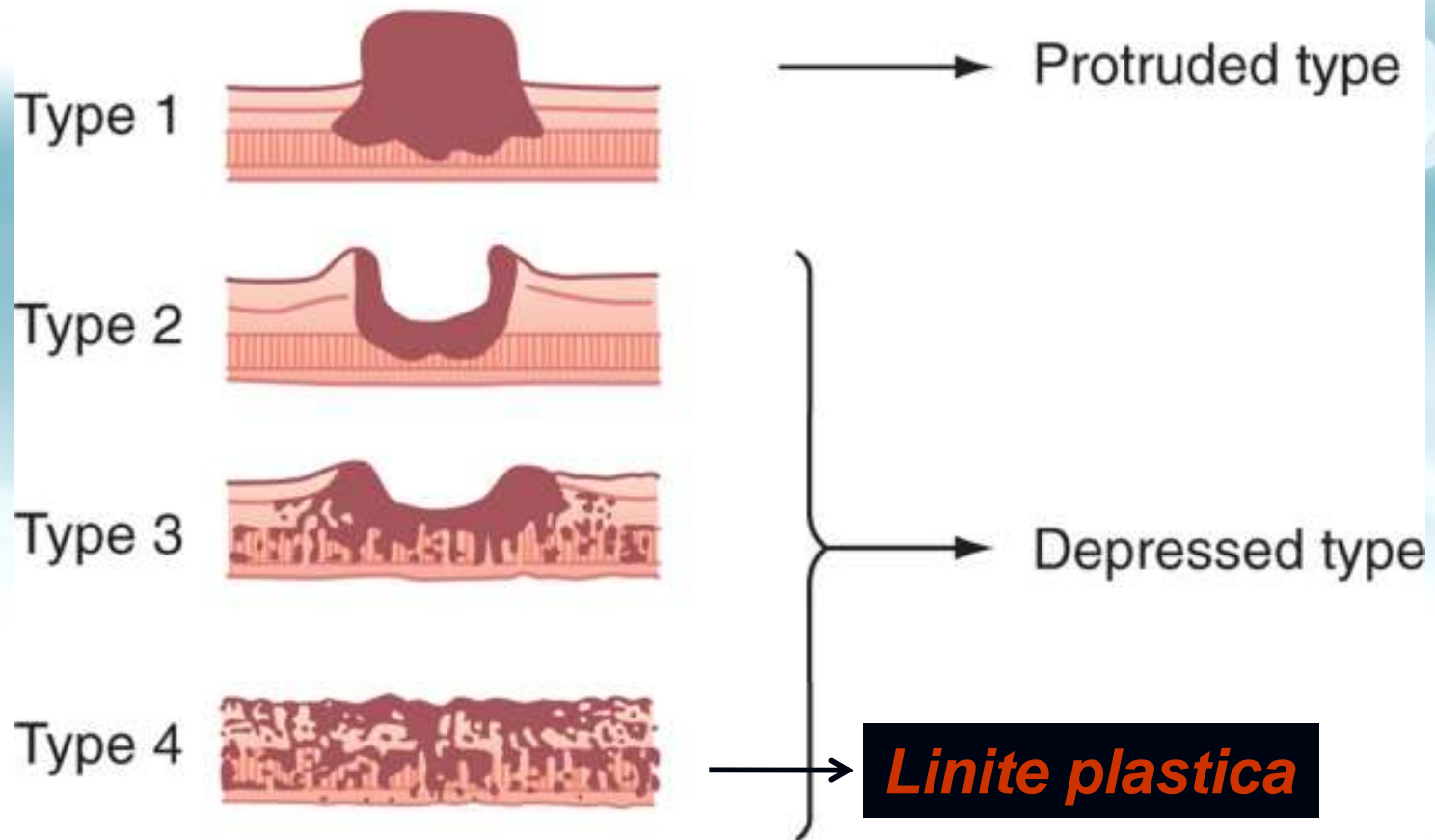
## 2. Advanced gastric cancer (AGC)

Lesione gastrica che infiltra la tonaca muscolare o la sierosa.

# Pathology

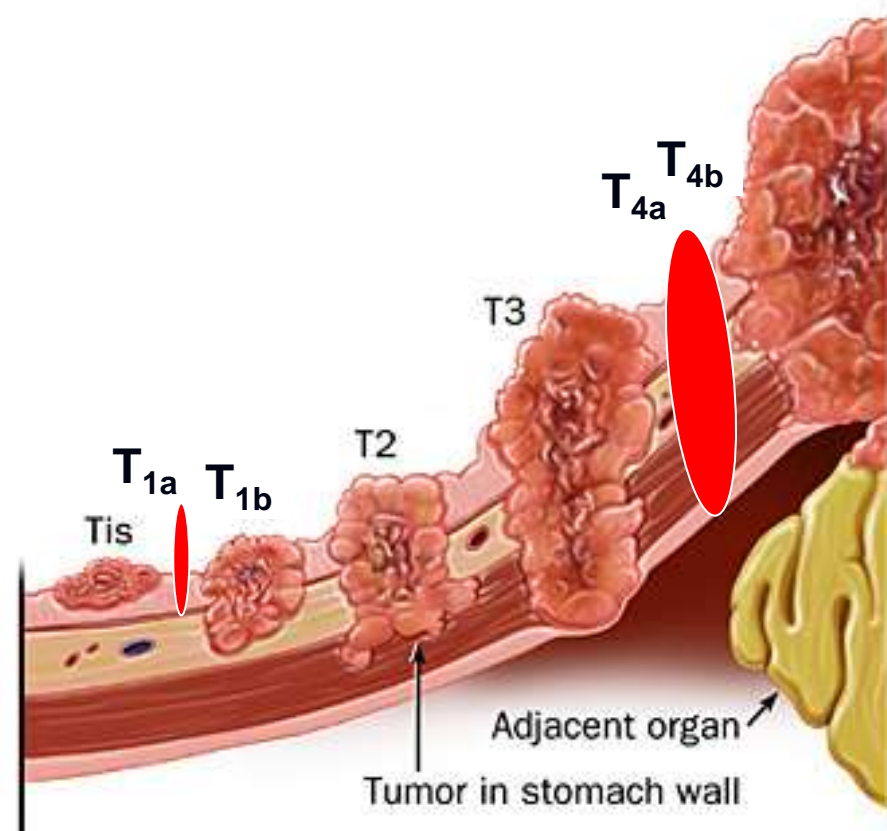
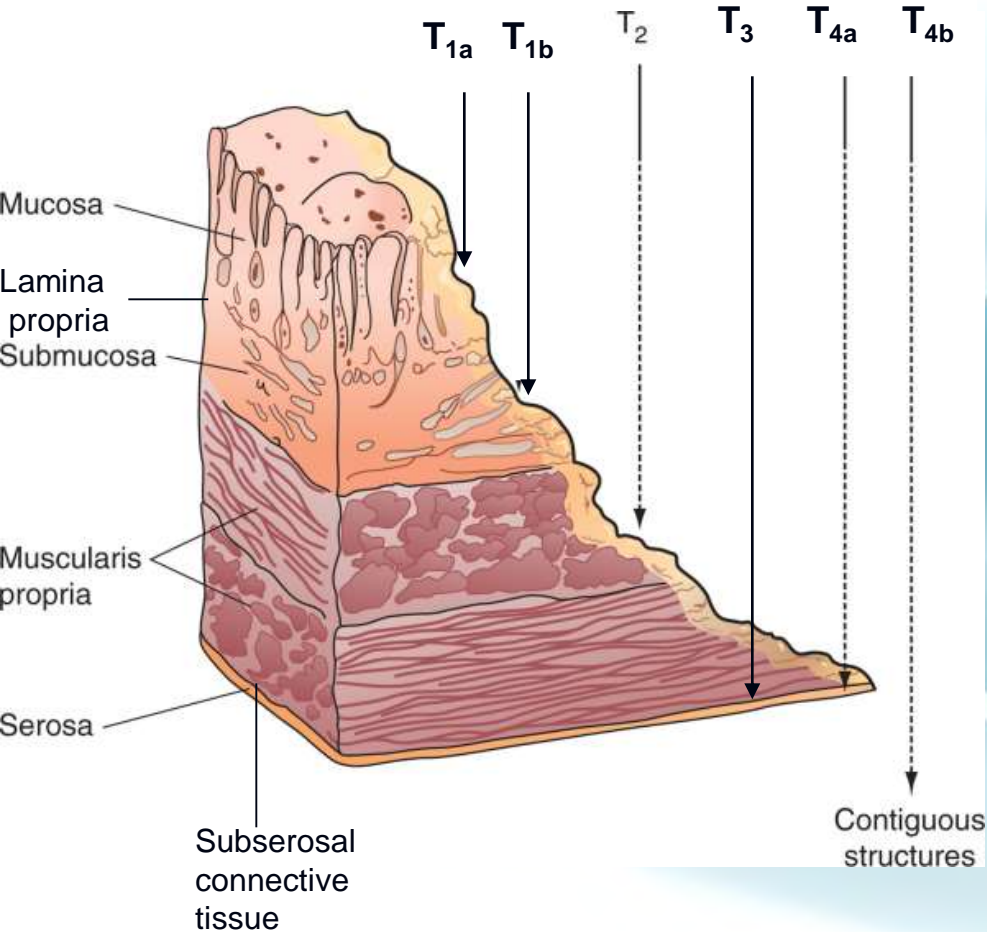


## AGC: Borrmann's classification



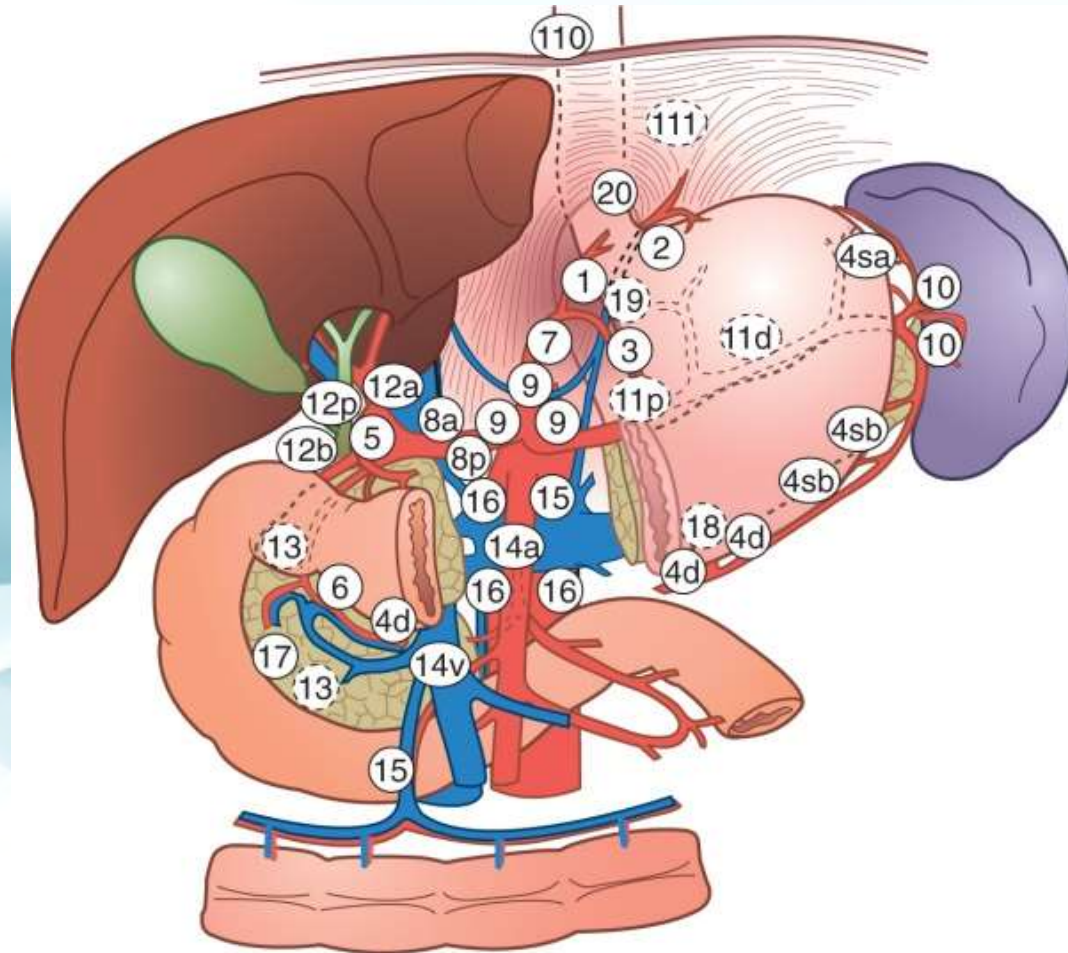
Classificazione di Borrmann per il cancro gastrico basata sull'aspetto macroscopico

# Parametro T



**Il Parametro T è definito dal grado di infiltrazione della parete gastrica**

**N = Linfonodi**



**Grouping of Regional Lymph Nodes (Groups 1-3) by Location of Primary Tumor According to the Japanese Classification of Gastric Carcinoma**



**M = Metastasi**



**Invasione di organi contigui**

**Metastasi Linfonodali**

**Metastasi per via ematogena**

**Seeding metastasis**



**Table 1 - Continued**  
**American Joint Committee on Cancer (AJCC)**  
**TNM Staging Classification for Carcinoma of the Stomach**  
**(7th ed., 2010)**

**Anatomic Stage/Prognostic Groups**

<b>Stage 0</b>	Tis	N0	M0
<b>Stage IA</b>	T1	N0	M0
<b>Stage IB</b>	T2	N0	M0
	T1	N1	M0
<b>Stage IIA</b>	T3	N0	M0
	T2	N1	M0
	T1	N2	M0
<b>Stage IIB</b>	T4a	N0	M0
	T3	N1	M0
	T2	N2	M0
	T1	N3	M0
<b>Stage IIIA</b>	T4a	N1	M0
	T3	N2	M0
	T2	N3	M0
<b>Stage IIIB</b>	T4b	N0	M0
	T4b	N1	M0
	T4a	N2	M0
	T3	N3	M0
<b>Stage IIIC</b>	T4b	N2	M0
	T4b	N3	M0
	T4a	N3	M0
<b>Stage IV</b>	Any T	Any N	M1



## Presenazione clinica

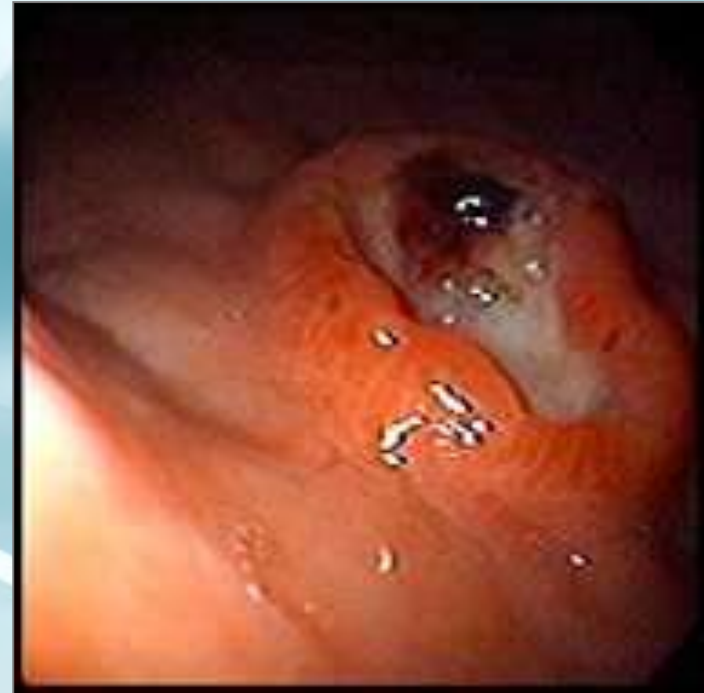
1. Sintomi aspecifici, lieve disfagia.
2. Dolore epigastrico, perdita di peso, anoressia.
3. Sintomi possono variare in base alla sede del tumore, lesioni della giunzione gastro-esofagea danno disfagia, lesioni del corpo gastrico possono dare ostruzione gastrica
4. Ematemesi, Anemia.



# Endoscopy

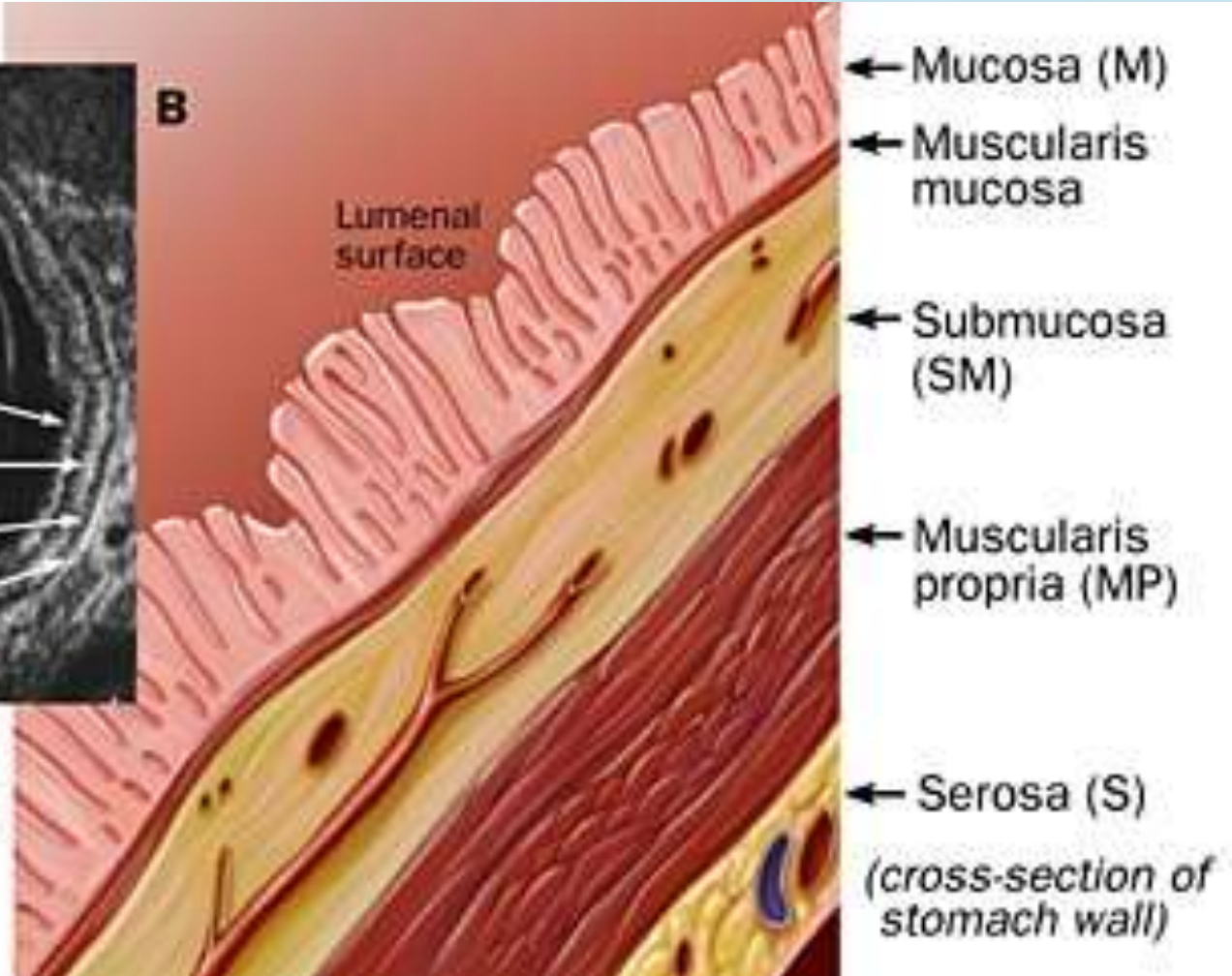
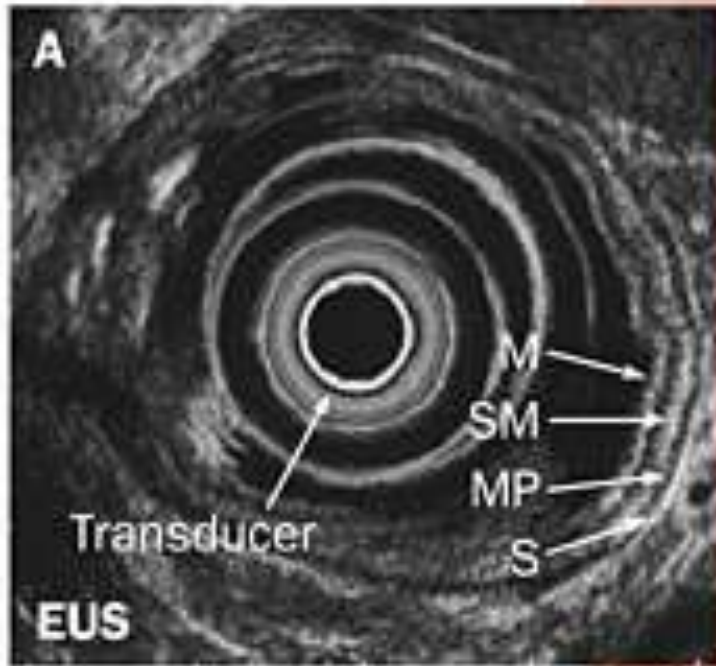


Carcinoma in situ

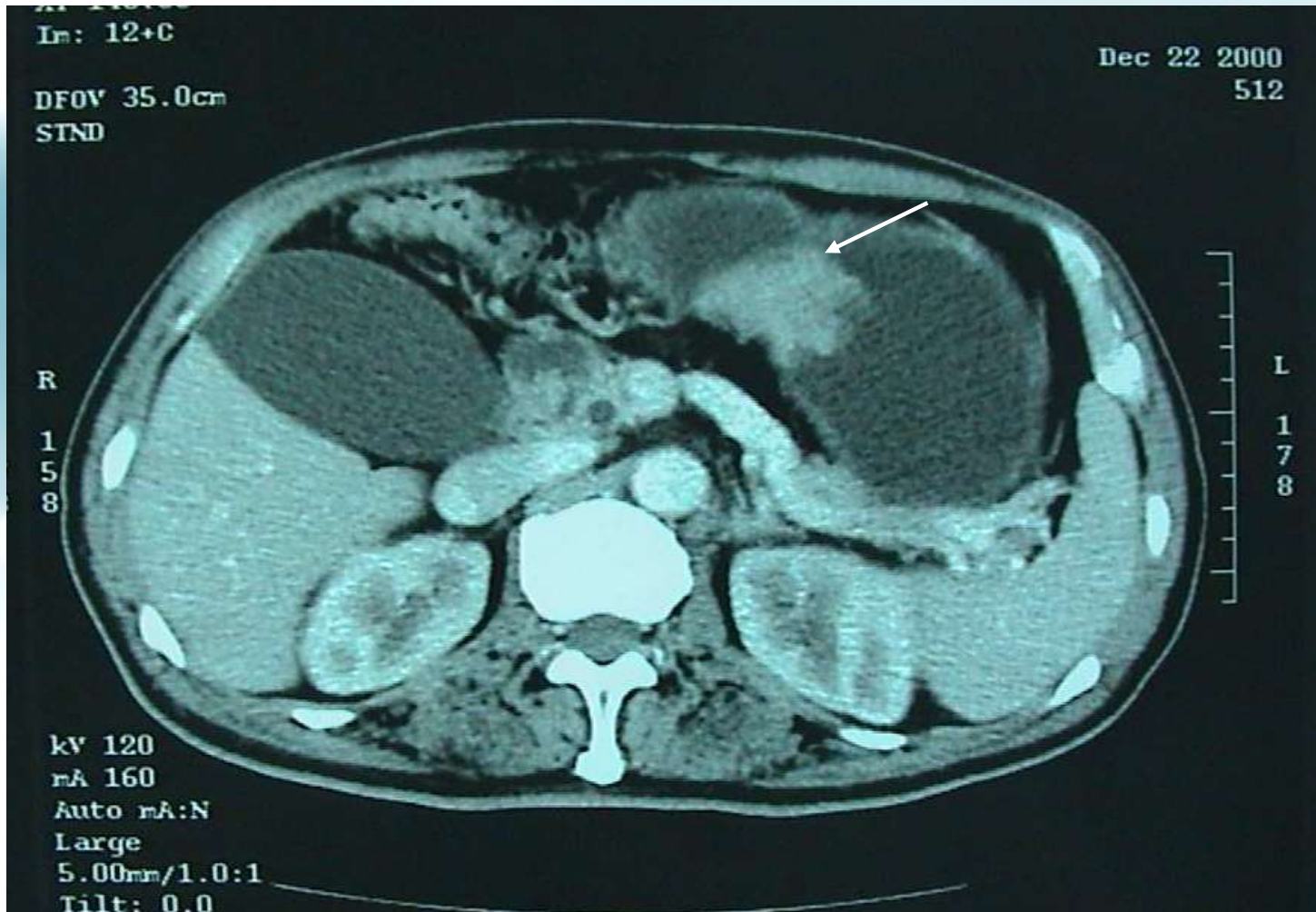


Advanced carcinoma

# EUS

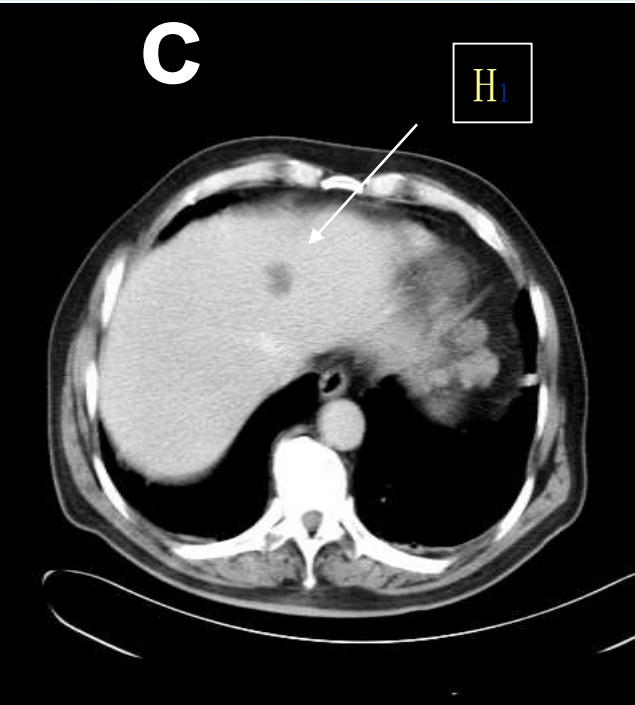
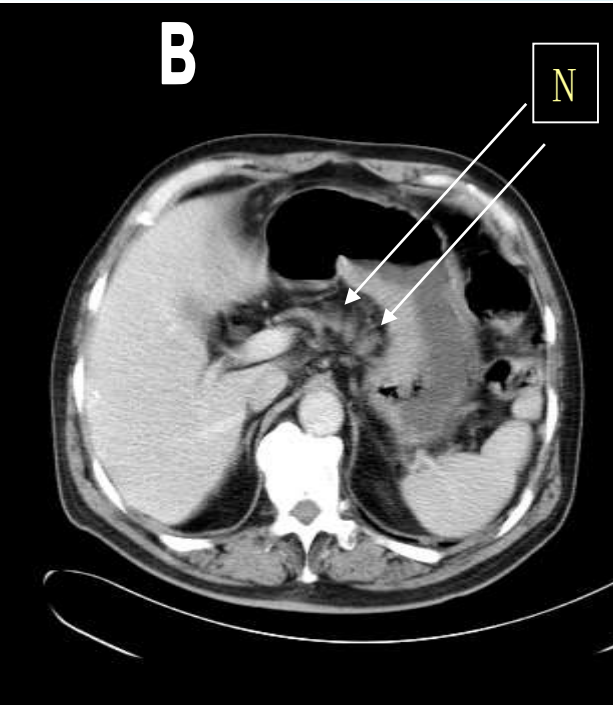
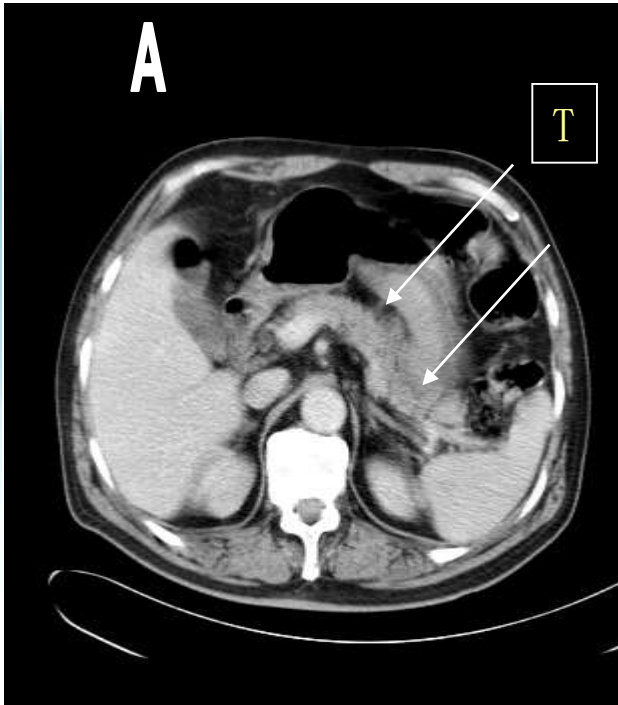


# CT scan





# CT scan



**T4N2M1**



# Trattamento del Cancro Gastrico

## Chirurgia

Endoscopic mucosal resection (EMR)

Endoscopic submucosal dissection (ESD)

Laparoscopic Surgery

Open Surgery

## Chemioterapia

## Chemio-radioterapia





# Trattamento chirurgico del cancro gastrico

## Principi di radicalità del trattamento chirurgico

1. Negative margin (R0 resection, adequate margins  $\geq 4$  cm )
2. D2 lymph node dissection for advance gastric cancer
3. Subtotal gastrectomy for distal gastric cancer
4. Total or proximal gastrectomy for proixmal gastric cancer

# Chirurgia Mininvasiva



## Stadiazione Chirurgica

## Chirurgia curativa

## Chirurgia palliativa

- ✓ in 1/3 dei casi l' esplorazione laparoscopica cambia la stadiazione preoperatoria
- ✓ Consente di evitare laparotomie inutili
- ✓ Consente di eseguire una terapia neoadiuvante adeguata

# Chirurgia Mininvasiva



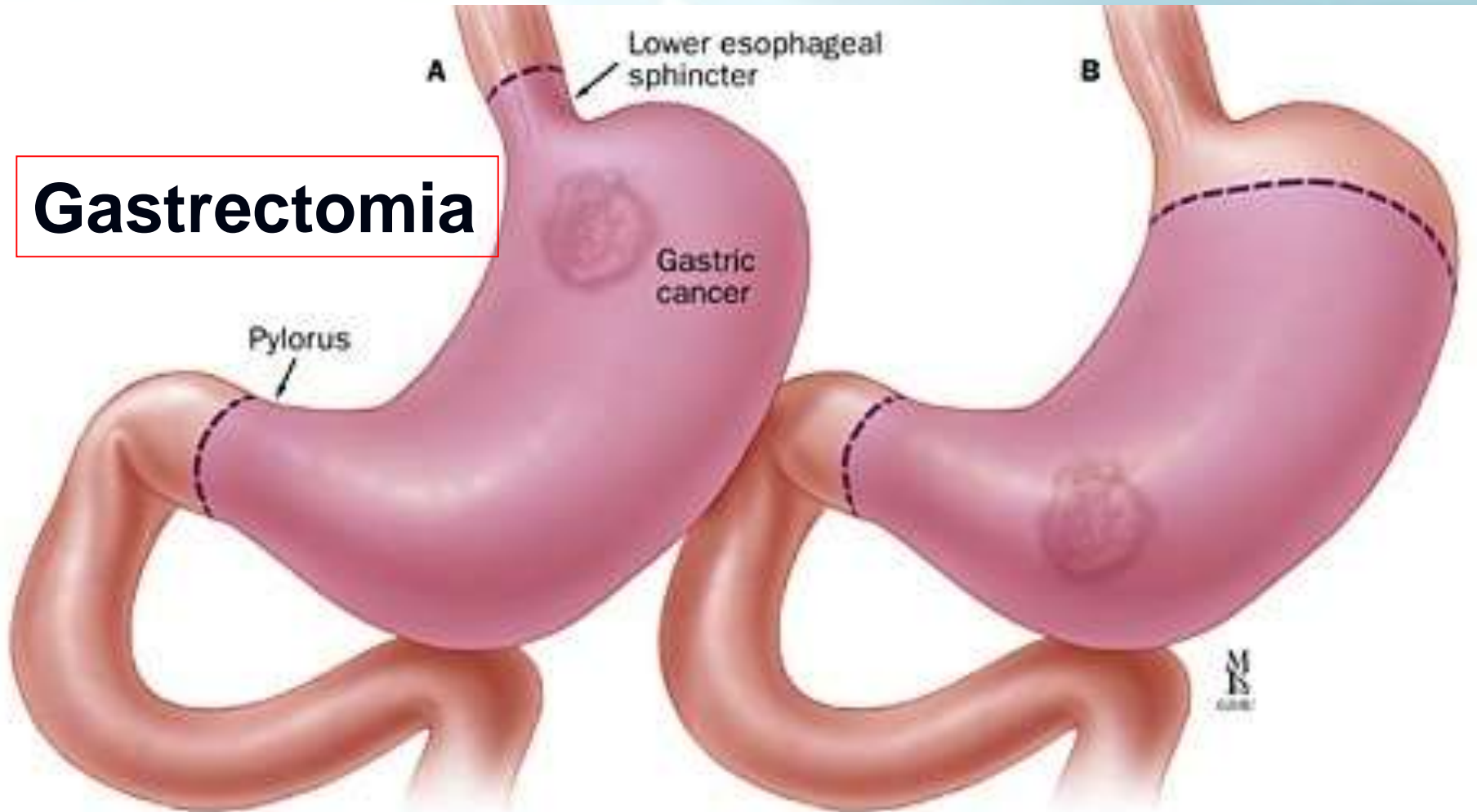
## Fattibilità tecnica: gastrectomia totale o parziale

- La fase demolitiva può dare problemi tecnici durante la linfadenectomia D2
- La fase ricostruttiva specie dopo GT presenta il problema dell'anastomosi:  
termino-laterale o latero-laterale?  
intra- o extra-corporea?

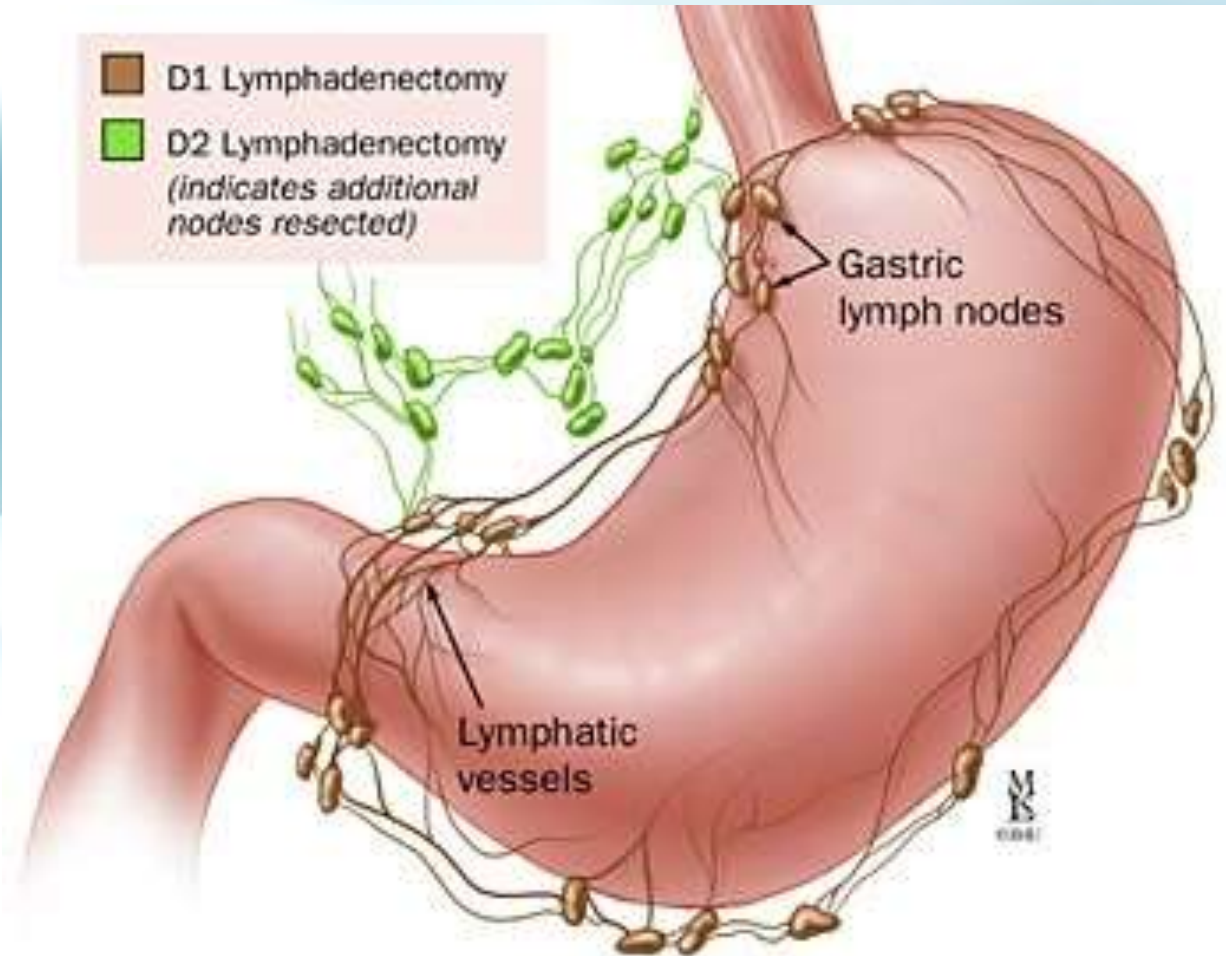


## Gastrectomia e linfadenectomia D2

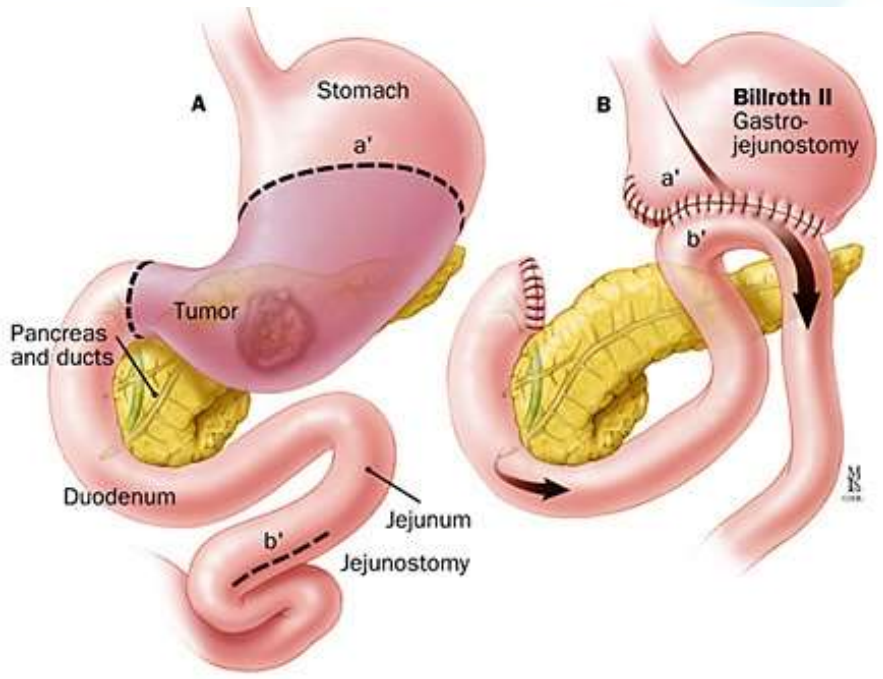
### Gastrectomia



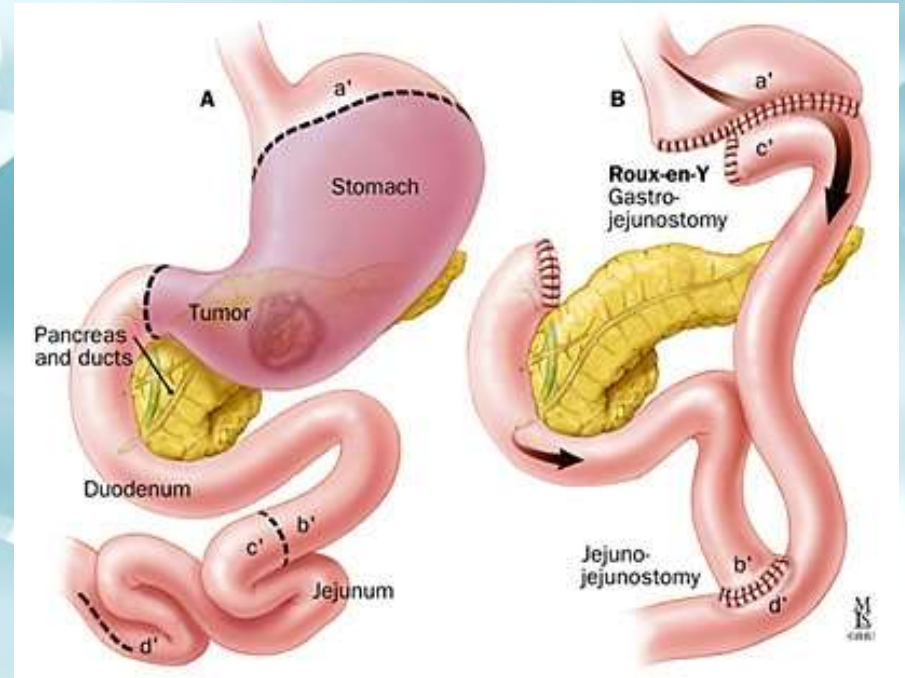
# Linfadenectomia



# Anastomosi



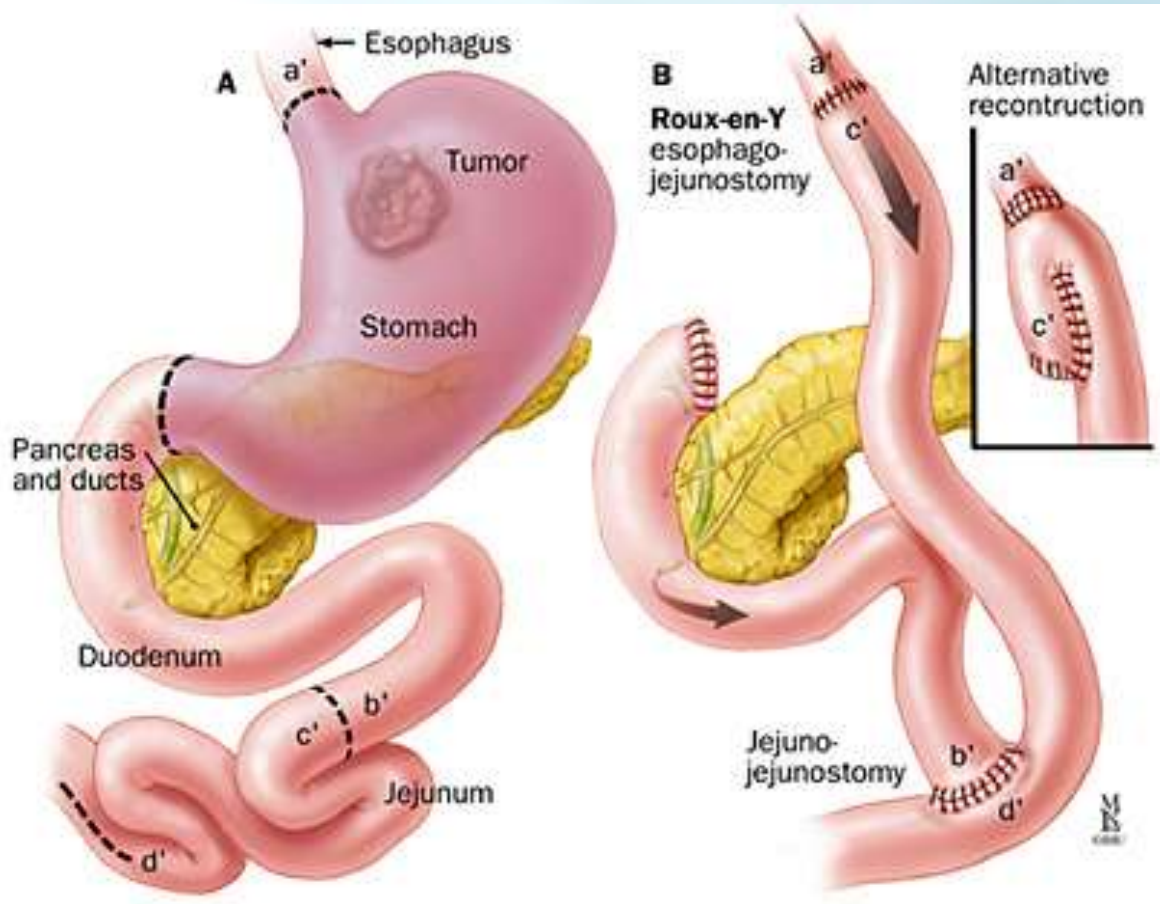
Billroth II anastomosis



Roux-en-Y anastomosis

## Resezione gastro-duodenale

# Gastrectomia totale





## Vantaggi della chirurgia mininvasiva

- ✓ Minor dolore
- ✓ Veloce ripresa della canalizzazione e della mobilizzazione
- ✓ Minor degenza postoperatoria
- ✓ Estetica
- ✓ Minor perdita ematica
- ✓ Minor impatto sulla funzionalità polmonare
- ✓ Trauma chirurgico ridotto

*Kitano S. et al.: A randomized controlled trial comparing open vs. laparoscopy-assisted distal gastrectomy... Surgery 2002*





## Limiti della chirurgia mininvasiva

- ✓ Linfoadenectomia oltre la D1 $\beta$  - D2
- ✓ Resezione delle stazioni n. 10-11d-13-14-15-16-17-18
- ✓ Necessità di una rigida selezione dei pazienti
- ✓ Lenta curva di apprendimento
- ✓ Tempi operatori allungati
- ✓ Stress per il team chirurgico
- ✓ Costi

# INDICAZIONI



## *Japan Gastric Cancer Association treatment guidelines*

stage IA - mucosa, < 2 cm, well-differentiated: EMR  
- others: laparoscopic gastrectomy + D1 $\alpha$  or D1 $\beta$

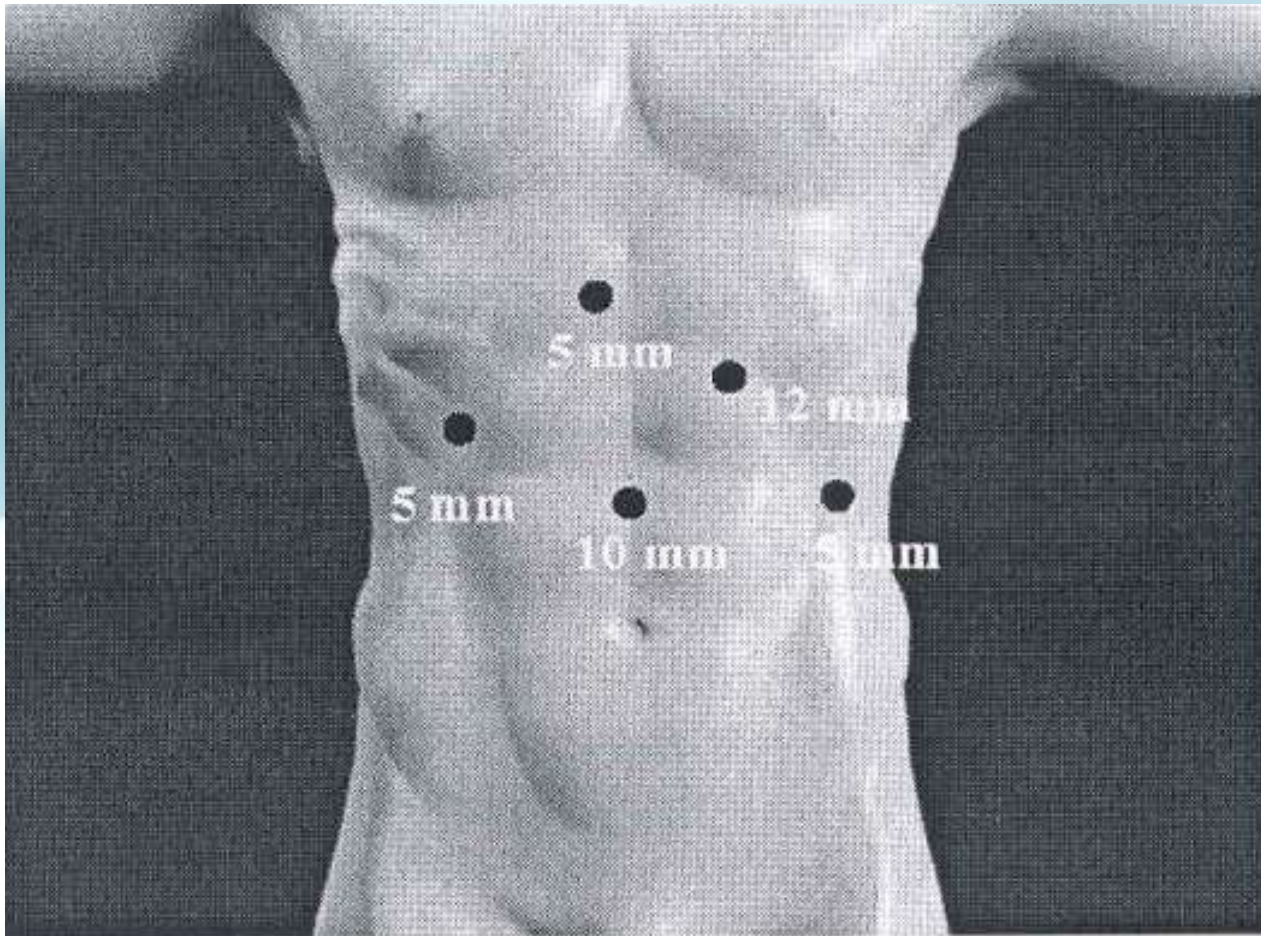
stage IB - < 2 cm: laparoscopic gastrectomy + D1 $\beta$   
- others: standard gastrectomy + D2 (laparoscopy?)

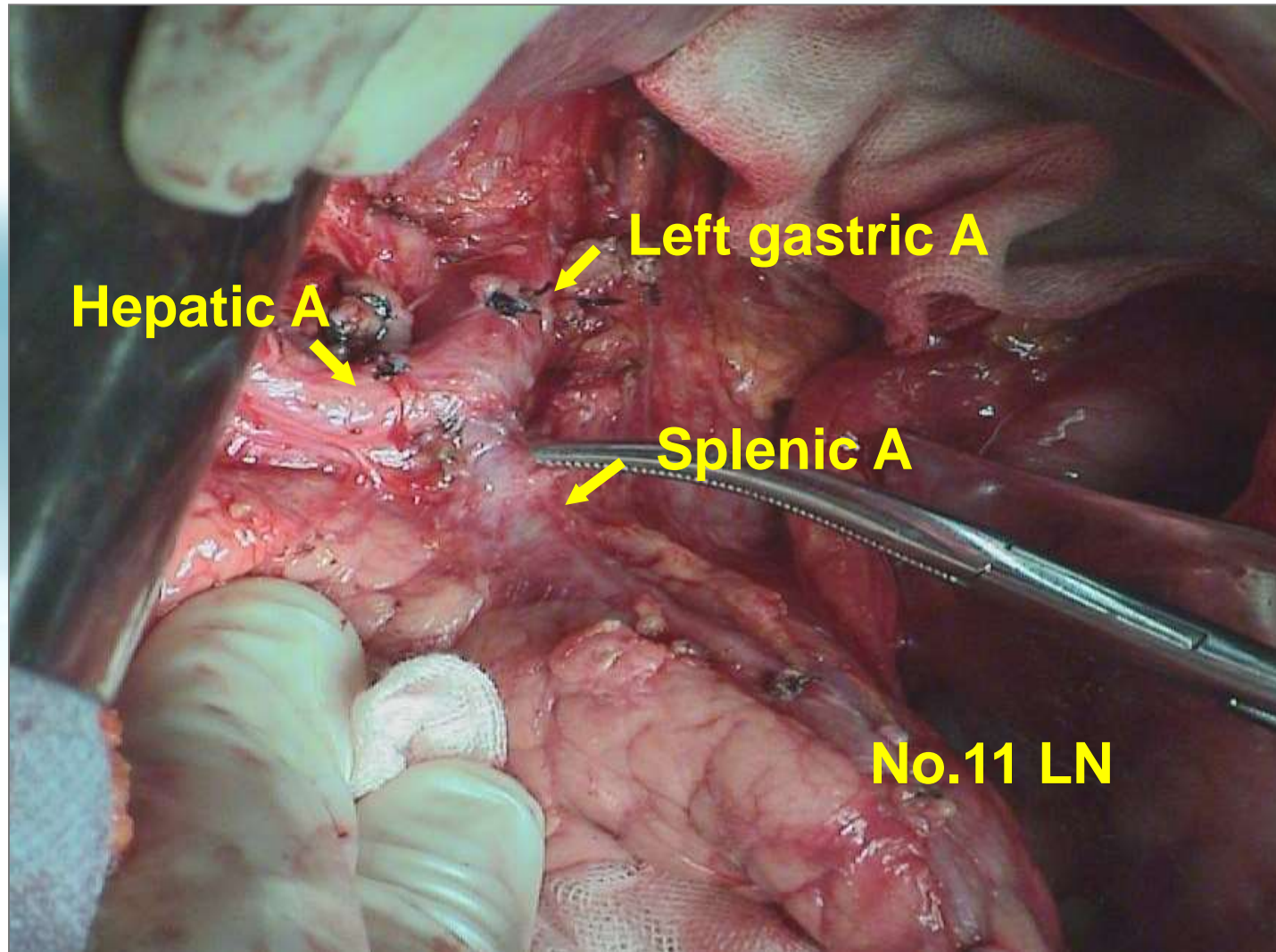
advanced gastric cancer

stage II and III: standard or extended gastrectomy + D2  
laparoscopic gastrectomy is under evaluation

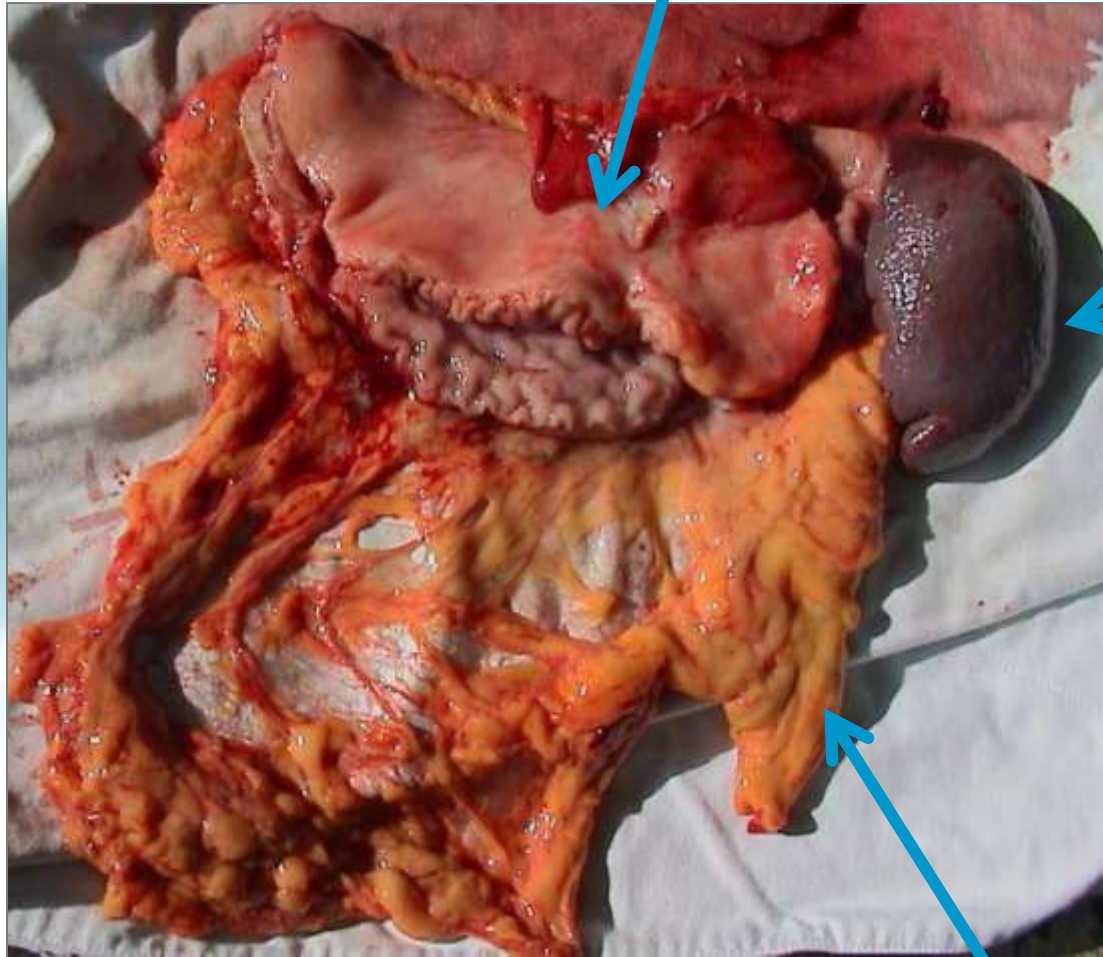
# Resezione laparoscopica

## Posizione dei trocar





**Stomach**



**Spleen**

**Greater omentum**

# Conclusioni



- **Le indicazioni alla resezione laparoscopica dipendono da:**
  - **Dimensioni e sede della neoplasia**
  - **Esperienza laparoscopica**
  - **.....buon senso**