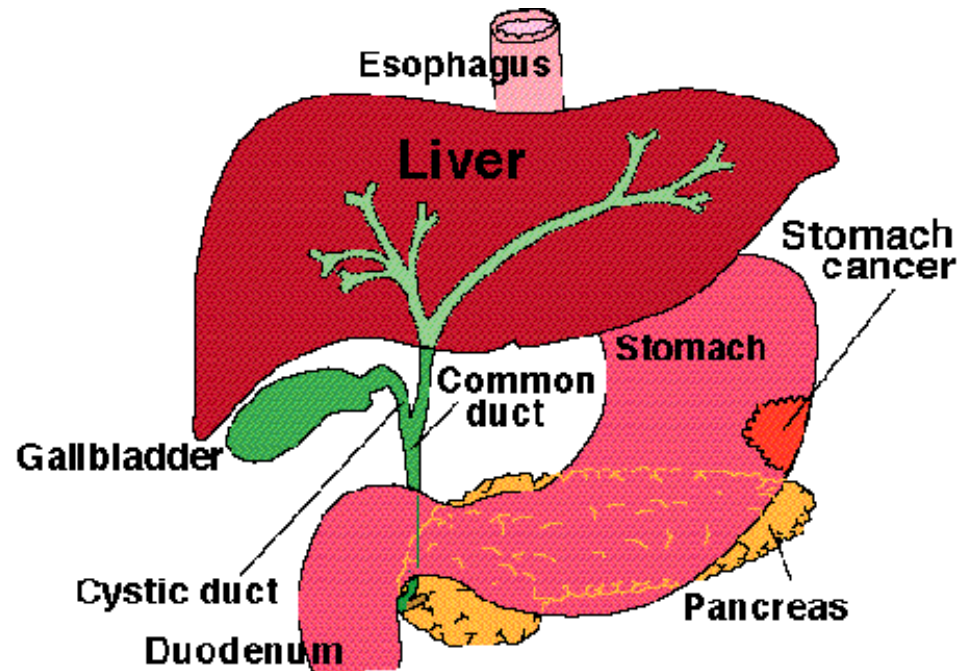


Adenocarcinoma of Stomach

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Epidemiology & Pathogenesis

- Leading cause of death
- 4th most common malignancy
- 2nd leading cause of cancer related death
- Considerable geographical variation



World wide Incidence

- **Japan**
- **Korea**
- **Area of South America**
- North America
- Australia
- Portions of North America

Predisposing Factors

- H. pylori infection
- Gastric polyps
- Exposure to nitrosamine
- Previous gastric surgery
- Tobacco use
- Pernicious anaemia
- Family history
- Genetic mutation such as e-cadherin (CDH1)
- Lynch & PJ syndrome

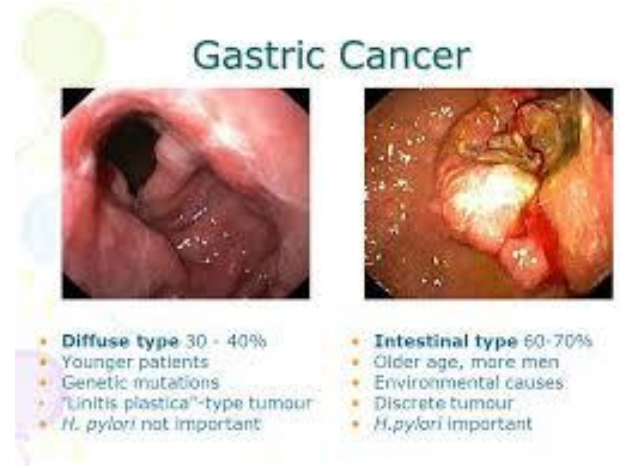
Epidemiology & Pathogenesis

- Poor prognosis
- 5 yrs survival 10%
- Better survival in Japan
- Male to female ratio 2:1



Pathology

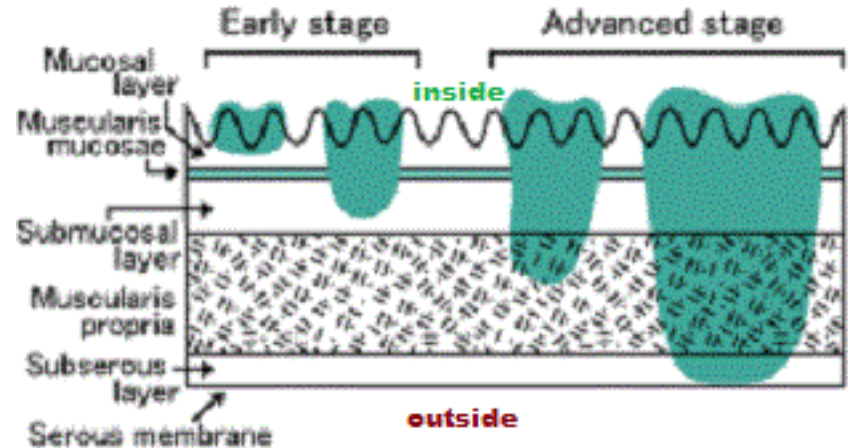
- Over 90% are adenocarcinomas
- Subtypes are intestinal and diffuse
- Proximal tumours incidence increasing in Europe
- Distal more in Japan and other parts of world



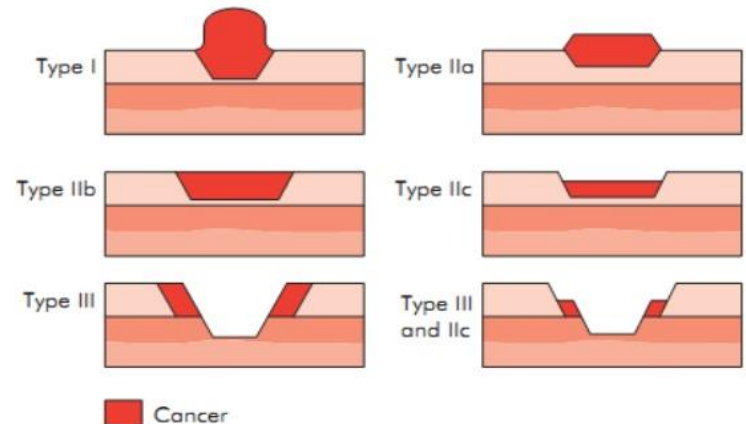
Intestinal	Diffuse
Well differentiated	Poorly differentiated
More in high risk group	More common in west
Older people	More in women and young people
Blood born metastasis more common	Lymphatic spread more common

Early Gastric Cancer

- Cancer limited to mucosa and submucosa
- 30-40% of newly diagnosed cancer in Japan
- 15% of early gastric cancer lymph nodes +ve
- 5 yrs. survival is 80%

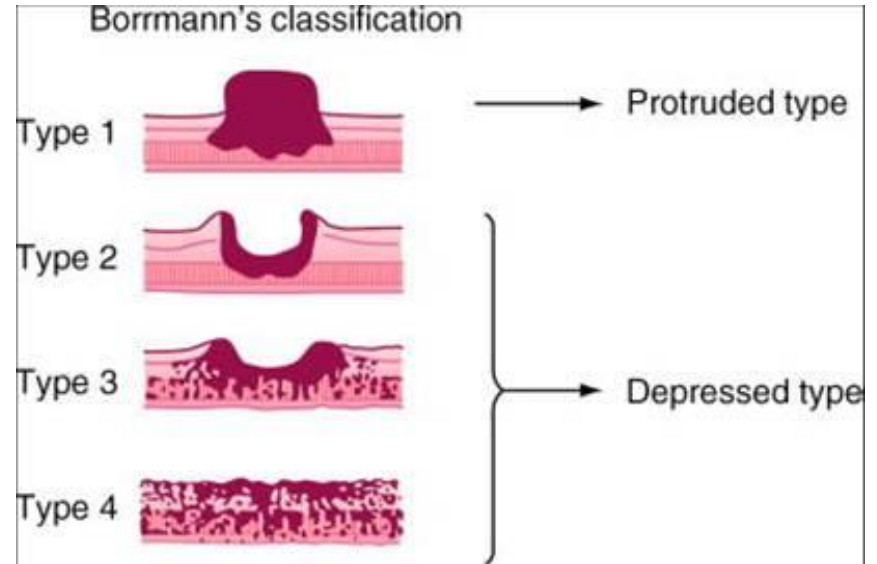


Japanese classification of early gastric cancer



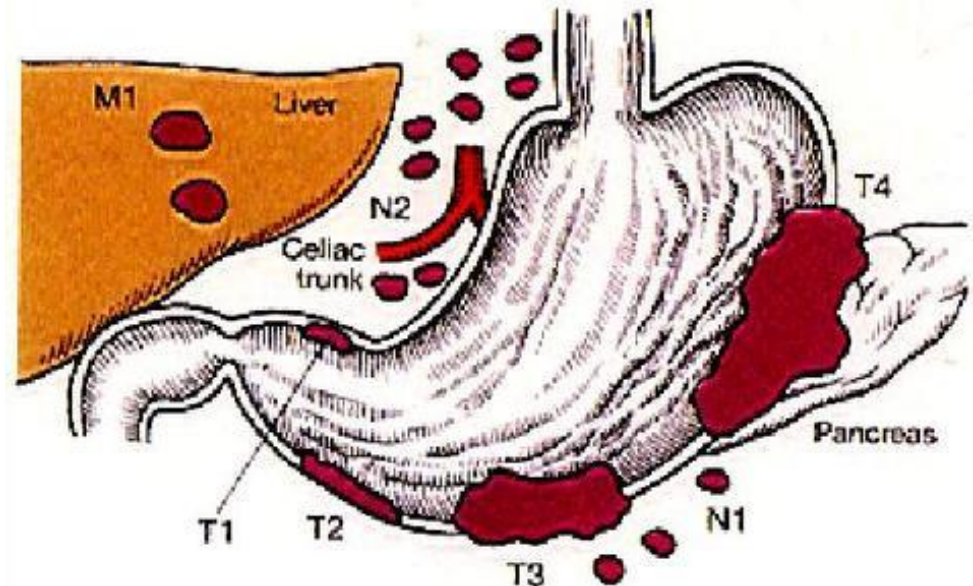
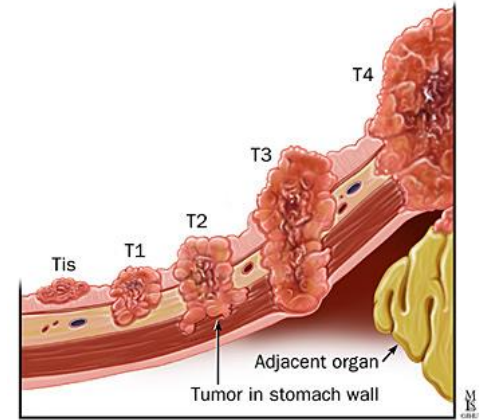
Advanced gastric Cancer

- Means a tumour which has involved muscularis propria
- > 90% in UK at the time of diagnosis
- Most have lymph nodes and peritoneal deposits
- Type 3 & 4 normally incurable



TNM Classification

- **T1= Limited to mucosa & submucosa**
- **T2= Involves muscularis propria & subserosa**
- **T3 = Penetrates serosa**
- **T4 = Involves contiguous structures**
- **N0 = No lymph nodes**
- **N1 = 1-6 regional lymph nodes**
- **N2 =7- 15 regional lymph nodes**
- **N3 = > 15 lymph nodes**
- **M0 = No distant metastasis**
- **M1 = Distant metastasis +**



Clinical features

- Vague symptoms
- Indigestion , vomiting
- Malaise
- Early satiety
- Post prandial fullness
- Loss of appetite
- Perforation, haemorrhage
- Abdominal mass
- Sister Mary Joseph's nodes
- Virchow's node
- Bulmer's shelf
- Jaundice
- Ascites
- Enlarged liver

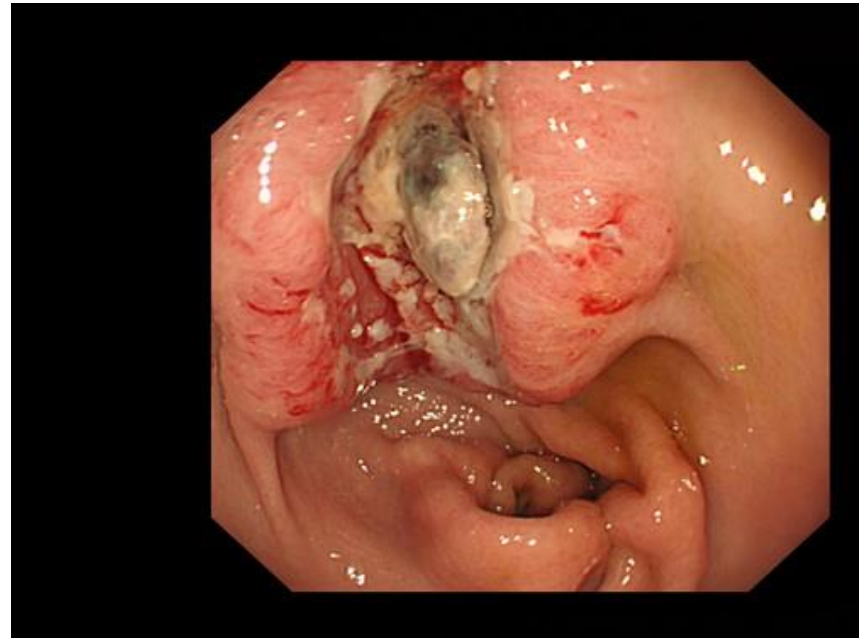
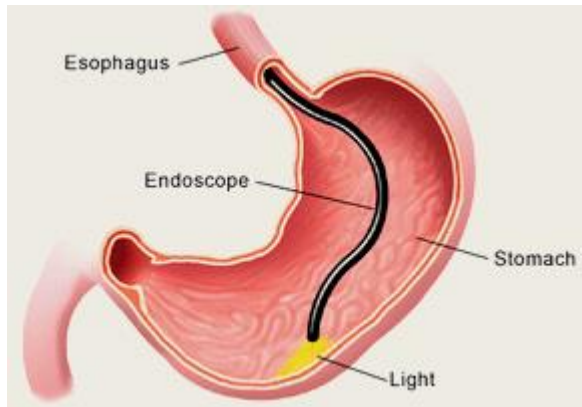
Investigations

- **OGD**
- **Ba Meal**
- **Gastric cytology**
- **CT scanning**
- **Laparoscopy**
- **Endoscopic US**



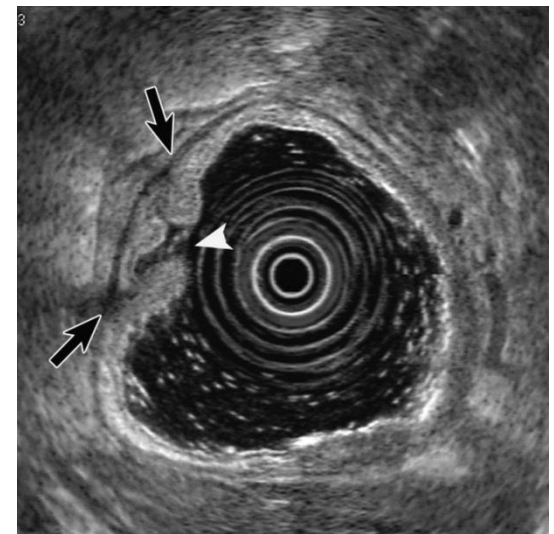
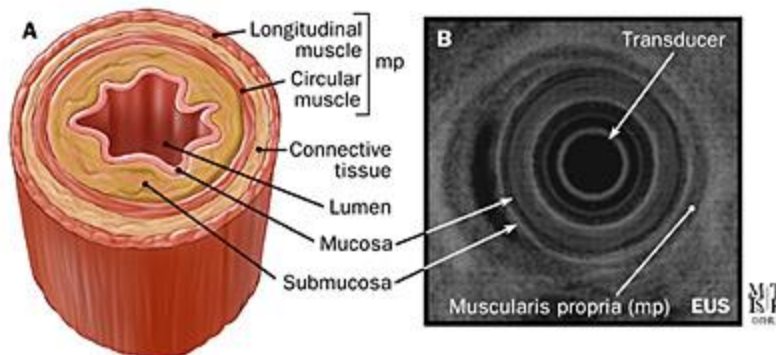
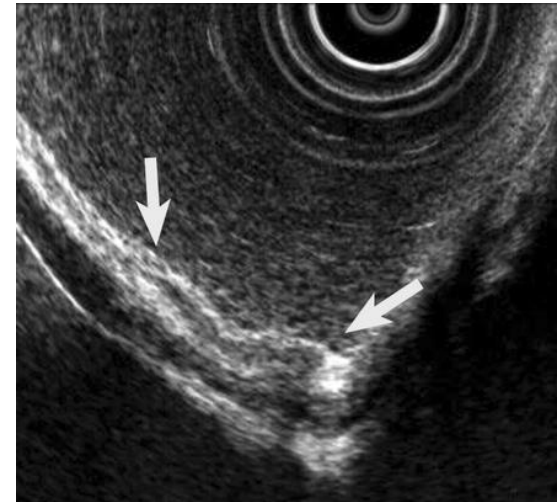
OGD

- Diagnostic Tool of Choice



EUS

- Depth of tumour-- 80%
- lymph node-- 50%



CT Scan

- Mainly used for detection of metastasis

- **CT SHOOING LIVER METASTASIS**



- **CT SHOWING ANTRAL CANCER**



Laparoscopy

- Unresectable disease
- Peritoneal washing done as well
- A recent investigation showed survival with – ve washing 98.5/12 and 14.8/12 with +ve cytology



Surgery

- Primary Resection
- Total or subtotal gastrectomy
- Lymphadenectomy
- D0= no attempt for excision of lymph nodes excision
- D1= excision of peri gastric nodes
- D2= excision nodes along main trunk of coeliac axis

Surgery

- Cornerstone of curative therapy
- Objective - complete resection with – ve margin (R0 resection)
- Total or subtotal gastrectomy
- Randomized control trails shows no difference in survival
- Gross margin of 5 cm is acceptable
- Management of microscopic +ve margin (R1 resection) is continuous issue

Recent Italian study shows early(T1) cancer may not effect prognosis

Re excision for advanced tumour does improve survival

Lymphadenectomy

- Extent of lymph nodes dissection is controversial

But in West no improvement in survival

- JSRGC introduced guidelines in 1980

Dutch Cancer Group & MRC did not show any benefit as per Japanese D2 by Japanese included distal pancreatectomy & splenectomy

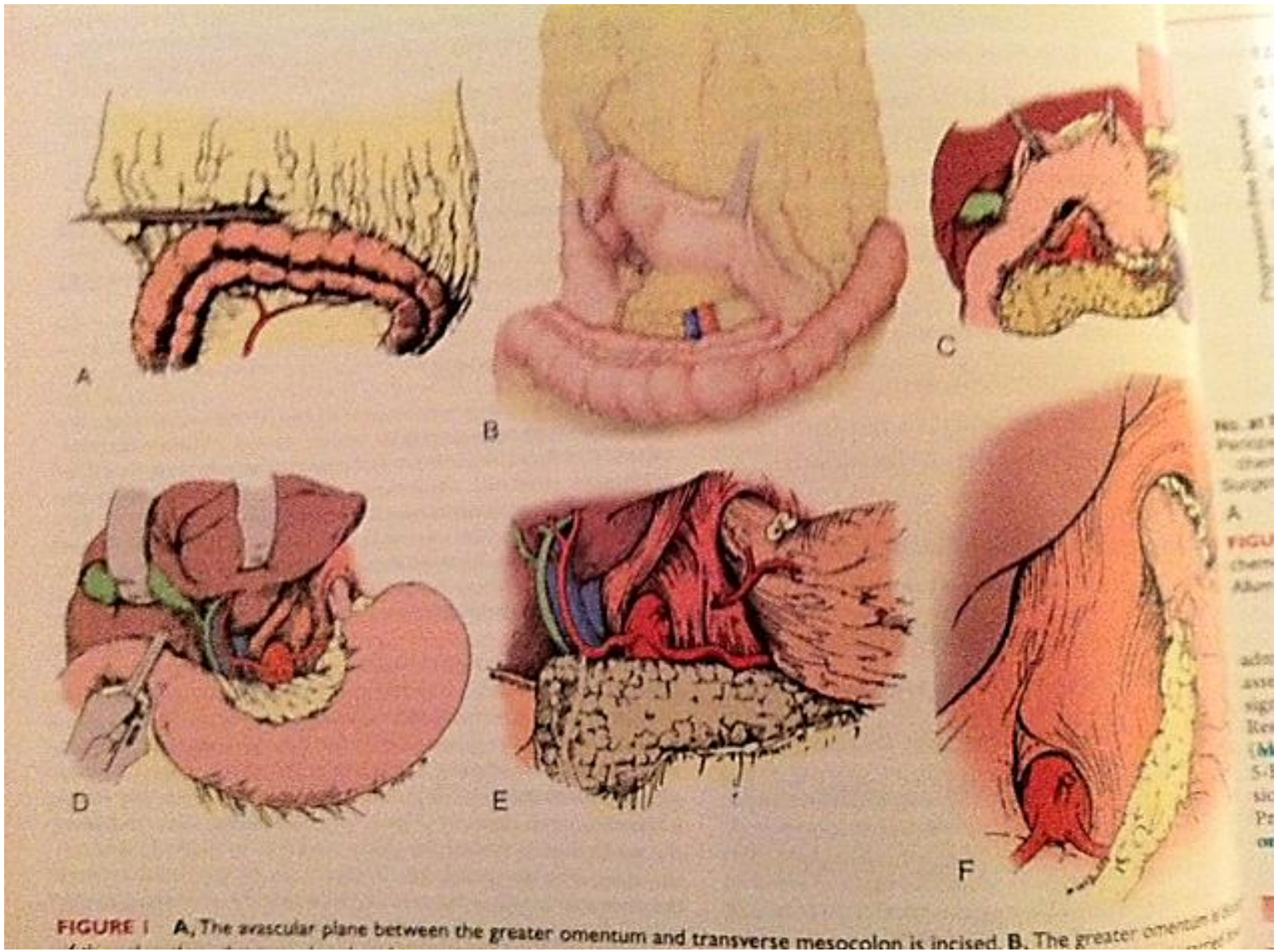


FIGURE 1 A, The avascular plane between the greater omentum and transverse mesocolon is incised. B, The greater omentum is reflected upwards.

Adjuvant Therapy

- Recurrence in 2 yrs. even after R0 resection
- Numerous trials for post op chemo with or without radiotherapy
- Recently Intergroup 0116 prospective trial showed improvement in both overall & relapse survival free (5FU & leucovorin + radiation)
- Criticism
- Recommendation was D2 resection
- BUT 10% had D2

Neo-Adjuvant Therapy

- In Inter group only 64% were able to post op chemo- radiation
- Neo- adjuvant therapy recommended for pt T2 or above
- So pre-op therapy develop lot of interest
- Down staging
- MAGIC

Summary

- Aggressive disease
- R0 resection optimize outcome
- Lymphadenectomy enhances staging and marginal benefit
- Optimum time for adjuvant therapy unknown
- Needs more research

