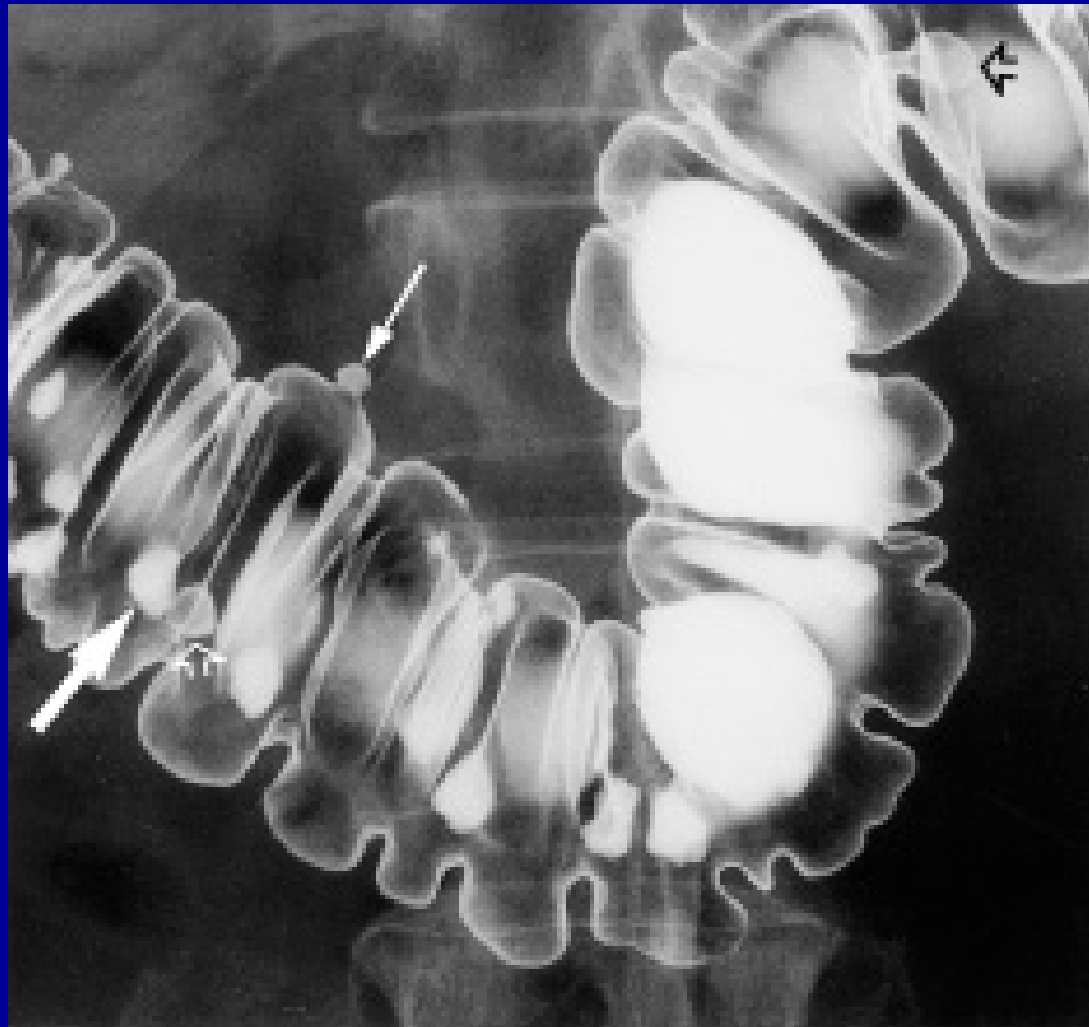


Diagnosis and treatment of diverticular bleeding

Alastair Forbes

University College London



Historical perspective

- Clinical context
 - 25-40% of painless rectal bleeding
 - May be massive in ~5%
 - Self-limiting

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- Diagnosis of exclusion ?

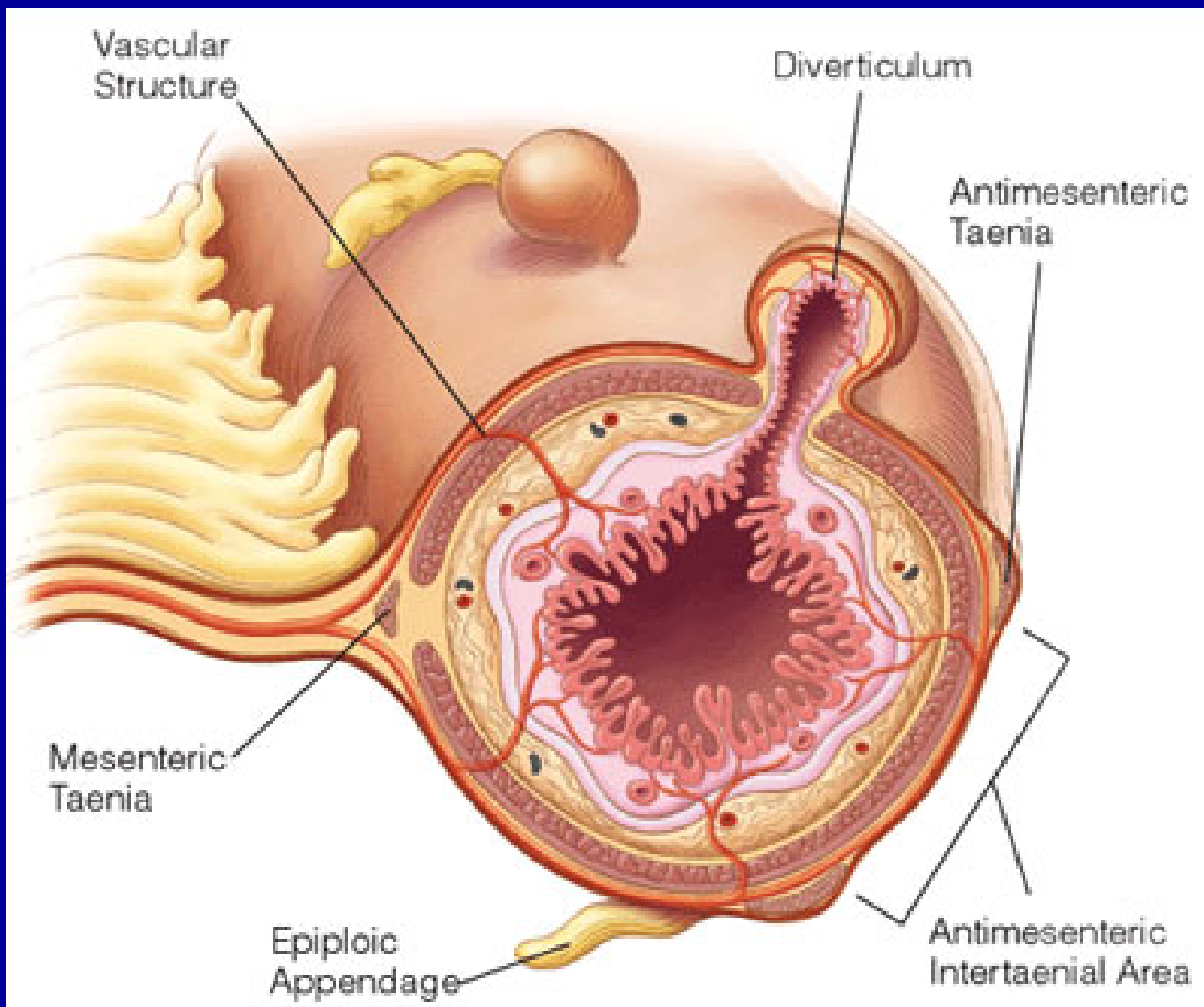
Historical perspective

- Clinical context
 - 25-40% of painless rectal bleeding
 - May be massive in ~5%
 - Self-limiting
- Diagnosis of exclusion ?
- Epidemiological/demographic overlap with angiodysplasia
 - Latter more likely to be R sided
 - But 40% of BLEEDING diverticula are on right

Longstreth '97

Why do diverticula bleed ?

- Not known
- Probable chronic injury to vasa recta adjacent to lumen of diverticula
- Fragmentation of internal elastic lamina and loss of media
- ? more common on R because larger lumen (so more vasa recta exposed)





Standard initial management

- Standard resuscitative measures
- Exclude UGI cause for bleeding
- Clinical diagnosis “supported by” rigid sigmoidoscopy
- Surgical or (usually) conservative management according to progress

Can we do better ?

- Colonoscopy
- Nuclear scanning
- Angiography methods

Can we do better ?

- Colonoscopy
- Nuclear scanning
- Angiography methods
- Evidence base unfortunately not strong

Diagnosis from angiography

- Specific but not sensitive
 - 0.5-1.0ml/min
 - Technically difficult when IMA territory
 - Distinguishes diverticula from angiodysplasia
- Therapeutic potential

Fiorito AJG '89, Zuckerman AJR '93

Diagnosis from nuclear scanning

- More sensitive but less specific
 - 0.1ml/min detectable
 - Difficult to localise bleeding site
 - Doesn't distinguish diverticula
 - Insufficient for operative planning
 - No therapeutic potential

Dusold AJG '94

Diagnosis from colonoscopy

- Specific and sensitive if possible
 - Not dependent on continued bleeding



Diagnosis from colonoscopy

- Specific and sensitive if possible
 - Not dependent on continued bleeding
 - Technically difficult when bleeding persists
 - Issues of preparation
- Therapeutic potential

Diagnosis from colonoscopy

Said to exceed 72% accuracy

Jensen '88, Peura '98, Rossini '89, Zuckerman '98

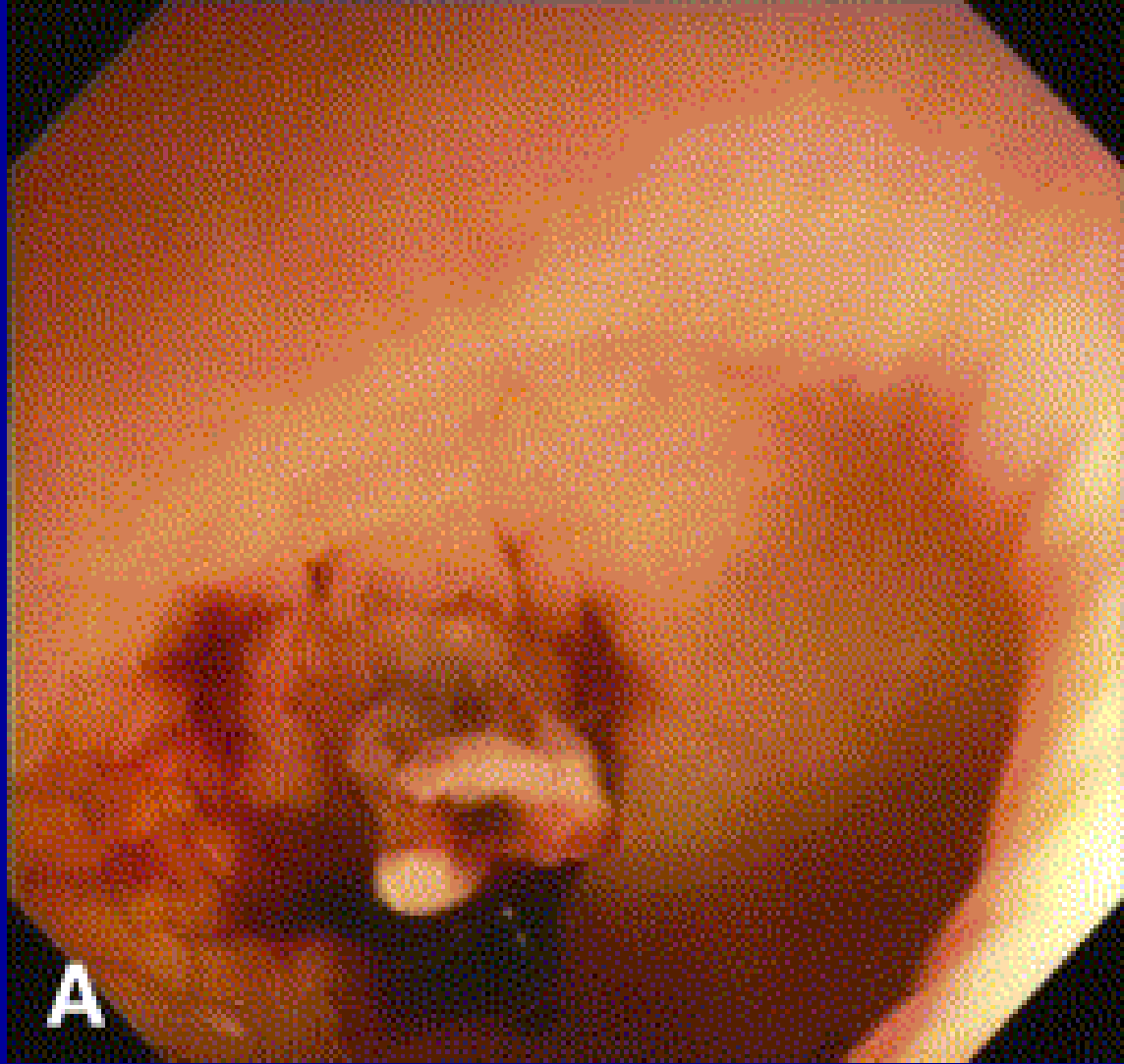
May speed up discharge from hospital

Strate '03

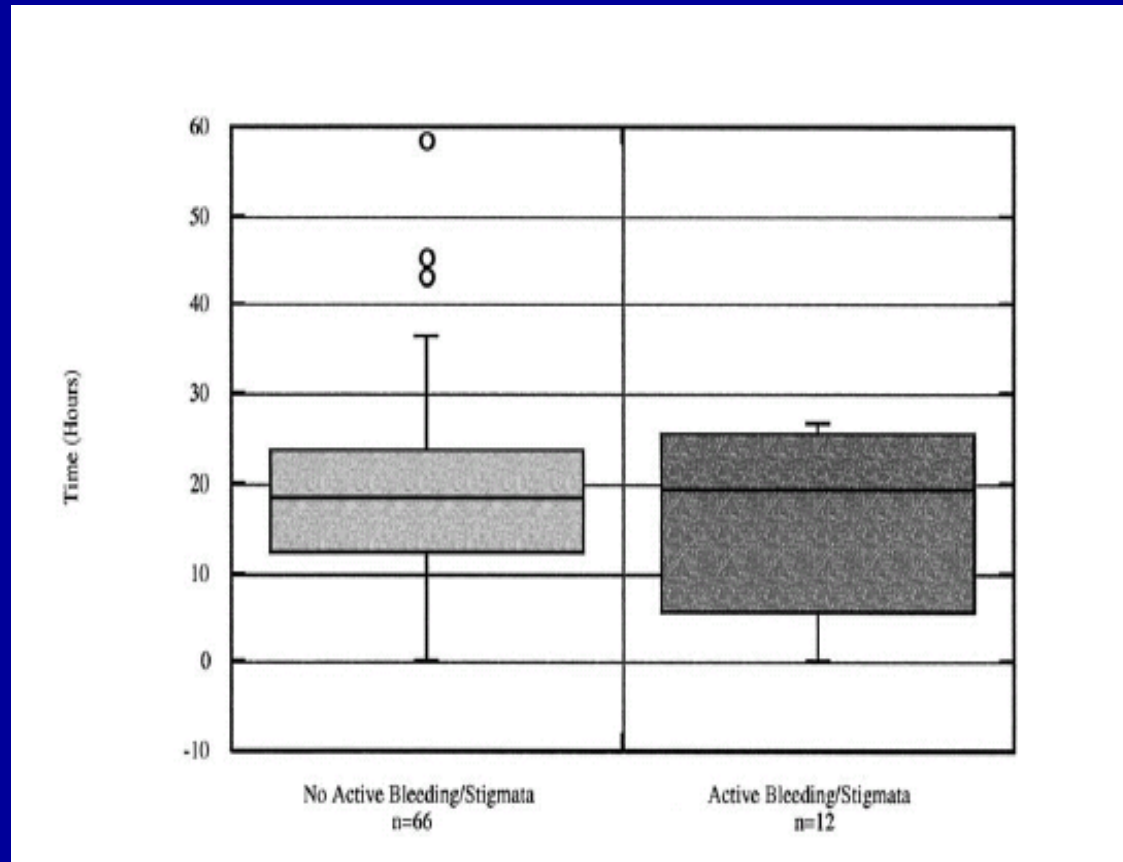
Preparation for colonoscopy

- Probably best to employ lavage approach
- PEG by NGT probably safest option
- Typically need >5L for clear effluent
- ± metoclopramide/domperidone
- Safe (but caution in renal failure)





Is it worth the trouble ?



Results of standard therapy

- Nearly half of patients do well
- But >50% rebleed

Jensen 2000

Therapeutic angiography

- Transient control with vasoactive agents
 - >90% control but ~50% rebleed

Sherman '79, Browder '86, Favari '04

Therapeutic angiography

- Transient control with vasoactive agents
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 - Sherman '79, Browder '86, Favari '04
- More definitive control with embolisation
 - 40-90% control and ~20% rebleed
 - Funaki '01, Ledermann '98, Nicholson '98, Gady '03

Therapeutic angiography

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 - Funaki '01, Ledermann '98, Nicholson '98, Gady '03
- Risk of major ischaemia is low

Therapeutic colonoscopy - options

- Transient control with vasoactive agents
- “Definitive” control with diathermy or other thermal techniques
- “Definitive” control with clips or other physical devices
- ? risk of major ischaemia

Therapeutic colonoscopy

- Adrenaline or bipolar diathermy or both
- 0% rebleed to 30 months (!)
- Band ligation – small numbers

Witte '00, Farrell '03

- Hemoclips – small numbers

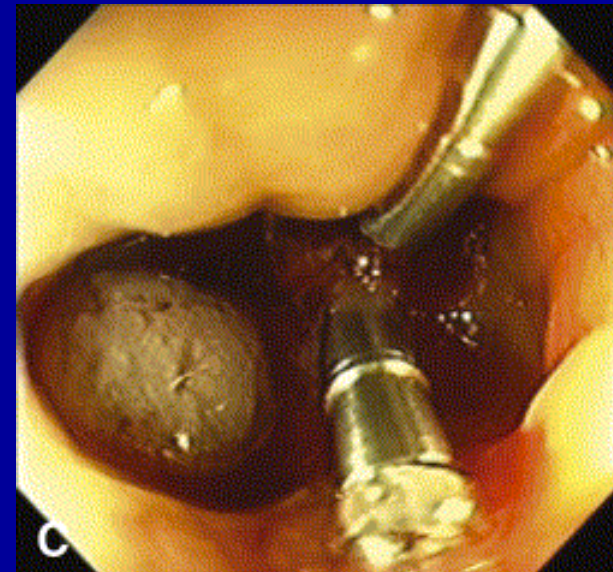
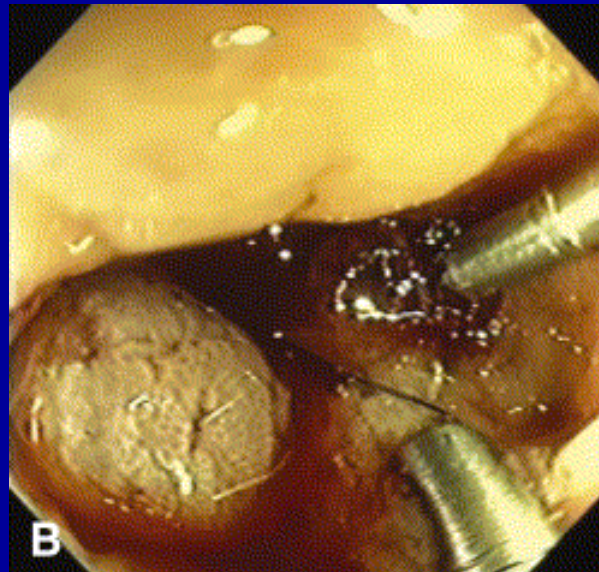
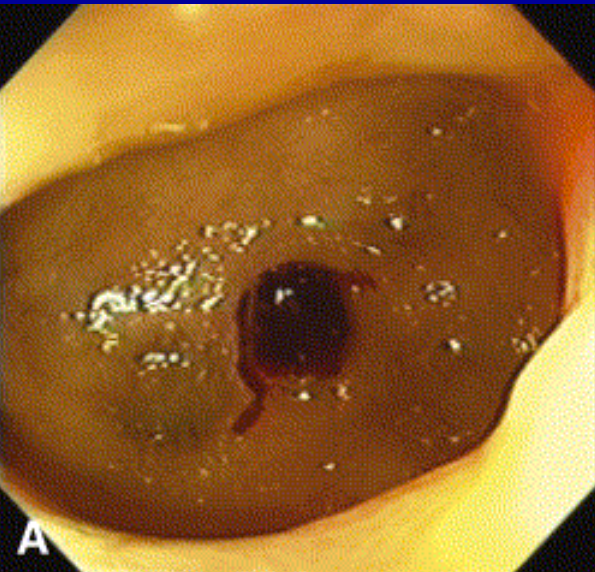
Hokama '97, Simpson '04

Adrenaline & diathermy

Bloomfield 2001



Hemoclips (Simpson 2004)



Surgery if other measures fail

Failure =

Failure of diagnosis in shocked patient

Failure to identify specific bleeding site

Failure to control bleeding when bleeding site identified

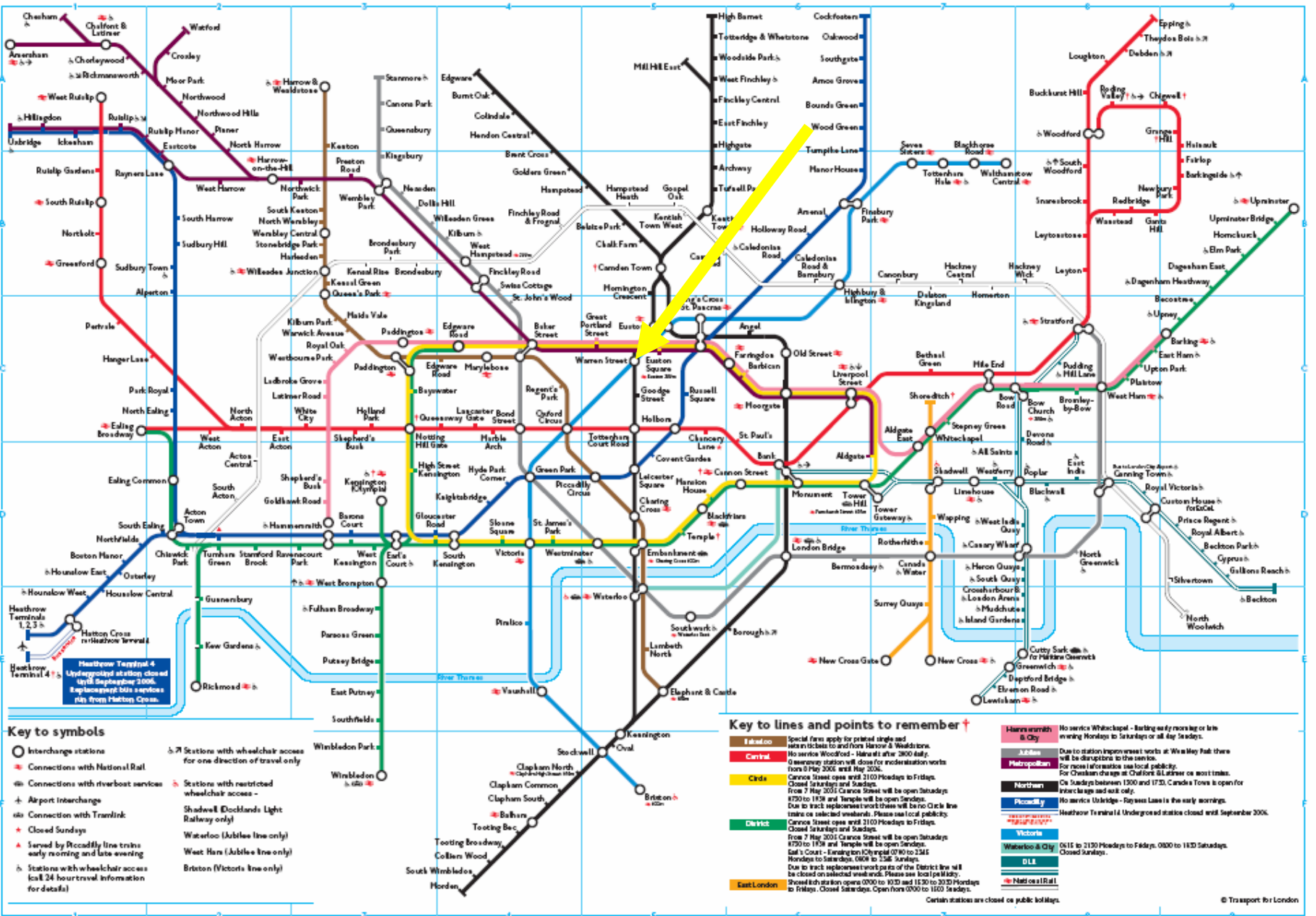
Complications of other treatments (eg ischaemia)

Surgery

- Segmental colectomy usually appropriate
- Primary anastomosis usually appropriate

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- ### Key to symbols
- Interchange stations
 - ⊕ Connections with National Rail
 - ⊕ Connections with riverboat services
 - ✈ Airport interchange
 - ⊕ Connection with Tramlink
 - ★ Closed Sundays
 - ▲ Served by Piccadilly line trains early morning and late evening
 - ⊕ Stations with wheelchair access (see 24 hour travel information for details)
 - ♿ Stations with wheelchair access for one direction of travel only
 - ♿ Stations with restricted wheelchair access - Shadwell Docklands Light Railway only
 - ♿ Waterloo (Jubilee line only)
 - ♿ West Ham (Jubilee line only)
 - ♿ Briton (Victoria line only)

Key to lines and points to remember †

- Bakerloo** Special fares apply for priced single and return tickets to and from Harrow & Wealdstone. No service Woodford - Harefield after 200 daily. 0 service works from 0 May 2002 until May 2004.
- Central** Cannon Street open until 2100 Mondays to Fridays. Closed Saturdays and Sundays. From 7 May 2003 Cannon Street will be open Saturdays 0730 to 1930 and Temple will be open Sundays. Due to track replacement work there will be no Circle line trains on selected weekdays. Please see local publicity. Cannon Street open until 2100 Mondays to Fridays. Closed Saturdays and Sundays. From 7 May 2003 Cannon Street will be open Saturdays 0730 to 1930 and Temple will be open Sundays. Due to track replacement work there will be no Circle line trains on selected weekdays. Please see local publicity. Shoreditch station opens 0700 to 1030 and 1530 to 2030 Mondays to Fridays. Closed Saturdays. Open from 0700 to 1030 on Sundays.
- Circle**
- District**
- East London**

- Hammersmith & City** No service Whitechapel - Barking early morning or late evening Mondays to Saturdays or all day Sundays.
- Victoria** Due to station improvement works at Wembley Park there will be disruptions to the service. For more information see local publicity. For Chesham the sign at Chesham & Amersham on most trains.
- Metropolitan** On Saturdays between 1900 and 1730, Canada Town is open for interchange and exit only. No service Uxbridge - Ropes Lane in the early mornings. Heathrow Terminal 4 Underground station closed until September 2006.
- Northern**
- Piccadilly**
- Victoria**
- Waterloo & City** 0615 to 2130 Mondays to Fridays. 0800 to 1830 Saturdays. Closed Sundays.
- DLR**
- National Rail**

† Certain stations are closed on public holidays.

No service Woodford - Harefield after 200 daily.

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