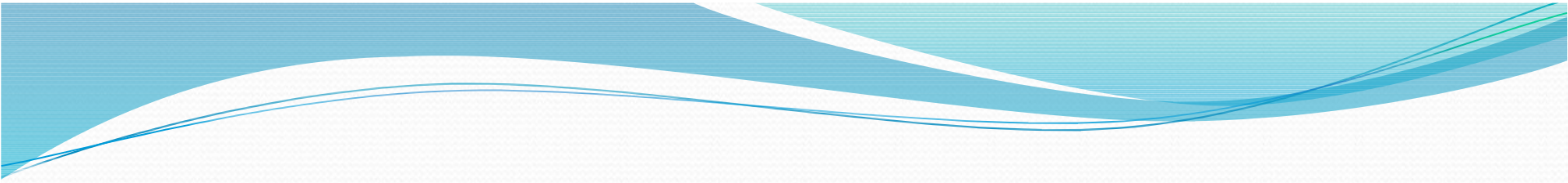


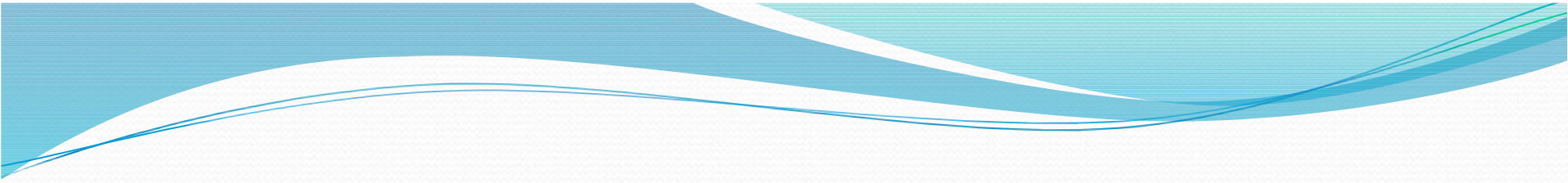
CT Colonography

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Plan

1. How to perform CT colonography – Indications, Step by step protocol
2. Reporting – Polyps, cancers
3. Cases

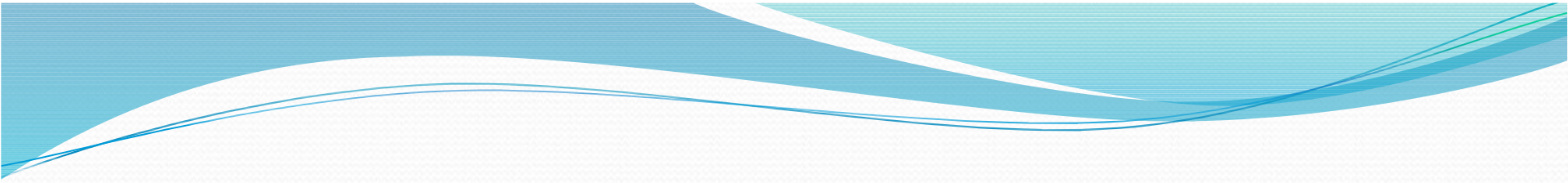


Indications

- Bowel cancer screening programme
- Investigation for anaemia, change in bowel habit, weight loss in those who are not suitable/can not tolerate colonoscopy –
- Often combined with a flexible sigmoidoscopy

Preparation

- All patients receive a booklet/prep sheet explaining the necessary preparation:
- Low residue diet for 2 days prior to scan
 - Low fibre diet that decreases stool volume
 - Avoid all fruit and veg
- Remain well hydrated



Preparation

- At 1600 2 days before scan drink 25mls gastrograffin-
can be diluted
- Day before scan
 - 0800 drink 25mls of gastrograffin (may be diluted)
 - 1300 drink 25mls of gastrograffin (may be diluted)
 - 1600 drink 25mls of gastrograffin (may be diluted)
- From 1600 onwards only clear fluids
- Nothing to eat on the day of the test
- Water only up to 2 hours before the test, nothing after this

Buscopan (Hyoscine hydrobromide)

- Smooth muscle relaxant
- Reduces spasm- improves scan quality and reduces patient discomfort
- S/E: dry mouth or blurred vision
- Contraindications:
 - Allergy to buscopan
 - Closed angle glaucoma
 - Uncontrolled angina
 - Recent MI (within a month)

Scan positioning

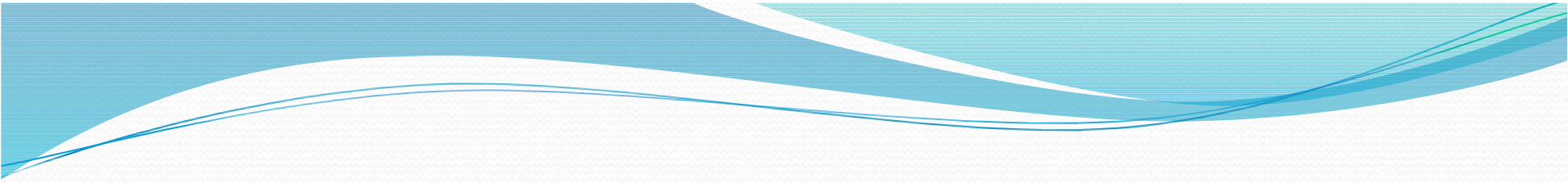
- Two scans, change position between them , allows you to tell the difference between stool and polyp- stool will move, polyp won't
- Ideal positioning, 1st scan supine, 2nd scan prone
- If unable to lie supine or prone (e.g. too infirm, stoma etc)
- Alternative positions, left and right lateral

Step by step protocol – Once insufflation tube in situ.

1. Insufflate the colon using the new insufflating device.
2. Give the IV buscopan
3. When 2 litres of CO₂ given turn patient to supine position.
4. Encourage patient to hold on as best they can
5. Position patient for supine scan, pad under knees or arms as required, arms above head
6. Topogram- check for sufficient insufflation (approximately 4 litres) and that the whole colon is well distended

Step by step protocol - Scanning

1. Perform supine scan with **IV contrast** (If unable to tolerate the insufflation perform normal supine abdomen/pelvis with IV contrast)
2. Check scan for obvious pathology- if so - request chest CT. If unsure – call radiologist for discussion.
3. Reconstruct images
4. Place patient prone, if unable to lie prone place in left lateral position
5. Once reconstruction is complete perform low dose prone scan



2. Reporting

- Colonic findings – 2D and 3D (Fly through and “fillet”) reads
- Extra-colonic findings

Reporting Polyps

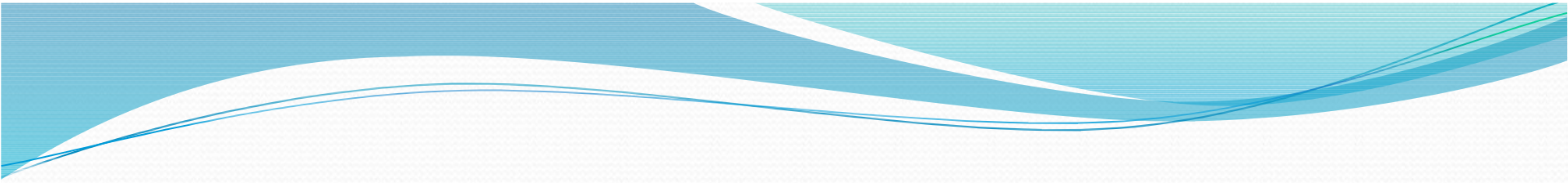
- Adenomatous –
 1. Tubular adenoma – cylindrical – most common and least malignant (<1% if <1cm)
 2. Tubulovillous
 3. Villous – infolding of papillary projections – rarest but most malignant (>50% if >2cm)
- <5mm – evidence to suggest these can be ignored/not reported as very unlikely to have malignancy potential

Differentiating Benign from Malignant polyps

- Size
- Presence of a stalk have less of a chance of being malignant than a sessile lesion (flat) of the exact same size
- Ulceration/dumpling is more consistent with ca
- Histology!

Reporting Cancer

- Primary tumour –
 1. Annular
 2. Ulcerating
 3. Polypoidal
 4. Villous
 5. Mucinous
- Locations – Caecum, ascending colon, hepatic flexure, transverse colon, splenic flexure, descending colon, sigmoid
- Length

- 
- Extension
 1. Confined to bowel wall ($T_{1/2}$)
 2. Through bowel wall (T_3)
 3. Into adjacent structures/peritoneum (T_4)
 - EMVI
 - Nodes – $N_1 \leq 3$ nodes $N_2 > 3$ nodes
 - Metastases

 - Summary – TNM EMVI

Pseudo-polyps

- Residual faecal material
 1. Tagged with contrast
 2. Mobile between supine and prone acquisitions
however be cautious as could be mobile bowel e.g.
caecal pole or a stalk
 3. Presence of contrast between “lesion” and bowel wall
 4. Presence of gas in “lesion”