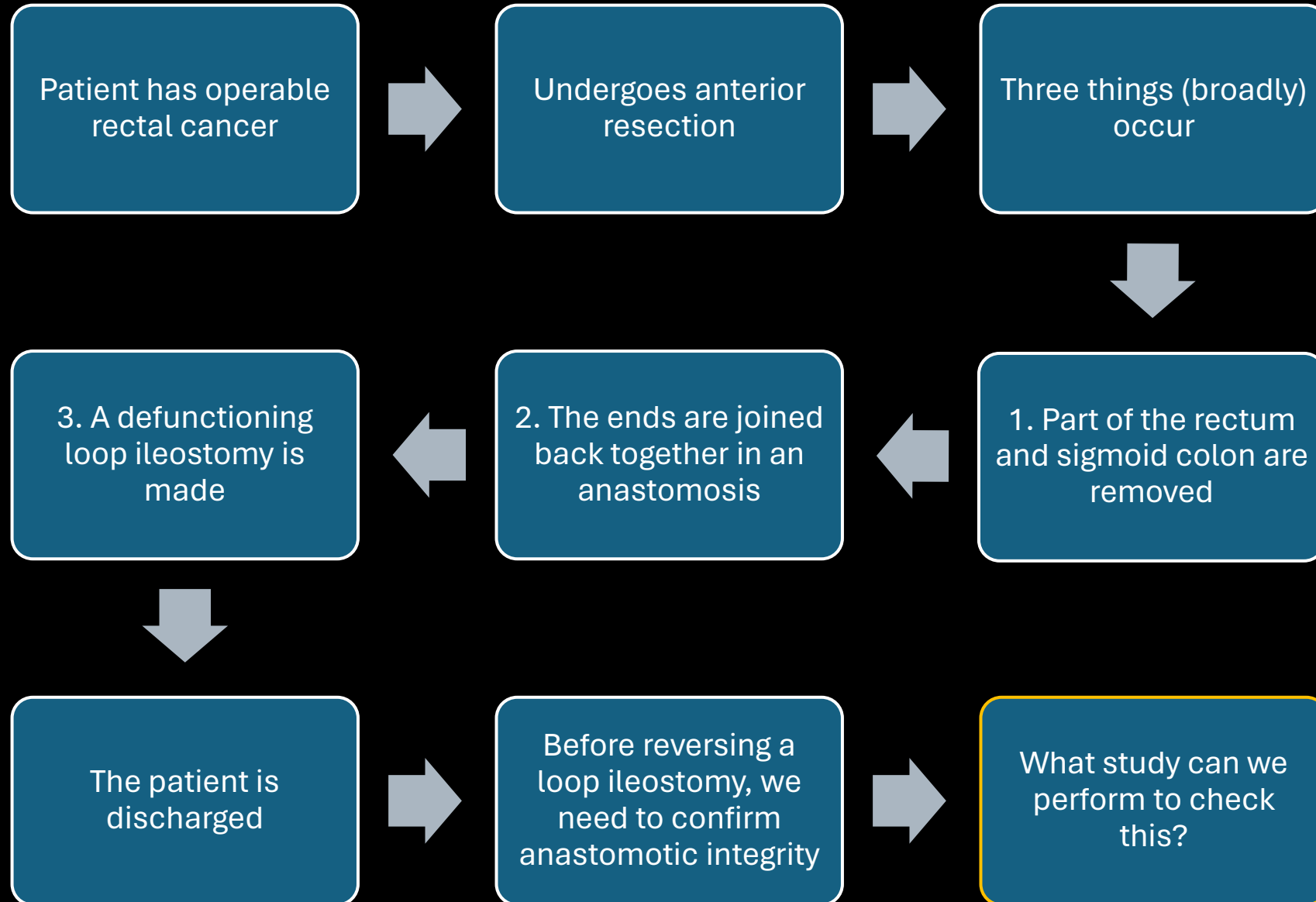


A single centre experience in the routine use of CT contrast enema for the evaluation of colonic anastomosis prior to reversal of ileostomy

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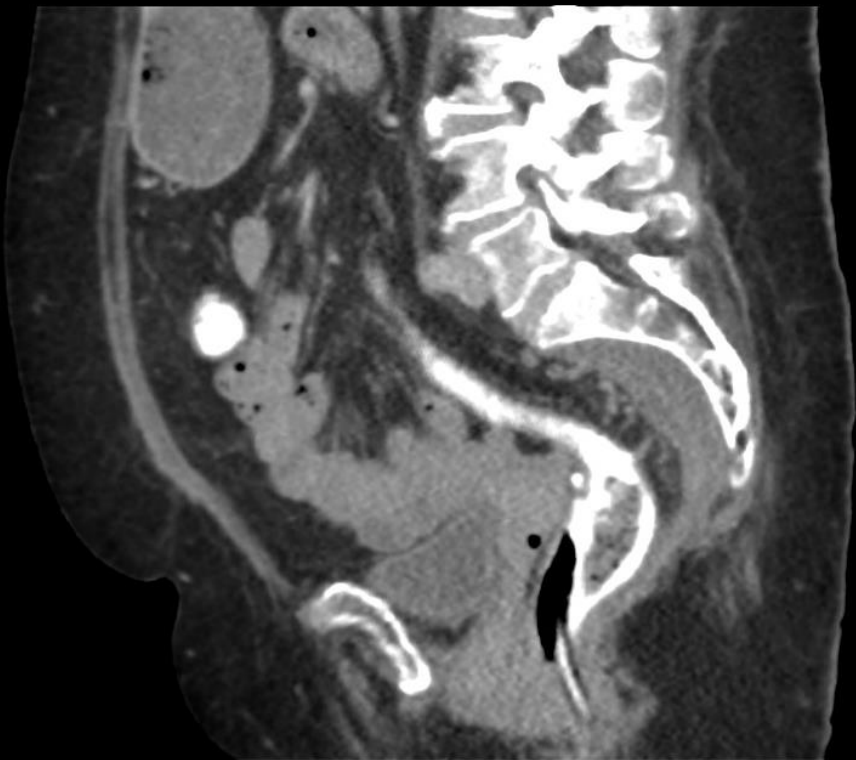
Institution: Sherwood Forest Hospitals Trust





Case courtesy of Mohammadtaghi Niknejad, Radiopaedia.org, rID: 181083

What study can we perform to check this?



In assessment of anastomotic integrity before reversal of the loop ileostomy, fluoroscopic examinations are commonly performed.

As part of our COVID response, we adopted CT contrast enema as part of routine assessment in lieu of the usual fluoroscopic approach.

Our aim with this quality improvement project was to identify the **sensitivity and safety profile of CT contrast enema** post anterior resection.

Consecutive CT contrast enemas were **retrospectively reviewed over seven years** by a radiology registrar (2017-2023).

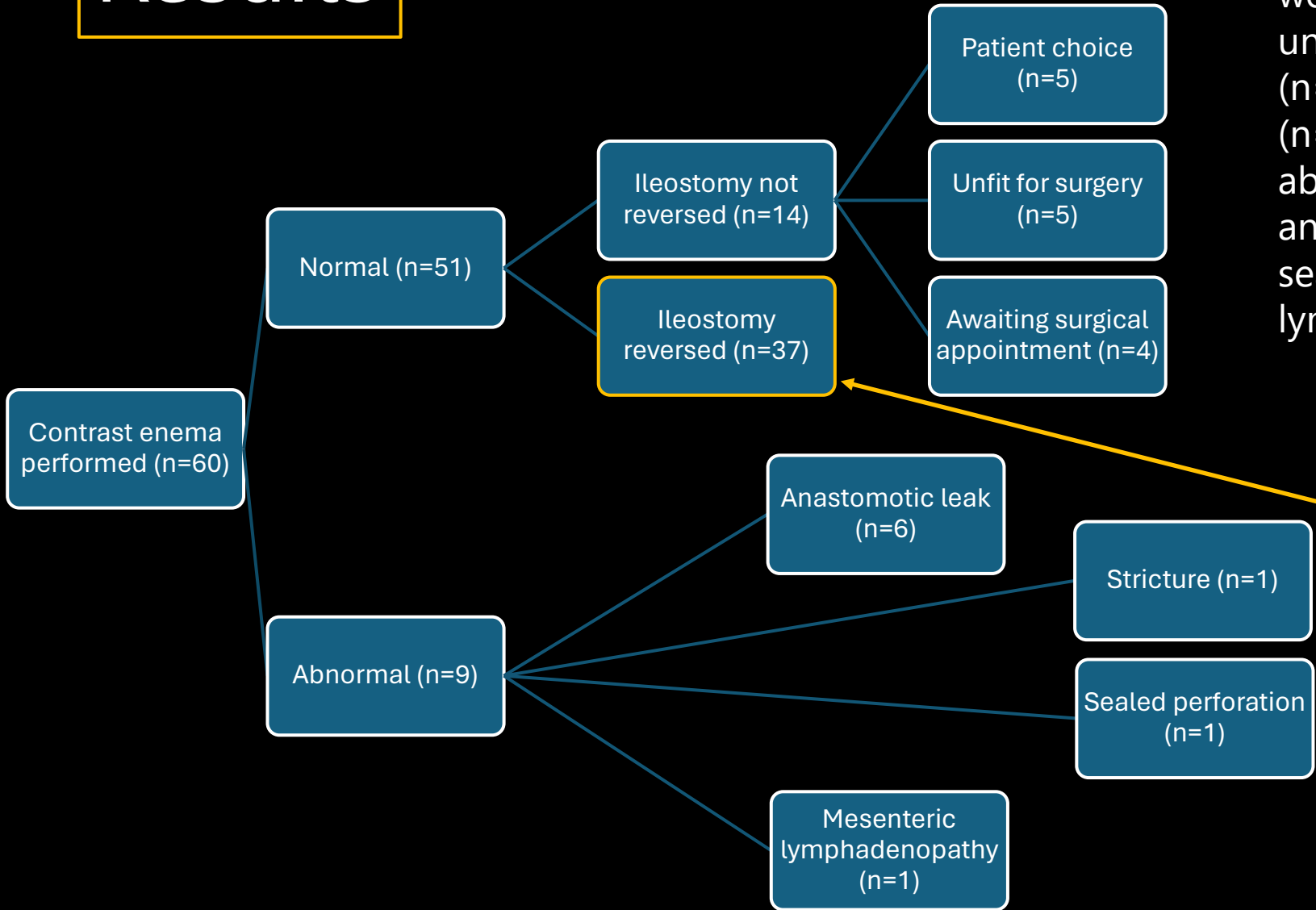
To follow up normal CT enemas, **hospital records were reviewed for elective ileostomy reversal and recovery status.**

Median radiation doses for CTs (n=17) were evaluated using dose management software. This was compared to median DAP recorded from a neighbouring radiology department of patients undergoing fluoroscopic enemas (n=49).

CT Contrast Enema protocol used

- Empty bladder
- Scan of pelvis prior to rectal contrast in order to look at the position of the surgical clips.
- Buscopan
- No IV contrast
- Scan of pelvis only after rectal contrast
- Rectal contrast is to be administered by a Colon Radiographer or a Consultant Radiologist

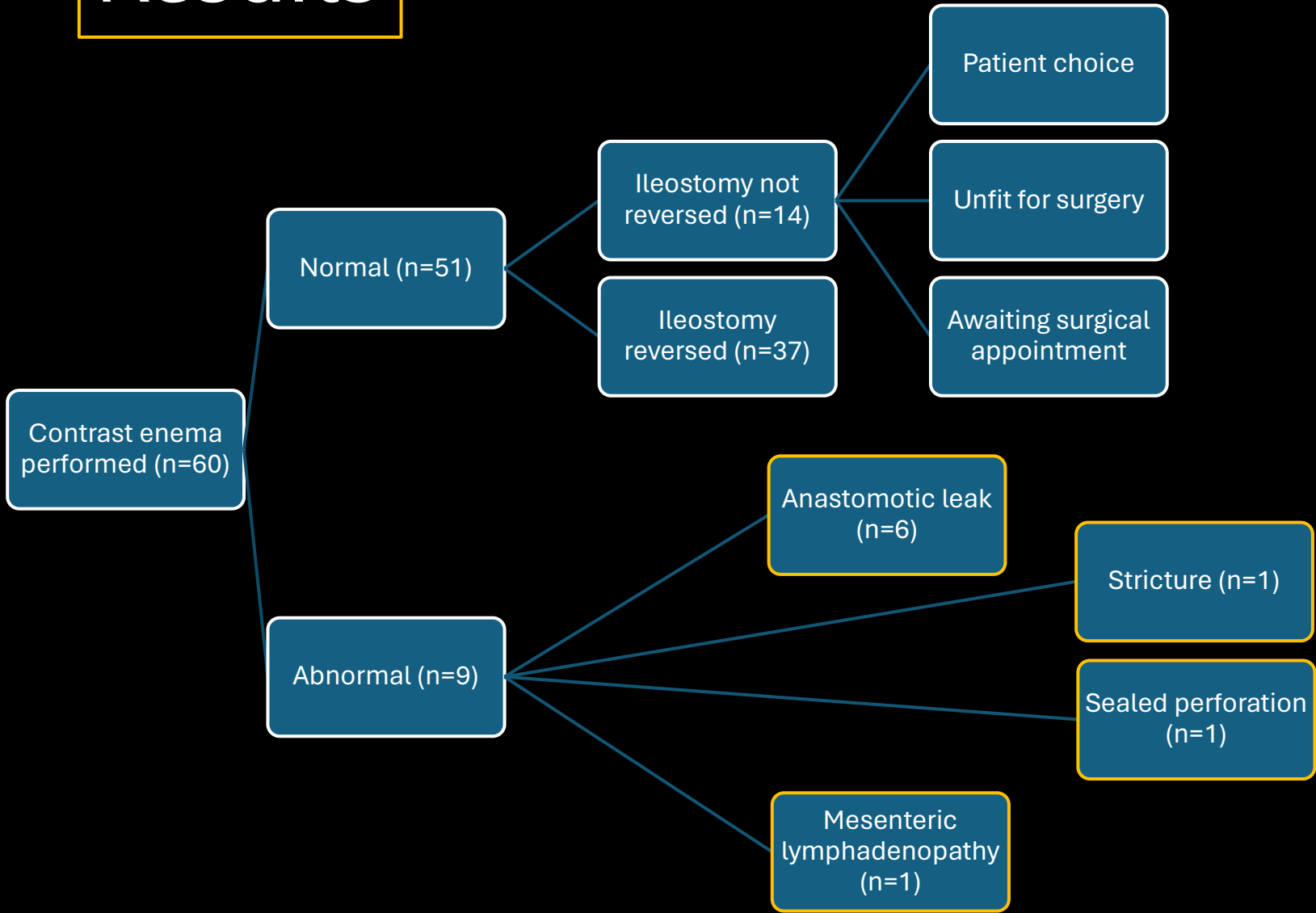
Results



Of the 60 CT enemas carried out, 51 were normal and of these 14 did not undergo reversal [unfitness for surgery (n=5), awaiting surgical appointment (n=5), or patient choice (n=4)]. The abnormal CT enemas included anastomotic leak (n=6), stricture (n=1), sealed perforation (n=1) and mesenteric lymphadenopathy (n=1).

All patients who underwent reversal following assessment by CT contrast enema showed no evidence of hospital readmission or poor recovery (n=37)

Results



The following slides are example cases of the abnormalities detected by CT contrast enema

Non-contrast



Presacral soft tissue thickening

Contrast



Contrast leak from anastomosis into presacral space

Conclusion: Anastomotic leak

Non-contrast

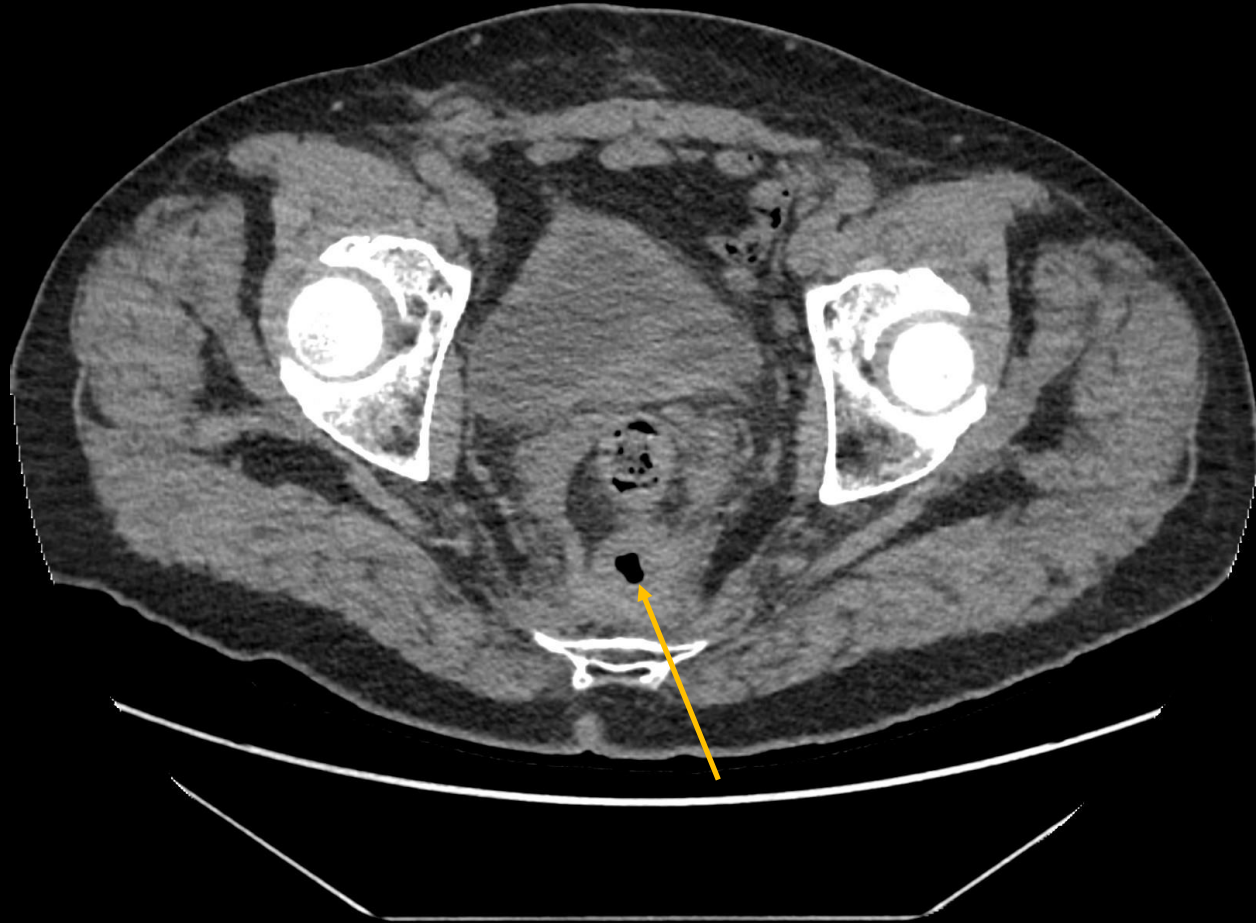
Contrast



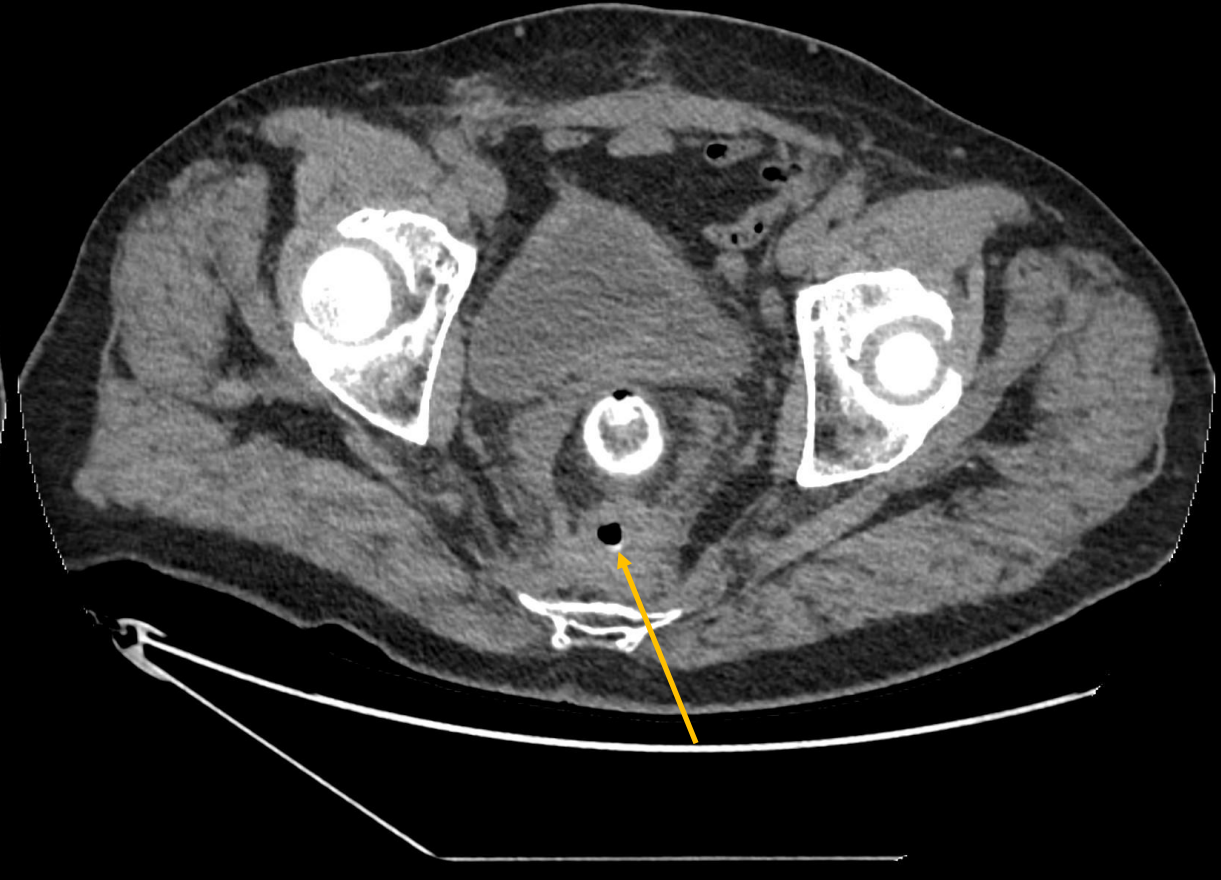
Gas containing presacral collection with which demonstrates contrast filling

Conclusion: Anastomotic leak

Non-contrast



Contrast



Gas containing presacral collection with which demonstrates contrast filling

Conclusion: Anastomotic leak



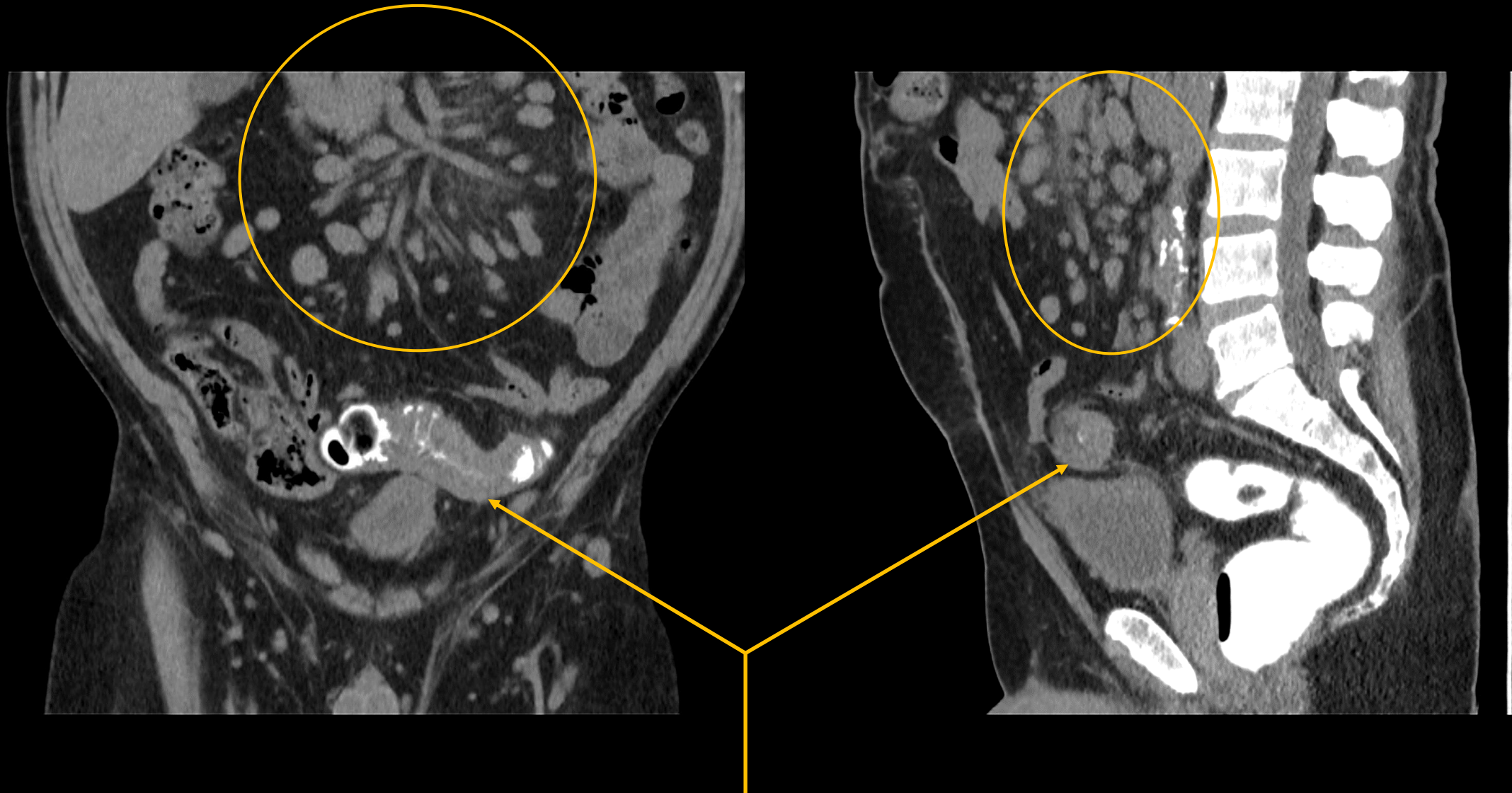
Anastomosis



Very little contrast passing into sigmoid colon despite rectum distended with contrast

Conclusion: Anastomotic stricture





Incidentally noted new mesenteric lymphadenopathy and narrowing of the sigmoid colon. On subsequent biopsy was found to be marginal zone lymphoma involving the sigmoid colon.

Dose

The median DLP for CT contrast enema studies was 610 mGycm (effective dose 10 mSv), DAP for fluoroscopy was 6 Gycm² (effective dose 0.25 mSv).

Conclusion

CT contrast enema is a safe and accurate modality for routine anastomotic integrity assessment prior to ileostomy reversal which can detect both luminal and extraluminal pathology.

By combining a CT enema with a routine staging scan, patient visits can be reduced as well as mitigating against the increased dose compared with fluoroscopy.