

# YIELD OF LOWER GI ENDOSCOPY PRIOR TO TRANSANAL IRRIGATION IN PATIENTS WITH SPINAL CORD INJURY

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## Introduction:

Over the last decade transanal irrigation (TAI) has emerged as an essential minimally invasive therapy for spinally injured people who do not respond to standard bowel care.<sup>1</sup> In a specialist spinal unit setting this amounts to approximately 50% of patients in whom this is the case.<sup>2</sup>

However, there are contraindications to the procedure (Table 1)<sup>1</sup>, and hence there is a potential need for colonoscopic evaluation prior to initiating TAI.

Colonoscopy requires bowel preparation with dietary restriction and use of potent laxatives, which can be difficult for spinally injured individuals with reduced mobility. Additionally, colonoscopy is costly and is associated with an approximately 1 in 2000 risk of perforation.<sup>3</sup> Flexible sigmoidoscopy requires only an enema preparation and is hence less inconvenient and risky than colonoscopy, although only half of the colon is visualised. The yield of these investigations in this patient cohort has not been previously established.

Table 2: Demographics of study cohort

|   | Colonoscopy (n=98) | Flexible sigmoidoscopy (n=77) | All endoscopy procedures (n=175) |
|---|--------------------|-------------------------------|----------------------------------|
| Sex                                     | 43f: 55m           | 32f: 45m                      | 75 f: 100m                       |
| Age [y] (range)                         | 54 (31-83)         | 45 (26-76)                    | 50 (26-83)                       |
| Supraconal injury: cauda equina         | 69:29              | 53:24                         | 122:53                           |
| ASIA levels A:B:C:D                     | 29:25:18:26        | 20:16:19:22                   | 49:41:37:48                      |
| Time since injury [y] (range)           | 13.9 (1 - 48)      | 12.8 (1 - 39)                 | 13.4 (1 - 48)                    |
| Duration of bowel symptoms [mo] (range) | 18.4 (3 - 144)     | 13.2 (2 - 48)                 | 16.1 (2-144)                     |

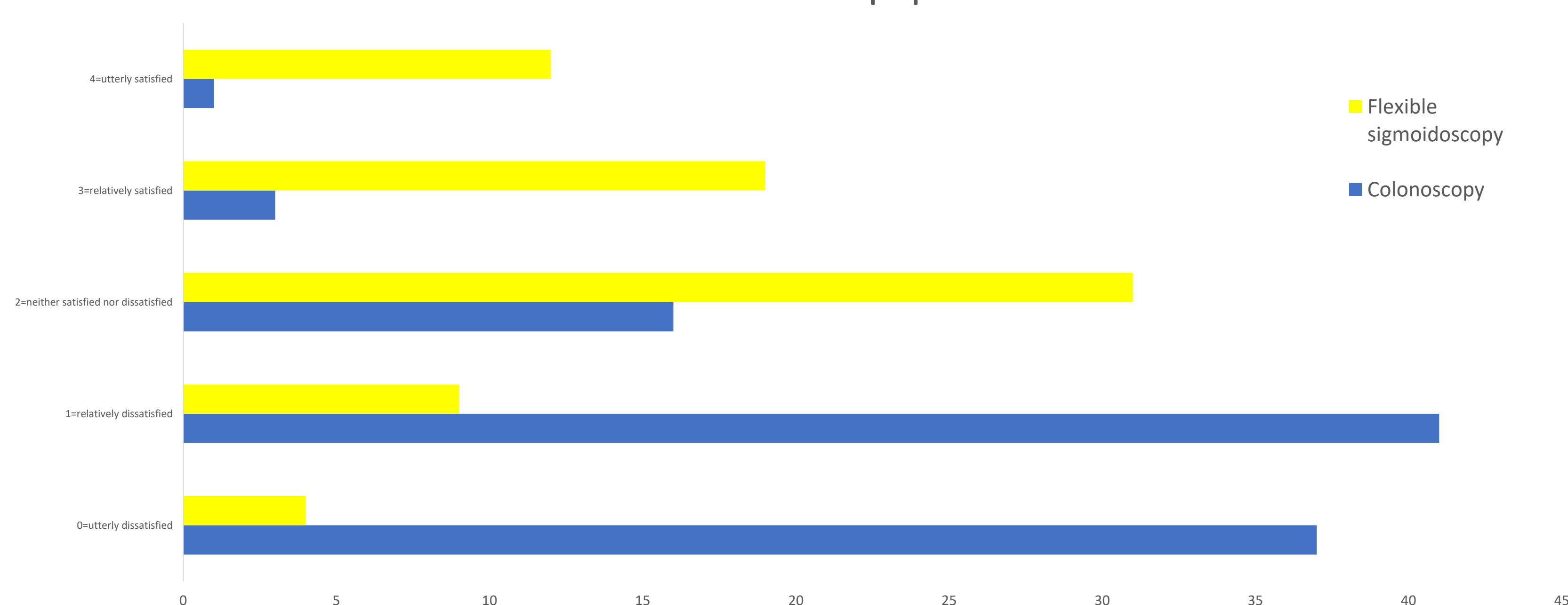
## Results:

175 (79%) endoscopic procedures were undertaken: 77 flexible sigmoidoscopy, 98 colonoscopy. These were undertaken on 169 patients, with 6 patients having both procedures.

Based on endoscopy findings, TAI was cancelled in 3% patients (5/175 = 2 colitis, 1 diverticulitis, 1 adenoma, 1 cancer) and deferred in 17% (30/175 = 24 adenoma, 3 fissure, 3 haemorrhoids). All but one lesion (a caecal adenoma) was in the left colon.

No perforation or severe haemorrhage occurred in any patient.

Satisfaction with endoscopic procedure



## Conclusion:

Lower GI endoscopy influenced TAI management in 20% of cases. Deciding on pre-treatment endoscopy should balance the risk of TAI-induced perforation with the risk and cost of endoscopy. Spinal injury patients find colonoscopy significantly more intolerable than flexible sigmoidoscopy. Since all but one lesion was identified in the distal colon, a flexible sigmoidoscopy may be preferable to colonoscopy.

Table 1: Contraindications to transanal irrigation (from Emmanuel et al, Spinal Cord 2013<sup>1</sup>)

| Absolute contraindication                   | Relative contraindication   |
|---|---|
| Anal or rectal stenosis                     | Severe diverticulosis:<br>Diffuse disease<br>Dense sigmoid disease<br>Previous diverticulitis or diverticular abscess<br>Long-term steroid medication |
| Active inflammatory bowel disease           | Radiotherapy to the pelvis<br>Prior rectal surgery<br>Faecal impaction  |
| Acute diverticulitis                        | Painful anal conditions   |
| Colorectal cancer                           | Current or planned pregnancy<br>Bleeding diathesis or anticoagulant therapy (not including aspirin or clopidogrel)<br>Severe autonomic dysreflexia    |
| Within 3 months of rectal surgery           |   |
| Within 4 weeks after endoscopic polypectomy |   |
| Ischaemic colitis                           |   |

## Method:

We reviewed the records of 221 (127 male; mean age 48 years, range 18-83) patients with spinal cord injury (mean time since injury 9.4 years, range 0.9-31) who commenced TAI.

Based on established risks<sup>3</sup>, at risk patients underwent endoscopic examination. The at risk symptoms were age >45, rectal bleeding, diarrhoea, weight loss, previous anorectal surgery, family history)

Patient-reported satisfaction with the procedure was assessed using a 5-point Likert scale where 0 = utterly dissatisfied and 4 = utterly satisfied.

Table 3: Endoscopic findings

|   | Colonoscopy (n=98) | Flexible sigmoidoscopy (n=77) | Lesions identifiable in distal colon |
|---|--------------------|-------------------------------|--------------------------------------|
|   | 56%                | 44%                           |                                      |
| Diverticulosis (n=32)                         | 18 (59%)           | 14 (41%)                      | 32 (100%)                            |
| Colonic adenoma (n=25)                        | 14 (56%)           | 11 (44%)                      | 24 (96%)                             |
| Grade I/II haemorrhoids (n=78)                | 39 (50%)           | 39 (50%)                      | 78 (100%)                            |
| Grade III/IV haemorrhoids (n=19)              | 10 (53%)           | 9 (47%)                       | 19 (100%)                            |
| Ulcerative colitis (n=2)                      | 1 (50%)            | 1 (50%)                       | 2 (100%)                             |
| Colorectal cancer (n=1)                       | 1                  | 0                             | 1                                    |
| TAI deferred due to endoscopy findings (n=30) | 17 (57%)           | 13 (43%)                      |                                      |
| TAI cancelled due to endoscopy findings (n=5) | 3 (60%)            | 2 (40%)                       |                                      |

## References:

- Emmanuel et al: Spinal Cord. 2013;51(10):732-8
- Emmanuel et al: PLoS One. 2016;11(8):e0159394
- Rees et al: Gut 2016;65:1923-1929