

# The effectiveness of colonic transit studies in the optimisation of the management of chronic constipation

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## Introduction/Background

Chronic constipation has been shown to lead to poor school performance and consequently deficiencies in education, as well as poor health-related quality of life.

In children who suffer from chronic constipation, colonic transit studies (CTS) are ordered by specialist services to provide information that aids clinical management decisions

## Aim

The aim of this audit was to evaluate the impact of CTS outcomes on clinical management decisions involving patients with chronic constipation. It also looked at the radiology reports of included transit studies, specifically at whether they included the number and location of radio opaque markers. The NICE guideline 'Constipation in children and young people: diagnosis and management' and The Royal College of Radiologists audit template 'Complete reporting of colonic transit marker studies' were used to determine best practice.

## Subjects and Method

A retrospective audit looking at the list of patients with chronic constipation who underwent CTS at Alder Hey Children's Hospital. Working backwards from November 2019, the first 100 patients who met inclusion criteria were selected. Included patients had to best knowledge conducted CTS in full and also had a clinic letter following completion of the study.

Management outcomes were grouped into 4 categories: decrease, no change to management, an increase of oral laxatives or an increase using management stronger than oral laxatives e.g. rectal medications or surgical interventions. Slow transit defined as >53 hours (sensitivity of 79% and a specificity of 92%). [1]

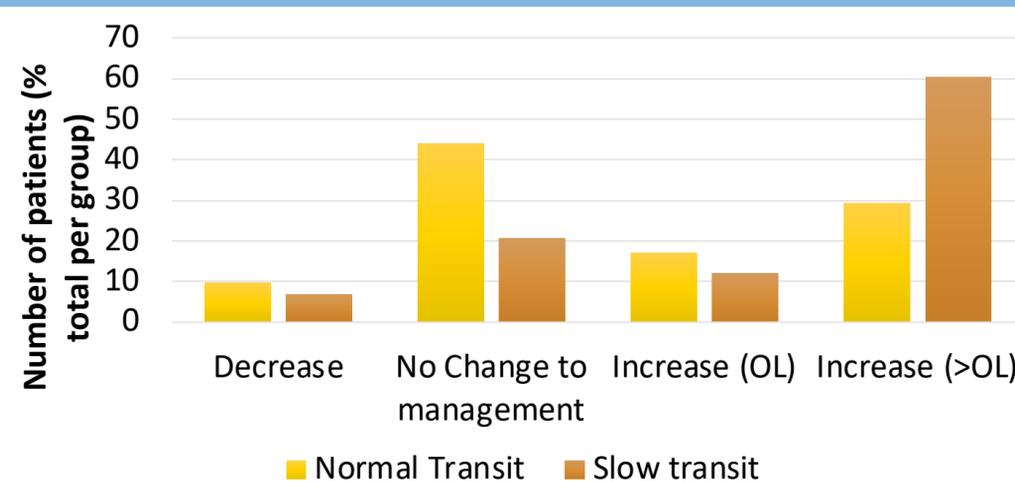


Figure 1: Effect of Colonic Transit Study Result on Management Outcome (OL= oral laxatives; >OL= rectal medications/Klean prep/surgical interventions)

## Results

The majority of included transit studies were requested by either paediatric surgery (n=71) or gastroenterology (n=20). Only 60% of CTS reports included both the number and location of markers and 13% included neither. There was a mean of 8 days from transit study to radiology report completion. The mean transit time was 72 hours, with a range of 0-144 hours. Management outcomes were varied for both normal and slow transit. Twice as many patients with slow transit were managed with therapies stronger than oral laxatives. Patients with normal transit time were over twice as likely to have no change to their management. A transit time of >100 hours resulted in almost 80% of patients being managed with treatment stronger than oral laxatives.

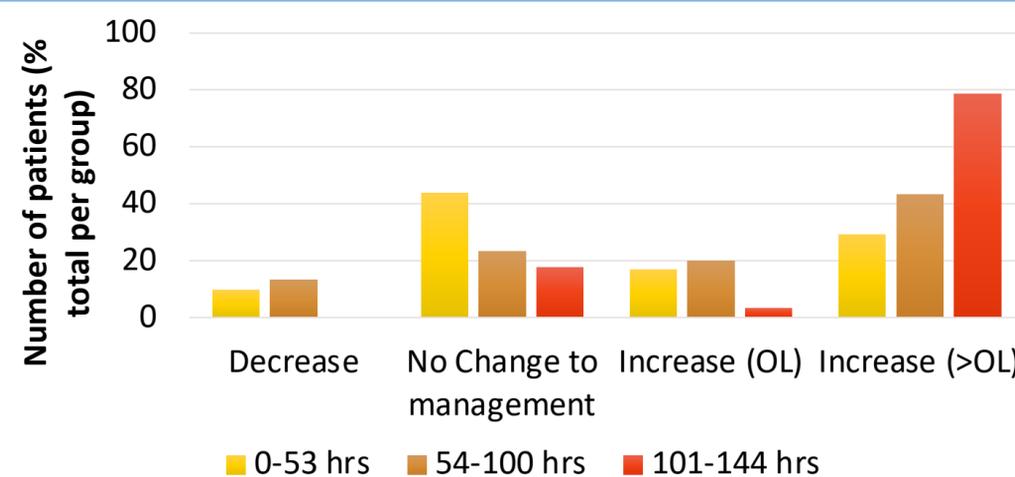


Figure 2- Effect of Colonic Transit Study time on Management Outcome

## Summary and Conclusion

There appears to be a trend towards escalating management with intensive combination treatment regimes in patients whose CTS suggested slow transit and especially in patients with transit times greater than 100 hours. The range of the management choices used in patients with normal transit do however illustrate that clinicians within Alder Hey are making clinical decisions based upon the wider clinical picture of the patient, which fits with NICE guidance.

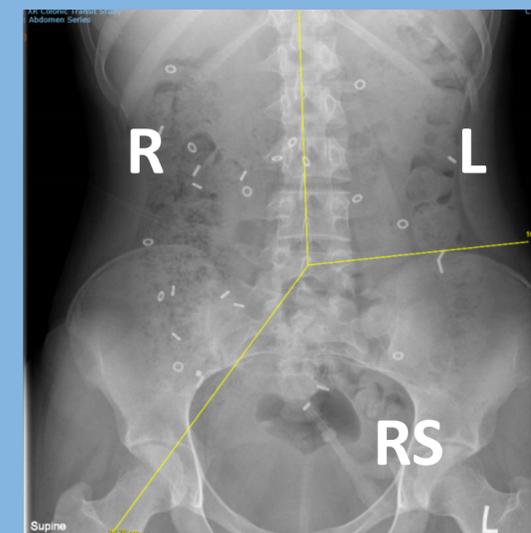


Figure 3: Colonic segments in abdominal X-ray (R- right colon; L- left colon; RS- rectosigmoid colon). Spinal processes and imaginary lines from fifth lumbar vertebra to right pelvic outlet and left iliac crest, serving as landmarks defined projection zones of right, left and rectosigmoid colon. [2,3]

## Recommendation

1. All CTS radiology reports should include the number and location of radio opaque markers.
2. The location of markers should be reported into 3 regions, right colon, left colon and rectosigmoid colon, as suggested by Arhan et al (see fig 3). [2,3]

## References

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