# Audit to assess adequacy of CT Colonography

**Descriptor:**

An audit to assess departmental CT Colonography protocols and adequacy of imaging.

**Background:**

Computed Tomographic Colonography (CTC) has replaced barium enema as the second line investigation in detection of colonic malignancy, where patients are considered unsuitable for colonoscopy or when colonoscopy is incomplete. However, there can be significant variability in performance across sites. Optimising technique is of high importance in producing reliable and high quality images.1

Standards for CTC procedure have been outlined by The NHS Bowel Cancer Screening Programme (NHSBCSP) and the International Collaboration for CT Colonography.2,1

## The Cycle

**The standard:**

Use of pre-procedure protocol including bowel preparation with faecal tagging.

Dual position scanning in supine and prone positions where possible, or lateral decubitus as an alternative.

Use of rectal catheter with balloon deflated on at least one series.

Insufflation of colon with carbon dioxide to produce sufficient colonic distension.

Administration of hyoscine butyl bromide to optimise colonic distension, unless contraindicated.

CT scans should be reviewed by an experienced radiographer before the end of the procedure to determine whether further scans are needed, for example insufficient insufflation or inadequate field of view.

**Target:**

100% of the standards should be met.

## Assess local practice

**Indicators:**

Adequacy of faecal tagging

Whether supine and prone studies obtained (or right and left decubitus as an alternative where patients unable to lie prone).

Correct catheter position

Catheter balloon inflation

Degree of colonic distension

Whether use of hyoscine butyl bromide recorded

Whether entire colon included on field of view (and whether supplementary images obtained if required)

**Data items to be collected:**

**Scan records to be checked for:**

Patient demographics

Did patient follow bowel prep instructions? [Y/N]

Hyoscine butyl bromide administered? [Y/N]

If no, was reason recorded? [Y/N]

**Both scan series reviewed for:**

Adequacy of faecal tagging - graded as follows:

Good (tagged faeces appears white on soft tissue windows)

Suboptimal (tagged faeces appears hyperdense to soft tissue but not white, or incomplete tagging i.e. tagging agent has not reached the distal colon)

Poor (tagged faeces isodense / hypodense to soft tissue)

Patient position (Supine, Decubitus, Prone)

Rectal tube position - correctly positioned on both series? [Y/N]

Balloon deflated on one series [Y/N]

Colonic distension, graded as follows:

Complete on both series

Complete between the two series (some areas of inadequate distention but adequately distended on the other series)

Incomplete (inadequate distension of certain areas of colon on both series)

If Incomplete, was reason a recorded e.g. frailty? [Y/N]

Field of view - Does it include entire colon? [Y/N]

If not, have additional images been obtained? [Y/N]

**Suggested number:**

100 consecutive patients - (if comparing results over two or more sites, data should be collected during the same time period).

**Suggestions for change if target not met:**

If faecal tagging is insufficient, the pre-procedure protocol may be reviewed.

Deliver teaching to radiographers performing CTC to educate on preferred patient position, field of view, accurate recording of hyoscine butyl bromide administration, rectal tube positioning and insufflation pressures.

Encourage radiographers to seek advice from CTC reporters at time of scan if there is uncertainty over the adequacy of a scan.

If colonic distention is poor on one or both scans, rectal tube balloon inflation can be reviewed.

If there is a significant difference in practice or results between two or more sites, consider a standardised protocol.

If changes are implemented, re-audit in 6-12 months to assess for improvement.

**References:**

1. NHS Cancer Screening Programmes. Guidelines for the use of imaging in the NHS Bowel Cancer Screening Programme, Second edition. NHSBCSP Publication No 5, Sheffield: NHS Cancer Screening Programmes, 2012. <https://www.gov.uk/government/publications/bowel-cancer-screening-imaging-use>
2. Burling D (on behalf of the International Collaboration for CT colonography Standards) CT colonography standards. Clin Radiol 2010; 65: 474–480.

**Editor's comments:**

Thank you for submitting this template to AuditLive.  The Reviewers have made a number of comments. Can you review these comments and make the suggested changes, then resubmit.  Please do so by 1/9/19.

Thank you

K Duncan

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