

IMAGING GUIDELINES - COLORECTAL CANCER

DIAGNOSIS

The majority of colorectal cancers are diagnosed on colonoscopy, with some being diagnosed on Ba enema, ultrasound or CT.

STAGING

CT chest, abdomen and pelvis for all patients. MR pelvis for rectal cancers (tumours within 15cm of the anal margin on rigid sigmoidoscopy).

CT

Body area: Thorax
Abdomen
Pelvis

IV contrast medium: Yes – thorax in arterial phase
abdomen & pelvis in portal venous phase

Oral contrast medium: Yes (positive)

MR

Body area: Pelvis

Suggested sequences: T2W sagittal. 3-5mm thick. Small (16cm) FOV.
(Localise tumour; assess height of tumour above anal verge and length of tumour)
(Assess pelvic disease outside mesorectum and nodes)

T2W axial. 3-5mm thick. Small FOV.
and/or
T2W oblique axial and coronal. 3mm thick. Small FOV.
(Assess tumour spread)

For low rectal tumours: T2W oblique coronal parallel to anal canal. 3mm thick. Small FOV

Notes

Repeat CT and MR imaging are recommended for patients who have had long course chemoradiotherapy for rectal cancer to restage the disease prior to surgery. MR should be performed between 6 and 8 weeks following completion of radiotherapy with surgery shortly thereafter.

REPORTING OF STAGING CT

Primary tumour

State: site of tumour

morphology - polypoid, sessile, annular, ulcerating

For low lesions give an indication of height above the anal verge or pelvic floor and involvement if present of levator floor and anus/ prostate/ vagina.

For sigmoid lesion comment on relation to pelvic structures (bladder/ uterus/ ovaries).

For right colonic lesions comment on relation to liver/ duodenum/ kidney.

Describe free peritoneal fluid and peritoneal or omental thickening.

Tumour not visible	Tx
Invades submucosa	T1
Invades muscularis propria	T2
Invades through muscularis propria into subserosa or non-peritonealised pericolic/perirectal tissues	T3
Invades other organs or structures and/or perforates visceral peritoneum	T4

Nodal status

Regional nodes: Caecum – ileocolic; right colic

Ascending – ileocolic; right & middle colic

Hepatic flexure – right & middle colic

Transverse – right, middle & left colic; inferior mesenteric

Splenic flexure – middle & left colic; inferior mesenteric

Descending – left colic; inferior mesenteric

Sigmoid – sigmoid; left colic; superior rectal; inferior mesenteric; rectosigmoid

Rectum – superior, middle & inferior rectal; inferior mesenteric; internal iliac;

mesorectal; lateral sacral; presacral; sacral promontory

Comment on nodes along draining vessels, in mesocolon, mesorectum >5mm.

Other

nodes generally >10mm significant.

Metastasis in 1 – 3 regional nodes

N1

Metastasis in >3 regional nodes

N2

Metastases

State specifically: non-regional nodes, lung, liver, bone, other **M1**

For liver lesions comment on number in each side of liver and segment numbers (inc. number per segment). If burden >10 lesions give indication of % liver replacement.

Other significant findings

Including presence or absence of hydronephrosis.

State final TNM stage

REPORTING OF STAGING MR (RECTUM)

Primary tumour

State: site of tumour – upper, mid or lower third
morphology - polypoid, sessile, annular, ulcerating, mucinous.

Tumour not visible	Tx
Invades submucosa	T1
Invades muscularis propria	T2
Invasion <1mm beyond muscularis	T3a
>1mm beyond muscularis	T3b
5-15mm beyond muscularis	T3c
>15mm beyond muscularis	T3d
into adjacent organs	T4a
through visceral peritoneum	T4b

Describe extramural margin: smooth, nodular, infiltrating

Describe other organs or structures involved.

State measurements:

length of tumour

distance to pelvic floor or anal verge

mesorectal fascia to: tumour

extramural venous invasion

satellite deposit

suspicious nodes

Nodal status

Comment on nodes along draining vessels, in mesocolon, mesorectum >5mm.

Other

nodes generally >10mm significant.

Metastasis in 1 – 3 regional nodes **N1**

Metastasis in >3 regional nodes **N2**

Metastases M1

State specifically: non-regional nodes, bone, liver (if included)

Other important information

Hydronephrosis Present / absent

Side

State final TNM stage

OTHER INVESTIGATIONS

Ultrasound

Endoanal ultrasound. This is optional for low rectal and anal tumours. This examination may be carried out when local excision of the tumour is deemed clinically possible.

FOLLOW UP

Intensive follow up after curative resection is only appropriate in patients who are fit and willing to undergo further treatment. The following has been proposed by the Colorectal CSG but has not been fully supported by the Imaging CCG in view of the lack of convincing evidence to support it:

- CT chest, abdomen and pelvis every 6 months for 3 years, then annually in years 4 and 5 especially if high risk of relapse.
- If regular CT follow up is not possible due to local imaging/manpower constraints, then alternate 6 monthly ultrasound and CT of the liver is also acceptable. This should be assessed at local MDT level, as less intensive follow up can be used for lower risk patients e.g. node negative patients.
- Patients receiving palliative chemotherapy have an initial 3-month course of treatment and will require CT before and after treatment with 6 monthly follow up CT as requested by the Oncologists.

RECURRENT DISEASE

Local recurrence will often have been identified on follow up CT in those patients under surveillance. In those presenting with symptoms, CT of the thorax, abdomen and pelvis is recommended. MRI is only necessary in those few patients where surgical eradication of local disease may be possible. PET CT is useful to distinguish recurrent colorectal cancer from fibrosis in the pre-sacral region.

Patients presenting with metastatic disease will generally require CT of the thorax, abdomen and pelvis if they are potential candidates for radical treatment or palliative chemotherapy. Liver biopsy should not be performed in suspected recurrent disease without further discussion with a regional hepatobiliary unit. PET CT scanning is indicated in those who are candidates for surgical excision of liver or lung metastases.