

## PATHOLOGY GROUP

# GUIDELINES FOR THE EXAMINATION AND REPORTING OF COLORECTAL CANCER SPECIMENS

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# 1 Introduction

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These guidelines for the examination and reporting of colorectal cancer specimens are supplementary to the following national guidance:

- Minimum dataset for colorectal cancer histopathology reports issued by the Royal College of Pathologists.
- UKCCCR Handbook for the Clinico-Pathological Assessment and Staging of Colorectal Cancer
- NICE guidance on cancer services : improving outcomes in colorectal cancers (May 2004 )

All colorectal cancer cases should be reviewed by a Colorectal Cancer multidisciplinary team which has a histopathologist as a core member. There should be a nominated Lead colorectal pathologist for the service but all pathologists reporting colorectal cancer specimens should participate in colorectal MDT meetings, in an appropriate EQA scheme and in local audit (including an assessment of consistency of reporting, as appropriate to the site). If there is a significant discrepancy with the clinical/radiological findings the pathological material from diagnostic colorectal specimens should be reviewed, if possible by a second pathologist with an interest in colorectal cancer.

All biopsy diagnoses of “flat” colonic epithelial dysplasia should be confirmed by a second pathologist with a GI interest before issuing a report. Their name will be included as the reviewing pathologist. Polypoid adenomas need not be reviewed routinely.

Specimens should be reported to an agreed timeframe so as to allow appropriate clinical decision making at a planned colorectal MDT meeting.

## 2 Specimen Types

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### **Diagnostic:**

Colonic and rectal biopsies  
Needle core biopsies (abdominal masses or liver metastases)

### **Therapeutic:**

Colectomy  
Anterior resection  
Total Mesenteric Excision of rectum (TME)  
Abdomino-perineal resection (APR)  
Trans anal resection of tumour (TART)  
Transanal endoscopic micro-surgery (TEMS) specimens  
Endoscopic mucosal resection (EMR) specimens  
Snare polypectomy

## 3 Specimen Examination

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Each pathology service should establish a defined protocol for each type of diagnostic and therapeutic colorectal specimen type received by the laboratory, taking into account the above guidance. The protocols should be regularly reviewed and updated by the Lead colorectal pathologist in consultation with other pathologists who participate in service delivery.

Colorectal tissue should only be removed and stored for the purposes of research if it is surplus to the requirements of the diagnostic process. Appropriate patient consent and ethical approval should be obtained.

Digital images of all radical surgical resection specimens are desirable, but following TME, either anterior resection or abdominoperineal resection, digital images are particularly important for audit purposes. As a minimum, the following images are recommended;

- An image of the mesorectal excision margin for purposes of surgical audit
- A cross section slice of tumour showing maximum penetration beyond the muscularis propria for radiological audit
- If the circumferential margin is involved, an image of showing the site of involvement for correlation with pre-operative imaging

# 4 Minimum Dataset For Reporting

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## Diagnostic specimens:

Tumour type  
Tumour grade

## Therapeutic resections:

### Colectomies, Anterior Resection and Abdominoperineal resections

#### Relevant RCPATH Dataset with local modifications

Specimen type  
\*Pre op radiotherapy  
Site of tumour  
\*Length of resection  
Maximum tumour diameter  
Distance from nearest cut end  
Presence of tumour perforation  
Relation to peritoneal reflection (rectal tumours)  
Distance from dentate line (APR only)  
\*Quality of TME (rectal tumours) i.e. on mesorectal fascia, within mesorectum, or reaching muscularis propria

Invasive tumour type  
Invasive tumour grade (by predominant grade)  
\* Tumour regression following radiotherapy, e.g Mandard grade  
Local invasion  
Distance beyond muscularis propria for pT3 and above  
Peritoneal spread  
Extramural vascular invasion  
Number of nodes examined  
Number of involved nodes  
Status of apical node  
Distance to circumferential margin  
Other relevant pathology (adenoma, synchronous carcinoma, FAP, UC or Crohn's)  
Dukes stage  
TMN staging system  
Whether resection complete

\*optional additions to RCPATH MDS

The dataset items should be reported in a proforma either within or instead of the free text part of the pathology report, or as a separate proforma. Departments and MDTs should work towards recording and storing the dataset items as individually categorised items in a relational database, so as to allow electronic retrieval and to facilitate the use of pathology data in clinical audit, service planning and monitoring, research and quality assurance.

## Polyps

Tumour type  
Tumour grade  
Depth of invasion  
Distance of tumour from resection margin  
Lymphatic or vascular invasion within stalk

Note; Some endoscopists in the region request Haggitt level:  
level 0 intramucosal,

level 1 confined to head of polyp,  
level 2 invades the neck of the polyp,  
level 3 invades the stalk,  
level 4 invades submucosa below level of stalk  
Haggit level cannot always be assessed on polypectomies, and there is not universal agreement on the utility of Haggit level, so this is currently a matter for local agreement.

#### **Other Endoscopic Resections (EMR, TART, TEMS)**

Tumour type  
Tumour grade  
Depth of invasion  
Distance from deep margin  
Distance from lateral margin, including orientation

Laboratories should use an agreed diagnostic coding system (eg. SNOMED).  
All malignancies must be reported to the Northern and Yorkshire Cancer Registry, in accordance with the service level agreement with their host Trust.

# 5 Grading and Staging Conventions

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**Dysplasia grading:**

Revised Vienna classification of gastrointestinal epithelial neoplasia

**Tumour grading:**

WHO invasive carcinoma grade system

**Tumour staging:**

TNM classification of malignant tumours.

(As agreed by the Royal College of Pathologists and the Pathology section of the British Society of Gastroenterology, staging will continue to be based on the 5th edition and not the 6th)

Dukes stage

## 6 Use Of Ancillary Laboratory Techniques

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All laboratories providing a Pathology service in the network must have at least conditional laboratory (eg CPA) accreditation and ensure participation an appropriate external quality assurance programme which demonstrates atisfactory laboratory performance.

Immunohistochemical procedures which may be of value include the following:

<b>Diagnostic scenario</b>	<b>Immunohistochemical markers</b>	<b>Notes</b>
Intra-abdominal malignancy ? primary	CK7, CK20, CEA, CA125, TTF1, S100, PSA, CK19, CDX2	
Neuroendocrine differentiation	CD56, Synaptophysin, Chromogranin	TTF1 if metastatic cancer being considered
GIST	CD117, CD34, Desmin, SMA, S100	
Epithelial dysplasia	p53	
Genetic screening for mismatch repair genes	h-MLH1, h-MSH2	If requested by the Genetics Department

# 7 Audit

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All pathologists reporting colorectal cancer specimens should participate in a relevant EQA scheme and in local audit (including an assessment of consistency where more than one pathologist participates in service provision). Audit may take the form of

- review of compliance with procedures for specimen examination and reporting
- completeness of datasets
- systematic logging of diagnostic agreement/disagreement during review of cases for MDTMs
- review of diagnostic consistency between pathologists using data from cases in EQA circulations or blind circulations
- participation in regional audit as organized by the Network Site Specific Group

The results of the audit process should be discussed with all pathologists who participate in service delivery and used to inform the development of reporting protocols.

# 8 Referral for Review or Specialist Opinion

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## 8.1 Referral for treatment

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All patients referred for treatment at a hospital within the Yorkshire Cancer Network following diagnosis elsewhere must be reviewed and discussed at the treating hospital's multidisciplinary team meeting (MDTM).

The complete diagnostic pathology report must be available at the MDTM, and when appropriate, the histological/cytological material should be reviewed prior to the meeting. This is particularly important if there is a significant discrepancy with the clinical/radiological findings. Pathological material should be requested at least 5 working days before and received at least 3 days before the relevant MDTM to allow sufficient time for review.

A formal report should be issued by the reviewing pathologist to the responsible clinician at the treating hospital. The results of the review should be sent to the original pathologist, either by copy of the review report or by letter.

Where patients have been referred for oncology treatment, requests for specialist biomarker studies will be co-ordinated between the treating oncology service, their local pathology service and the referring hospital's pathology service, as appropriate. The oncology service must agree a mechanism for requesting tests and the relevant pathological material with their local pathology service. Requests for pathological material should be made in good time to ensure that results are available at the MDTM where the patient is to be discussed.

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## 8.2 Referral for specialist opinion

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All colorectal lymphomas should be referred to the Haematological Malignancy Diagnostic Service for phenotypic analysis and confirmation of diagnosis.

In cases of diagnostic difficulty, referral may be made to the lead pathologist of the relevant specialist MDT in the network, although referral to other specialists within or outwith the network is equally appropriate in individual cases. Cases referred for individual specialist or second opinion will be dealt with by the individual pathologist and a report issued by them. Where relevant, tissue blocks should be made available to allow any further investigations that are deemed appropriate. The result of the review should be communicated to the referring pathologist by letter and also by fax/telephone as appropriate.

In instances when the patient is referred for a opinion by a specialist multidisciplinary team the case should be referred to the Lead Pathologist of the appropriate MDT and dealt with according to specialist team/Cancer Centre MDT guidelines.

## 9 References

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