**Purpose**

To establish a procedure on how to gross colons for malignant neoplasms. Note that staging is the most important determinant of prognosis in colorectal cancer, and accurate staging is dependent on careful grossing.

**Procedure**

Two options are available for studying the colorectum, which depend on the size and location of the tumor and the status of the specimen when it is received in the accessioning area.

Open the bowel longitudinally through its entire length, after palpating it carefully to outline the tumor. Try not to cut through the tumor. However, some tumors will be circumferential, so it will be necessary to cut through them.

Photograph the gross specimen, preferably in the unfixed state.

**Description**

Part of bowel removed, length of specimen.

Location of tumor: Specify location as to cecum, ascending, transverse, descending, sigmoid colon, or rectum. Some tumors will cross the junction between sigmoid colon and rectum and are designated as having a rectosigmoid location. Defining the tumor as to the distance from one margin or another is not satisfactory for conveying location, but may help with assessing margin status (below).

Size (including thickness), circumferential extent and other characteristics

Shape (fungating, flat, ulcerating)

Presence of necrosis or hemorrhage

Depth into or through bowel wall: submucosa, muscularis propria, involvement of serosa, or beyond

Satellite nodules (nodules of tumor in the pericolonic fat that are not contiguous with the main tumor mass)

Invasion of adjacent organs.

Distance of tumor to ano-rectal junction, to peritoneal reflection, and to each margin of resection. For retroperitoneal and rectal tumors, cover the deep margins with 4 colors of ink. This will be circumferential inking for rectal tumors, because this deep margin is the **radial margin**. **Note: Please see separate cutting manual entry for rectal cancers. These will be grossed differently!**

Other lesions, such as polyps, and appearance of uninvolved mucosa.

Estimate the number of lymph nodes and note size of largest node.

***Sections for Histology***

* Tumor. Several sections from the proximal and distal edges of the tumor, and the area of deepest invasion. For rectal, the deep (radial) margins are critical for predicting postoperative recurrence; these tumors are usually removed via an APR, however (see that section of the grossing manual).
* Bowel margins of resection only if within 2 cm of the tumor; otherwise do not sample these margins.
* **Appendix including tip, if present.**
* Lymph nodes: around tumor, distal to tumor, proximal to tumor, at high point of resection (areas surrounding the vessels' ligation).  The grosser must submit ALL lymph node candidates.  There is a minimum of 12 lymph nodes that need to be submitted for staging purposes, but **ALL** must be submitted.
* **Staging of colon tumors with multiple primaries in the same resection:** 
  + If the specimen has more than one tumor, please try to designate in the block description, to the best of your ability, which segment the lymph nodes are from.
  + For example: “lymph nodes near mass 1 (transverse colon)” v. “lymph nodes near mass 2 (rectum)”.

***Sample Dictation***

1. “Right colon”, Received in a large container filled with formalin is a right hemicolectomy specimen consisting of: terminal ileum (4.0cm length x 2.5cm diameter), colon spanning from cecum to hepatic flexure (22.0 cm length x 5.5 cm diameter), appendix (4.8cm length x 1.0cm diameter), mesentery, mesoappendix and mesocolon.

Arising within the cecum is a 5.2 x 2.4 x 1.2 cm sessile mucosal tumor with heaped up borders located 4.7 cm from the proximal ileal margin, 0.7 cm from the ileal cecal valve and 18.0 cm from the distal colonic margin. The tumor invades through the colonic wall and into the mesocolon, 1.2 cm from the nearest radial margin.

The remaining colon, terminal ileum and appendix are all grossly unremarkable. Multiple possible lymph nodes are identified ranging from 0.2cm up to 1.3cm.

Inking code: Serosa and mesocolon radial margins = Blue

A1-A4. Tumor within cecum including greatest depth of invasion. 1ss each

A5. Tumor to uninvolved colon. 1ss

A6. Appendix including tip. 3ss

A7-A13. 5 possible lymph nodes in each cassette. 5ns each