**Background**

Gastrointestinal Stromal Tumor (GIST) is the most common mesenchymal tumor of the stomach. GIST is believed to arise from the cell responsible for peristaltic contractions in the gastrointestinal tract, referred to as the interstitial cell of Cajal. GIST is usually a well-circumscribed intramural mass and can be submucosal, bulging into the lumen, or subserosal. The tumor is somewhat firm to soft, with tan and fleshy cut surfaces. GIST often does not exhibit the whorled pattern characteristic of other smooth muscle tumors, such as leiomyoma and leiomyosarcoma. Focal hemorrhage is common; necrosis and cystic degeneration is typically only seen in larger tumors. Treatment generally consists of partial gastrectomy and sometimes adjuvant drug therapy.

**Procedure**

1. Shave off the proximal and distal staple lines and apply ink to the cut surfaces, taking care to avoid the mucosa. These surfaces will be considered resection margins.
2. Open the stomach along the greater curvature. If tumor is arising within the greater curvature, open along the lesser curvature.
3. If feasible, pin the stomach out on a foam board and fix overnight in formalin.
4. Measure the length of the greater and lesser curvatures, the circumferences of the proximal and distal resection margins, and the thickness of the wall.
5. Examine and describe the outer surface. Document any evidence of transmural invasion, such as induration, retraction, and nodularity of the serosa and perigastric adipose tissue. If possible, apply ink to these areas.
6. Record the anatomic location of the tumor as well as its relative location to the margins. Describe the tumor’s size, color, shape, and consistency. Is the mucosa overlying the tumor attenuated or ulcerated?
7. Describe the uninvolved mucosa.
8. Take at least 1 section per centimeter of the tumor, making sure to sample areas that appear different from the rest. Your sections should demonstrate the tumor’s extent of invasion as well as its relationship to adjacent normal tissues. Submit the tumor entirely if requiring 4 cassettes or less to do so.
9. If the tumor is close to a resection margin, submit a perpendicular section of the tumor to the margin where it comes closest.
10. If the tumor is far from a margin, submit the margin en face in its own cassette(s).
11. Take representative sections of normal tissue from different regions of the stomach.
12. Remove the perigastric fat, except directly overlying the tumor, and dissect and palpate for lymph nodes. Record the number of lymph nodes and measure the size of the largest node. Is there any gross evidence of nodal metastasis?
13. Submit all nodes. If lymph nodes are markedly enlarged and grossly positive, submit 1 representative section.

**Sample Dictation**

A. “body of stomach” Received in formalin is a partial gastrectomy specimen with attached perigastric adipose tissue. The stomach measures 8.8 cm and 4.0 cm in length along the greater and lesser curvatures, respectively. The proximal and distal resection margins measure 9.2 cm and 13.4 cm in circumference, respectively. The gastric wall is 0.5 cm thick.

The specimen is remarkable for a 3.3 x 2.5 x 2.5-cm, well-circumscribed, intramural mass with tan, fleshy, focally hemorrhagic cut surfaces, located on the anterior wall and coming to within 1.2 cm of the proximal resection margin and 3.0 cm of the distal resection margin. The mass involves the full thickness of the wall, abuts and focally ulcerates the mucosa, and abuts and attenuates the serosa.

The serosa is pink, smooth, and glistening. The uninvolved mucosa is tan-pink, smooth, and glistening with a normal rugal folding pattern. No additional discrete lesions or abnormalities are seen. Seven lymph node candidates are identified, the largest measuring 0.5 cm in greatest dimension.

Inking code: blue = proximal resection margin, green = distal resection margin.

Cassette summary:

A1. Perpendicular section of mass to proximal resection margin (1ss)  
A2-4. Remainder of mass, with overlying attenuated serosa in A2, ulcerated mucosa in A3, and adjacent uninvolved wall in A4 (1ns ea.)  
A6 & 7. Distal resection margin—shaved, quadrisected, and submitted en face (2ns ea.)   
A8. Two representative full-thickness sections of uninvolved stomach (2ss)  
A9. Five intact lymph node candidates (5ns)  
A10. Two bisected lymph node candidates—one inked blue (4ns)

**References**

Kumar V, Abbas A, Fausto N. *Robbins and Cotran Pathologic Basis of Disease*. Seventh Edition. Philadelphia, PA: Elsevier Saunders; 2005.

Lester SC. *Manual of Surgical Pathology*. Second Edition. Elsevier Churchill Livingstone; 2006.