

GISTs: Surgery Basics

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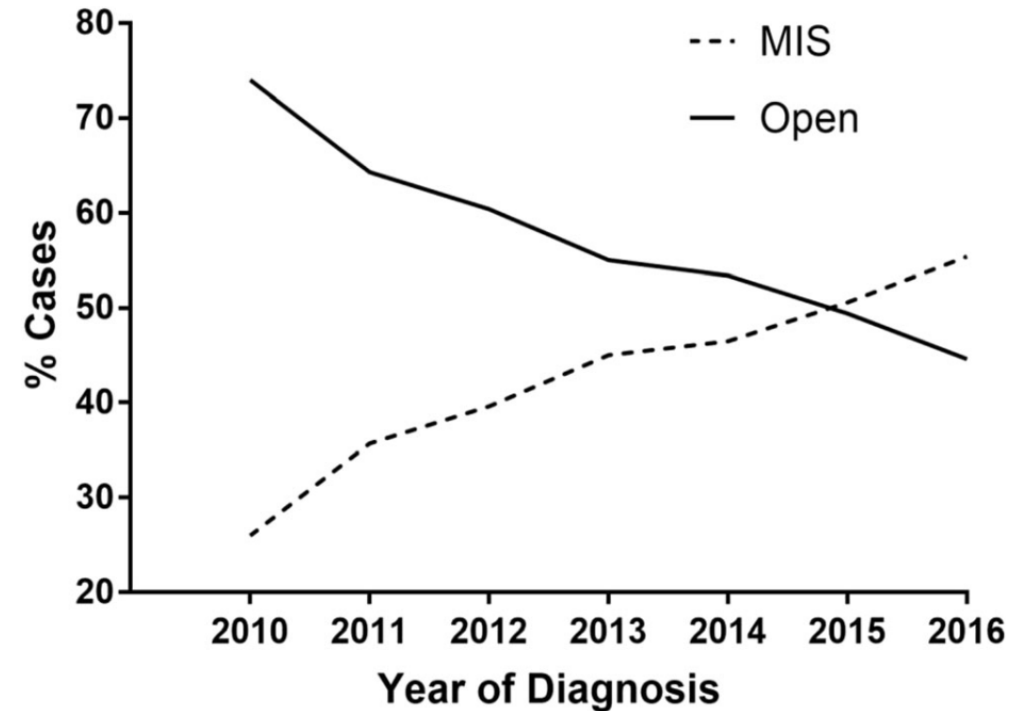
Surgical Oncology Program

National Cancer Institute, NIH



Surgical Approach

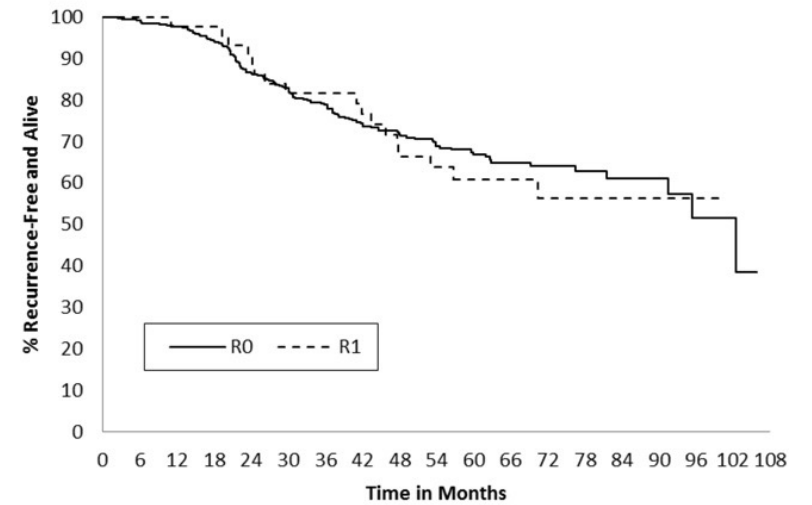
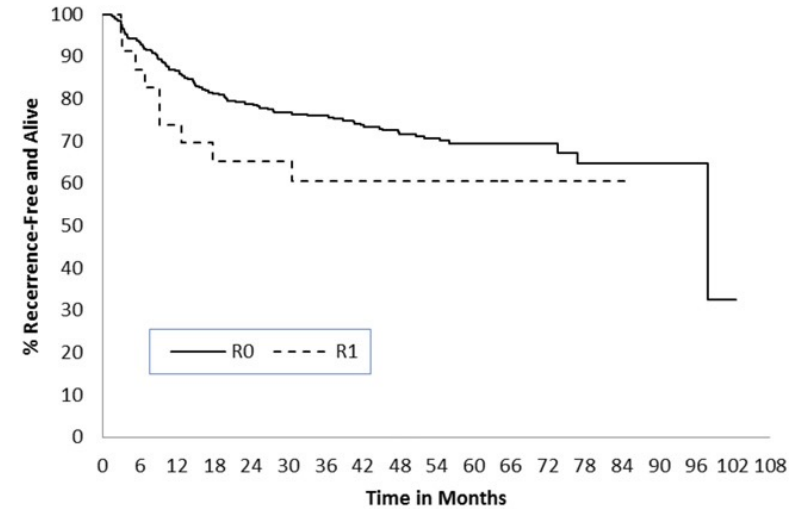
- Laparoscopic/robotic resection may be considered
 - No second primary or extra-gastric spread
 - Tumors ≤ 5 cm in diameter
 - Body of stomach, along greater curve



Tumor Resection: Margins

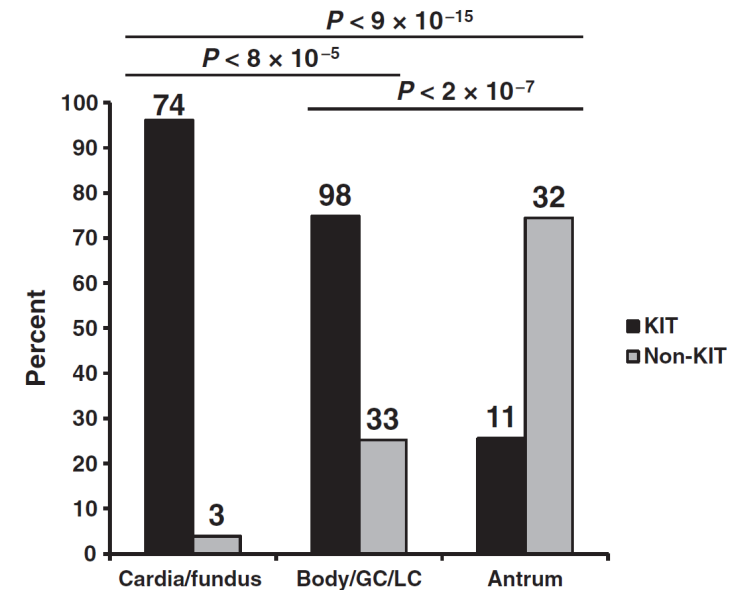
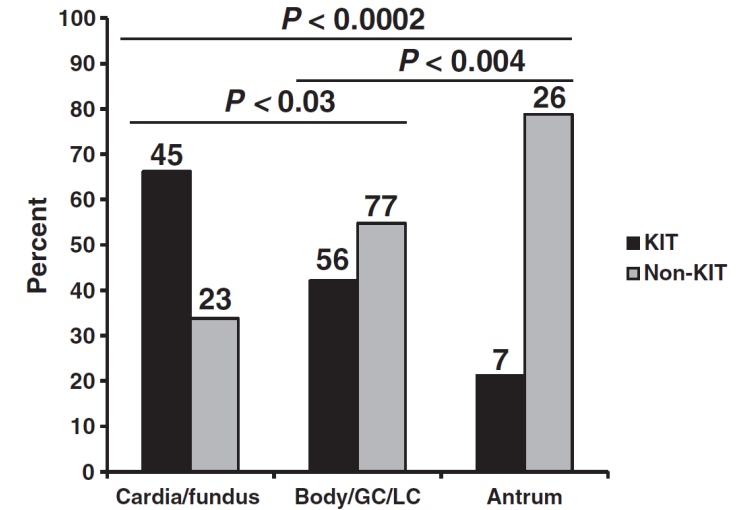
- Goal should be negative (R0) margin
- Microscopic positive (R1) margin
 - Decreased recurrence-free survival
 - Similar overall survival
 - No clear benefit of re-resection for R1 margin

KIT mutant GIST; placebo (top), adjuvant imatinib (bottom)



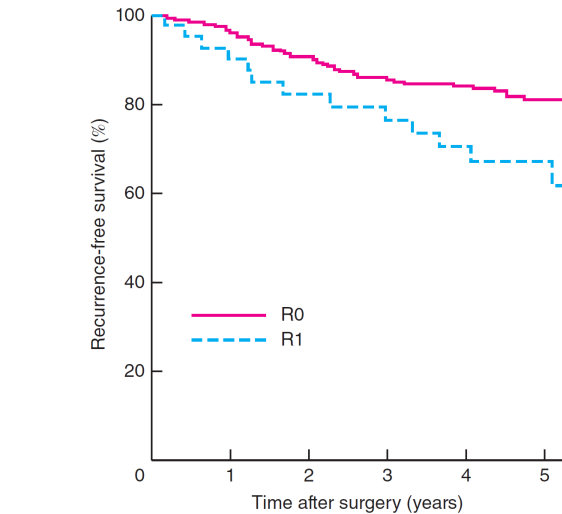
Tumor Resection: Extent

- Extent of resection determined by anatomy
 - Proximity to esophagus or pylorus
- Multifocality more likely in wild-type
- Possible role of risk reduction



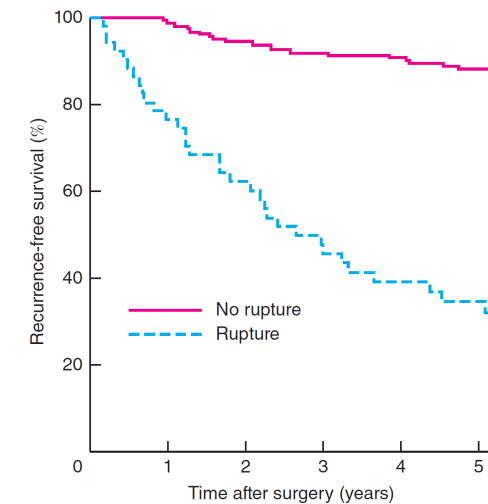
Specimen Handling

- Utmost importance to avoid rupture
 - Handle tissues adjacent to tumor
 - Preserve pseudocapsule
 - Avoid morcellating, even in retrieval bag



No. at risk

	0	1	2	3	4	5
R0	363	298	236	183	157	108
R1	47	36	30	26	22	13

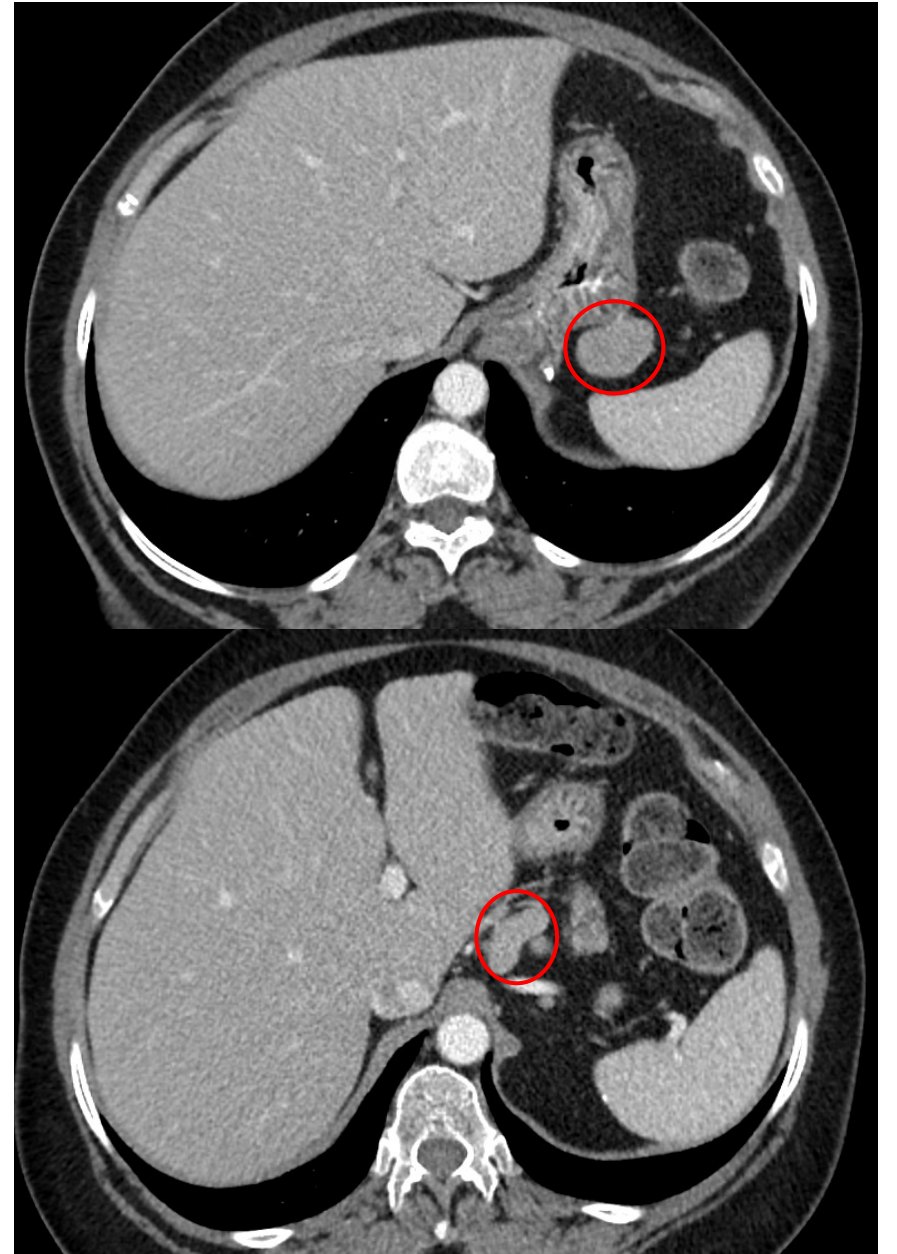


No. at risk

	0	1	2	3	4	5
No rupture	358	295	236	187	161	106
Rupture	52	39	30	22	18	15

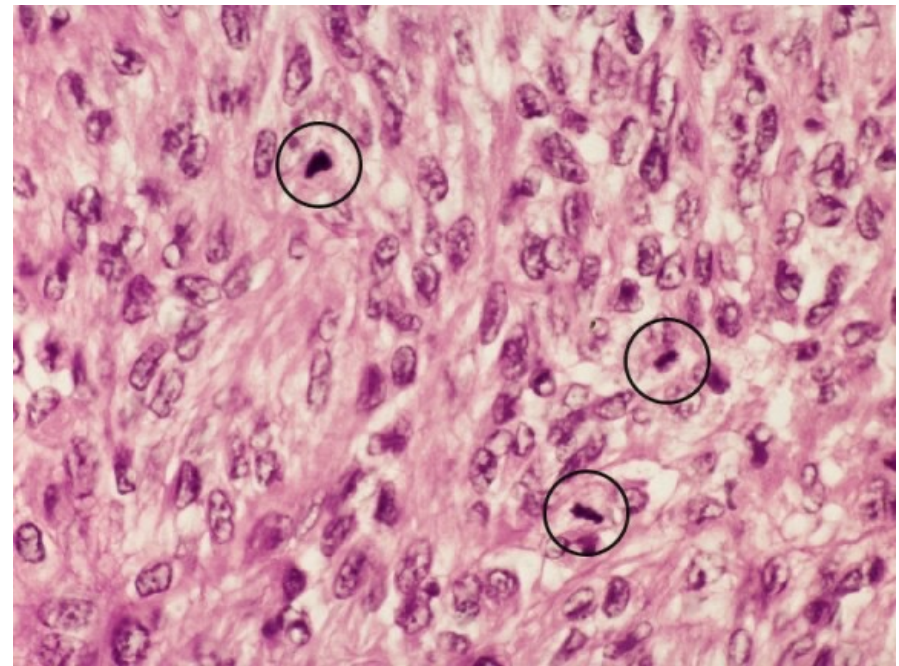
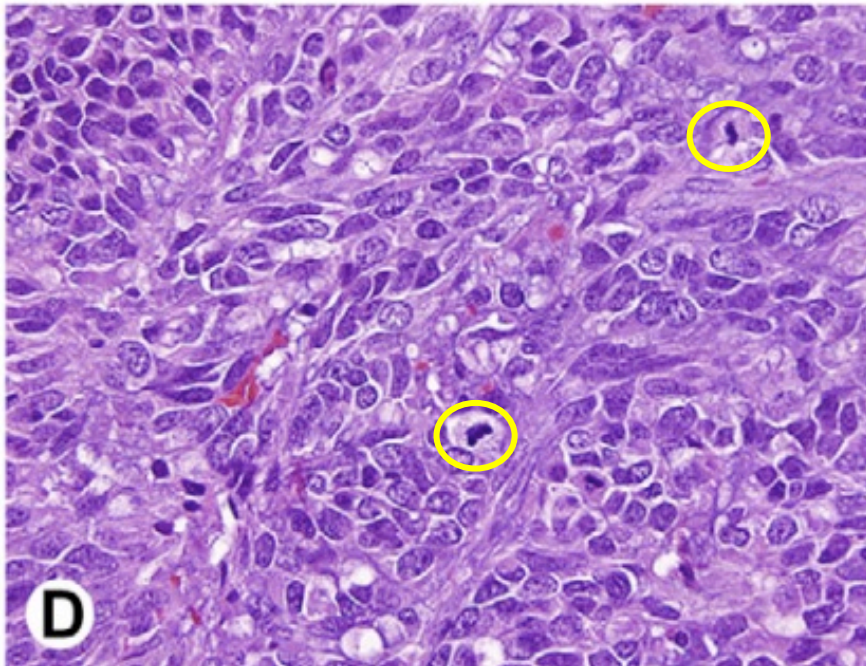
Role of Lymphadenectomy

- Lymph node involvement
 - Very uncommon in non-wild-type
 - Rather common in wild-type
 - Rare outside of abdomen/pelvis
- Selective regional lymph node resection



Tumor Grading

- Mitotic rate: mitoses per 50 high-power fields or 5 mm²



Risk of Recurrence

Prognostication of GIST of different sites by tumor size and mitotic rate based on follow-up studies of more than 1700 GISTs prior to imatinib

Tumor Parameters			Percentage of Patients with Progressive Disease During Long-term Follow-up and Quantitative Characterization of the Risk for Metastasis			
Group	Size	Mitotic Rate	Gastric GISTs	Small Intestinal GISTs	Duodenal GISTs	Rectal GISTs
1	≤2 cm	≤5/50 HPFs	0 none			
2	>2 ≤5 cm		1.9 (very low)	4.3 (low)	8.3 (low)	8.5 (low)
3a	>5 ≤10 cm		3.6 (low)	24 (moderate)	34 (high) ^a	57 (high) ^a
3b	>10 cm		12 (moderate)	52 (high)		
4	≤2 cm	>5/50 HPFs	0 ^a	50 ^a	^b	54 (high)
5	>2 ≤5 cm		16 (moderate)	73 (high)	50 (high)	52 (high)
6a	>5 ≤10 cm		55 (high)	85 (high)	86 (high) ^a	71 (high) ^a
6b	>10 cm		86 (high)	90 (high)		