

G.I. Tumor Saturation Survey

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Purpose: To explore sensitivity of Visible Light Spectroscopy (VLS) to detection of local gastrointestinal tumors.

Materials and Methods: Human subjects during routine endoscopy.

Results: 19 tumor subjects and 15 non-tumor abnormal subjects were measured, with normal values collected in other regions from all 34 subjects. Normal tissue saturation differed from tumor ($p = 0.00011$) but did not differ from other abnormal tissues such as polyps ($p = N.S.$).

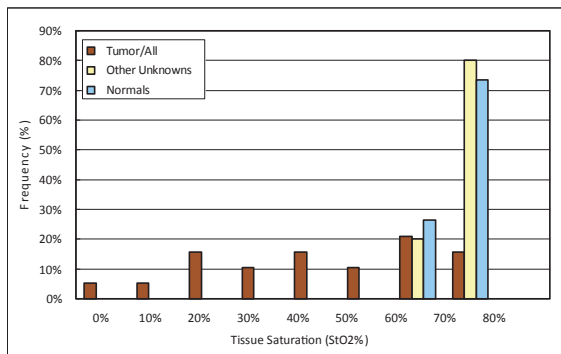


Figure 1: The tissue saturation of tumors, non-tumor unknowns, and normal tissue. Normal tissue saturation differed from tumor saturation ($p=0.00011$)

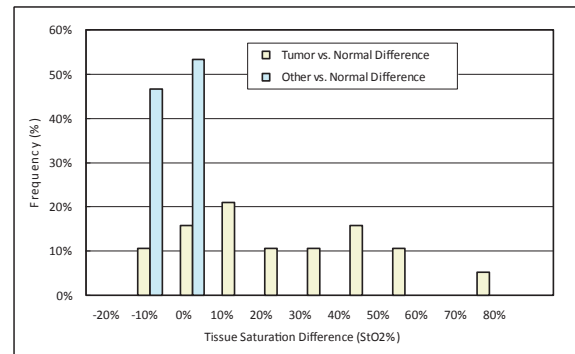


Figure 2: The saturation difference between normal tissue and both tumors and non-tumor abnormalities.

Tissue	Saturation	Paired Difference from Normal	(n)	p-value
Normal	72 ± 4%	---	34	---
Tumor	46 ± 22%	26 ± 23%	19	0.00011
Non-Tumor	72 ± 5%	1 ± 5%	15	0.46 (N.S.)

Figure 3: The mean saturation values are shown

Conclusion: VLS oximetry distinguishes tumor from non-tumor on average, with a high specificity but low sensitivity.