Computer Assisted Detection of Lesions in Volumetric Medical Images

Techniques for acquiring medical image data by rendering 3D models of an object from such data and allowing the operator to view the virtual object are well known. The ability to have the colon interior examined using non-invasive medical images methods as opposed to conventional invasive techniques can enable the procedure to become more widely used leading to earlier detection of cancerous polyps.

Benefits:

- Non-invasive
- Improvement in polyp and lesion detection
- Analysis and estimation of likelihood that suspicious regions are actual polyps

A computer assisted detection method for the recognition of suspicious locations of lesions in volumetric medical images has been developed.

The method includes the extraction of the contour of a virtual object, such as colonic lumen, geometry feature analysis of the contour, detection of suspicious regions, such as polyps based on geometry features. It also includes analysis of other features on the polyp volume and the estimation of likelihood that a suspicious region relates to a real polyp.

Applications:
- Computer aided medical examinations, i.e. virtual colonoscopy

Patents / Publications:
- U.S. Patent 7,596,256

Donna Tumminello
Assistant Director
Office of Technology & Industry Relations
631-632-4632
Donna.Tumminello@stonybrook.edu