

# **Computer-aided diagnosis for CT colonography**

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## **Abstract:**

CT colonography, or virtual colonoscopy, is a promising alternative screening tool for colon cancer. Computer-aided diagnosis (CAD) for CT colonography has the potential to increase radiologists' diagnostic performance in the detection of polyps and to reduce variability of the diagnostic accuracy among readers. Technical developments have advanced CAD for CT colonography substantially during the last several years. This paper describes the key techniques used for CAD for detection of polyps and masses in CT colonography, the current detection performance, and challenges and the future of CAD.

## **Advantages:**

The ultimate goal of CAD is to improve the performance of radiologists in the detection of polyps and masses, thus establishing sensitivity and specificity is only the first step in the evaluation of the benefit of CAD. CAD must be shown to improve the performance of radiologists.

## **Disadvantages:**

CAD algorithms depend on a shape analysis that assumes that polyps appear to have a cap-like shape, i.e., they appear as polypoid lesions. But some like, sessile polyps that do not protrude sufficiently into the lumen, whose shape is significantly deviates from polypoid, or those that lose a portion due to the partial volume effect, may be missed by CAD.