

# COMPUTER-AIDED DETECTION (CAD) IN COLORECTAL CANCER SCREENING.

## ABOUT COMPUTER-AIDED DETECTION (CAD).

With increasingly sophisticated radiological imaging hardware such as Multi-Detector CT scanners, radiologists are facing a growing challenge in the amount of detailed patient image data that they must review for each patient examination. Some CT scan examinations generate as many as 2000 images per patient. Review of this data by the radiologist is not only time-consuming but also prone to error due to reader fatigue. CAD software can help the reviewing radiologist by analyzing the image data and automatically highlighting suspicious regions of interest for closer inspection. Without CAD software some potential abnormalities or areas of disease may be overlooked. This can be critical for diagnosis and the management of patient outcomes as early detection of disease greatly increases the probability of successful treatment and a positive therapeutic outcome. In addition to supporting individual radiologists CAD also has the potential to help standardize CT interpretation across both individuals and institutions thereby supporting population based screening programs.

## ABOUT MEDICSIGHT'S® CAD SOFTWARE.

Medicsight's ColonCAD™ software uses an advanced CAD algorithm to analyze CT scans of the colon and automatically highlights suspicious areas that may be indicators of disease. CAD may highlight areas easily overlooked by the reviewing radiologist, such as small lesions or regions that are hidden from view behind folds in the colon.

ColonCAD™ seamlessly integrates with the advanced 3D visualization platforms of industry-leading imaging equipment partners. The integrated systems provide sophisticated image viewing capabilities, including 3D reconstructed image data, with the added advantage of demonstrating automatic CAD findings to assist clinical end users in the detection and analysis of disease. This allows clinical end users to perform either a 'second read', where CAD findings are displayed to the user after completion of an initial review of the CT scan data, or a 'concurrent read' where CAD findings are displayed during the user's initial review of the original CT scan images.

Since inception, Medicsight has developed close and lasting relationships with some of the world's foremost clinicians in product related areas. This provides the Company with a wealth of clinical expertise and dedicated clinical research to support ongoing product development. Medicsight also collaborates with a number of leading academic institutions and clinical research programs worldwide to develop the Company's comprehensive database of population diverse verified patient CT scan data, thus allowing Medicsight's products to be validated to the highest possible standards.

## GOLD-STANDARD VALIDATION.

Medicsight's CAD systems are developed using a large population-diverse, verified CT scan database of real clinical cases containing proven lesions. This data is used to calibrate the system based on mathematical models and enables CAD to more effectively distinguish between true lesions and normal structures (e.g. vessels in the lung or haustral folds in the colon). The performance of the CAD software is then subjected to ongoing re-evaluation in order to fine-tune its sensitivity for the detection of lesions. Medicsight's rigorous and comprehensive gold-standard validation process should give reassurance and confidence to radiologists that CAD will help them make a more reliable, accurate diagnosis.

*\*FDA Clearance Pending.*

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