



Recent Publications

Scan-Rescan Variability in Perfusion Assessment of Tumors in MRI Using Both Model and Data-Derived Arterial Input Functions.

By Edward Ashton, PhD, David Raunig, PhD, Chaan Ng, MD, Fredrick Kelcz, MD, Theresa McShane, DVM, PhD, and Jeffrey Evelhoch, PhD Journal of Magnetic Resonance Imaging, (JMIR) Volume 28, Number 3, September 2008

Precision of 3.0 Tesla quantitative magnetic resonance imaging of cartilage morphology in a multi-center clinical trial. Eckstein F, Buck RJ, Burstein D, Charles HC, Crim J, Hudelmaier M, Hunter DJ, Hutchins G, Jackson C, Kraus VB, Lane NE, Link TM, Majumdar LS, Mazzuca S, Prasad PV, Schnitzer TJ, Taljanovic MS, Vaz A, Wyman B, Le Graverand MP; A9001140 Study Group. Ann Rheum Dis. 2008 Dec;67(12):1683-8. Epub 2008 Feb 18. PMID: 18283054

Upcoming Events

7th Annual Partnering with Central Labs, ECG, & Imaging Labs January 26-28, 2009 Red Rock Casino Resort and Spa Las Vegas, NV www.partneringwithlabs.com

Orthopaedic Research Society (ORS) 55th Annual Meeting February 22-25, 2009 Sands Expo Convention Center Las Vegas, NV www.ors.org

VirtualScopics Quantitative Imaging Seminar for Oncology Trials February 10, 2009 Courtyard by Marriott 600 Campus Drive Collegeville, PA 19426

VirtualScopics Quantitative Imaging Seminar for Oncology Trials February 11, 2009 Sheraton Newark Airport Hotel 128 Frontage Road Newark, NJ 07114

Ask Ed:

What is the value of observer variability and adjudication metrics in clinical trials?



Ed Ashton, PhD Chief Scientific Officer VirtualScopics, Inc.

No matter what you are measuring, it is vital to know the uncertainty in your measurement. This is particularly true in clinical trials, since the uncertainty in each measurement relates directly to the power of the study. The ideal way to assess the uncertainty in an imaging endpoint is to conduct a scan-rescan study. This allows the calculation of a coefficient of variability (CoV - the standard deviation of the repeated measurements divided by their mean) describing the summed uncertainty for all parts of the imaging chain. However, scan-rescan studies are not always practical. In the absence of this sort of data, it is often assumed that the bulk of the measurement variability is due to the observer, and that estimating observer variability will provide a good estimate of the total uncertainty in the imaging endpoint.

How observer variability is assessed depends on the type of measurement that is being taken. In the case of continuous variables (maximum SUV, tumor volume) a CoV based on repeated measurements of the same data sets by two or more readers is a good estimate of observer variability. In the case of categorical variables (RECIST classification, subjective scoring) it makes more sense to look at the rate of disagreement between observers. In either case, it is important to understand that the goal of monitoring these metrics should not be to drive observer disagreement to zero, since an abnormally low observer variability rate can be as troubling as an abnormally high one, potentially indicating a lack of reader independence. The goal should rather be to understand as completely as possible the uncertainty in each measurement and therefore the confidence that should be placed in the conclusions of the study.

VirtualScopics announces Schedule of 2009 Seminars in Quantitative Imaging for Oncology Trials

Based on the positive feedback and success of the Quantitative Imaging for Oncology Trials Seminars we conducted in 2008, we are announcing two new dates for seminars we will host in early 2009.

We invite you to attend a FREE 1/2 day seminar on February 10, 2009 in Collegeville, PA and on February 11, 2009 in Newark, NJ exploring the benefits and hidden pitfalls of selecting and implementing quantitative imaging in multi-site oncology clinical trials.

Sign up now to learn more about the latest trends in integrating functional imaging techniques including DCE-MRI, FDG-PET, and FLT-PET into your oncology trials as well as structural measurements including tumor volume, RECIST, and radio density with CT and MRI.

www.virtualscopics.com/event-calendar.aspx

VirtualScopics to co-present with a leading biopharmaceutical company at the 7th Annual Partnering with Central Labs, ECG, & Imaging Labs Conference January 26-28, 2009



Jeff Markin President & CEO VirtualScopics, Inc.

How Continuous Improvement and Targeted Metrics Yield Dramatic Gains for Sponsors And Imaging Core Labs

Monday January 26, 2009 2:30 pm - 3:15 pm

www.partneringwithlabs.com