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## Cleveland Clinic Unveils Top 10 Medical Innovations for 2011

Hospital Experts Predict Ten Emerging Technologies That Will Shape Health Care Next Year



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CLEVELAND, Nov. 3, 2010 /PRNewswire/ -- From pill-sized cameras to radioactive compounds that let doctors "see" inside a patient's brain, Cleveland Clinic's Top 10 Medical Innovations for 2011 showcases new techniques, therapies and approaches to treating a host of diseases.

The list of breakthrough devices and therapies was selected by a panel of Cleveland Clinic physicians and scientists and unveiled during [Cleveland Clinic's 2010 Medical Innovation Summit](#).

The Top 10 Medical Innovations for 2011 are:

**10. Capsule endoscopy for diagnosis of pediatric GI disorders:** A pill-sized camera captures 50,000 high-resolution images during its painless six- to eight-hour journey through the digestive tract, proving better than x-ray at detecting small bowel ulcerations, polyps and areas of bleeding.

**9. Oral disease-modifying treatment for multiple sclerosis:** Before fingolimod was approved by the FDA this year, MS drugs had to be injected or infused on a regular basis. This oral medication effectively stops T-cells from attacking the myelin sheaths that cover nerve fibers.

**8. Exhaled nitric oxide (NO) breath analysis for diagnosing asthma:** A new hand-held diagnostic testing device measures a patient's level of exhaled NO, which is a biomarker for asthma. Monitoring NO levels allows doctors to more accurately tailor treatment strategies.

**7. Transoral gastroplasty, or TOGA:** A new experimental weight-loss option for obese patients who want to lose weight and improve their health without undergoing major surgery. This "scar-less" procedure represents a significant improvement in minimally-invasive bariatric surgery and losses approaching 40 percent of excess body weight can be expected within a year.

**6. Telehealth monitoring for heart failure patients:** Miniature implantable monitors to measure pulmonary artery pressure daily and at-home devices to monitor weight, heart rate and blood pressure of heart failure patients allow doctors to adjust medication quickly, improving patient outcomes and quality of life, while reducing re-hospitalizations.

**5. Hepatitis C protease-inhibiting drugs:** Two drugs awaiting FDA approval treat hepatitis C using protease inhibitors, which work by blocking a key enzyme that viruses need to copy themselves and proliferate. In clinical trials, cure rates for the protease inhibitors are higher than current hepatitis C treatments, with fewer side effects.

**4. JUPITER study and statins for healthy individuals:** The JUPITER (Justification for the Use of Statins in Primary Prevention: an Intervention Trial Evaluating Rosuvastatin) trial pointed out for the first time that many seemingly healthy people are at higher risk for heart disease than previously thought, suggesting that statins should be prescribed even to people with low LDL (bad cholesterol), if they have high C-reactive protein levels.

**3. First therapeutic cancer vaccine approved by the FDA:** While not a cure for prostate cancer, sipuleucel-T is the first cancer vaccine to receive FDA approval. Prescribed to men with advanced prostate cancer, the drug coaxes their own immune systems into attacking and removing the cancer, reducing the risk of death by 24 percent compared to placebo.

**2. Anti-CTLA-4 drug (ipilimumab), a targeted T-cell antibody for metastatic melanoma:** The effectiveness of ipilimumab in treating melanoma confirms the role of immunotherapy as an effective treatment. In patients with advanced stage III or IV melanoma, 23 percent were still alive after two years compared to 14 percent of patients who received standard treatment.

**1. New molecular imaging biomarker for early detection of Alzheimer's disease:**

Currently, positive diagnosis of Alzheimer's is only possible upon autopsy. But a radioactive molecular imaging compound called AV-45 and a PET scan can allow doctors to "see" inside patients' brains to detect beta-amyloid plaques, the tell-tale signature of Alzheimer's.

"The Top 10 list reflects the place of Clinic physicians as arbiters of innovation. It goes all over the world, usually with a forward of an email commending the recipient that if the technology is important to Cleveland Clinic it should be important to you," said Christopher Coburn, Executive Director, Innovations, the Cleveland Clinic's corporate venturing arm.

Four major criteria served as the basis for qualifying and selecting the Top 10 Medical Innovations. Nominated innovations were required to:

- Have significant potential for short-term clinical impact (either a major improvement in patient benefit or an improved function that enhances healthcare delivery).
- Have a high probability of success.
- Be on the market or close to being introduced.
- Have sufficient data available to support its nomination.

For more information about this year's Medical Innovation Summit and the conference agenda, visit <http://www.clevelandclinic.org/INNOVATIONS/SUMMIT/>

#### **About Cleveland Clinic**

Cleveland Clinic, located in Cleveland, Ohio, is a not-for-profit multispecialty academic medical center that integrates clinical and hospital care with research and education. It was founded in 1921 by four renowned physicians with a vision of providing outstanding patient care based upon the principles of cooperation, compassion and innovation. *U.S. News & World Report* consistently names Cleveland Clinic as one of the nation's best hospitals in its annual "America's Best Hospitals" survey. About 2,100 full-time salaried physicians and researchers and 11,000 nurses represent 120 medical specialties and subspecialties. In addition to its main campus, Cleveland Clinic operates nine regional hospitals and 15 Family Health Centers in Northeast Ohio, Cleveland Clinic Florida, the Lou Ruvo Center for Brain Health in Las Vegas, Cleveland Clinic Canada, and opening in 2012, Cleveland Clinic Abu Dhabi. In 2009, there were more than 4.6 million visits throughout the Cleveland Clinic health system and 170,000 hospital admissions. Patients came for treatment from every state and from more than 100 countries. Visit us at [www.clevelandclinic.org](http://www.clevelandclinic.org).