

Innovation in

- ▣ Barbara Kunz, a Battelle Corporate Officer who leads our Health and Life Sciences Global Business, holds the MEDRAD XDS™ Extravasation Detector, one of the many medical devices Battelle is helping to develop that are improving the health and quality of life of people around the globe. Learn more about the detector on page 18.

Health and Life Sciences

Among the most significant challenges facing our healthcare system is ensuring that the right procedure or treatment is provided to the right patient at the right time. Battelle is helping meet this challenge through the application of our science and technology resources to understand public health programs, speed up the development of medical products, and learn more about the effects of our environment on our health and quality of life. Our work includes preparing for and responding to infectious diseases; assessing the safety of drugs, nanomaterials, and other chemicals; understanding chronic obstructive pulmonary disease (COPD); and examining the factors influencing children's health.

Ensuring a Healthier World

Battelle staff and affiliates are dedicated to improving the public's health through the application of science and technology that promotes wellness, prevents disease, improves diagnosis and treatment of disease, and improves the quality of our environment, including the safety of the agricultural system. From basic and translational research to product development, and from preclinical research to monitoring the health risks we face every day, Battelle's first priority is to create innovative solutions for our most pressing human health issues.

Preparing for Emerging and Re-Emerging Infectious Diseases

Whether supporting the National Institute of Allergy and Infectious Diseases in conducting basic research into the mechanisms of infectious diseases or helping pharmaceutical and biotechnology companies assess the effectiveness of their vaccines and drugs, Battelle is helping our nation and the world prepare for and respond to disease outbreaks. The results of our efforts will improve the public's health by preventing the spread of infectious diseases as well as improving the medical outcomes for patients exposed to these diseases.

Continually Striving to Improve Public Health

Battelle continues to support the U.S. Public Health Service Agencies in achieving their missions of improving the health, safety, and well-being of America. From helping the Centers for Disease Control and Prevention gather and analyze data to better understand how their programs work, to supporting the National Institute of Environmental Health Sciences in furthering its understanding of environmental influences on human health, to working with the Agency for Healthcare Research and Quality to provide tools hospitals can use to measure and improve their quality of care, Battelle is improving the public health of all Americans.

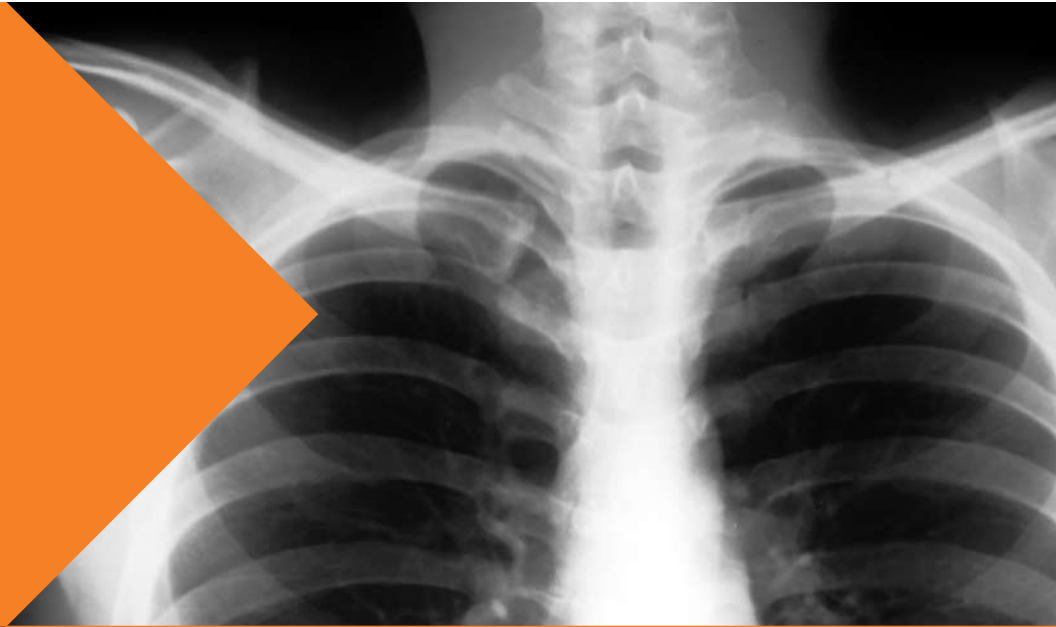
Bringing New Medical Products to Market Faster

Pharmaceutical, biotechnology, and medical device companies are continually working to get new products to the market faster and improve the delivery and quality of healthcare. Along the way, these products encounter a number of challenges and require government regulatory approvals. Battelle is helping these companies meet these challenges and obtain approval for new products. Whether it's helping large companies or start-up ventures understand the safety of a new drug or developing a first-of-its-kind medical device from concept to market, Battelle assists in bringing new procedures and treatments to the market faster to help improve the lives of patients around the world.

- ➔ MEDRAD, a market leader in medical devices that enable or enhance CT procedures, approached Battelle to help it solve the significant challenge of reliably detecting extravasations before they become severe. Working closely with Battelle, from applied research through device development, the team invented the electrical permittivity technology that enables XDS™ and developed the commercial product. XDS™ provides the first practical, reliable, and economical alternative to the current method of visual observation or physical palpitation of an injection site for the detection of fluids in the surrounding tissue.




COPD. In 2007 Battelle launched an effort to better understand the biological mechanisms leading to the incidence and progression of chronic obstructive pulmonary disease (COPD), which is the fourth leading cause of death in the United States and throughout the world. In collaboration with Pacific Northwest National Laboratory, Oak Ridge National Laboratory, The Ohio State University, The University of Texas Medical School, and the Institute for Systems Biology, we are working to identify the biomarker signatures of COPD that will enable the development of better methods to diagnose and treat this disease.




Children's Health. Battelle's public health research includes the environmental influences on the health and development of children. Part of this research focuses on helping to pinpoint the causes of health conditions such as autism, asthma, pregnancy-related problems, obesity, and mental health disorders.





DNA Technology. Working with Panomics, Inc., a Battelle Ventures investment company, Battelle qualified and adopted the Panomics QuantiGene® platform of technologies for gene expression measurement and profiling. This accomplishment makes Battelle the first certified provider of QuantiGene services for testing genes of interest from a broad range of biological samples, including frozen tissue; formalin-fixed, paraffin-embedded tissue; fresh and preserved blood; and purified RNA. These services will help shorten the time to market for new diagnostics and treatments across a wide array of diseases.



BrainGate. Battelle worked with Cyberkinetics Neurotechnology Systems, Inc., to develop the BrainGate Neural Interface System (BrainGate). BrainGate is designed to record and interpret signals directly from the brain that can be used to enable paralyzed people to control a wide range of external devices just by thinking, including a wheelchair or a computer cursor. In 2007, *R&D Magazine* awarded BrainGate the prestigious R&D 100 Award, as well as named BrainGate to receive the Editor's Choice Award as the year's Most Amazing Technology.