

BD and Medtronic Collaborate to Introduce a New Infusion Set with BD FlowSmart(TM) Technology Designed to Improve Insulin Pump Therapy

New Innovation Demonstrates Reductions in Flow Interruptions, Including Silent Occlusions

BOSTON, June 8, 2015 [PRNewswire/](#) -- BD Medical, a segment of leading global medical technology company BD (Becton, Dickinson and Company) (NYSE: BDX), and Medtronic (NYSE: MDT) today announced a collaboration to introduce a new insulin pump infusion set with BD FlowSmart(TM) technology. An insulin infusion set delivers insulin from the pump to the body and is a critical part of the overall pump system. As part of the agreement, Medtronic will commercialize the infusion set, while BD will manufacture the product. This agreement represents an important collaboration between two leading diabetes device companies uniting to address unmet needs and improve infusion set options for people with diabetes using insulin pumps.

The infusion set recently received both FDA clearance (April 2015) and Health Canada approval (January 2015) and is expected to be launched in 2016. An application has been submitted for CE marking. It is designed to work with both Medtronic insulin pumps and most other manufacturers' insulin pumps.

"We are very excited to partner with a global leader like Medtronic to ensure that the benefits of BD FlowSmart technology can be made widely available to as many people living with diabetes as possible," said Kenneth Miller, Worldwide President, BD Medical-Diabetes Care. "By increasing the reach and availability of this technology, we have an opportunity to enhance the use of insulin pump therapy by providing potentially more consistent insulin delivery and fewer flow interruptions. This technology is an extension of BD's long-standing commitment to deliver injection solutions, and builds on previous BD research that has advanced the science and understanding of insulin delivery as well as patient comfort."

"Medtronic is committed to advancing innovation across the entire insulin pump system, including infusion sets, to improve outcomes and expand options to satisfy different patient needs, body types and lifestyles," said Annette Bruls, Vice-President and General Manager, Diabetes Service and Solutions at Medtronic. "Our partnering with diabetes technology leaders, such as BD, will give more people with diabetes access to these innovations so they can enjoy greater freedom and better health."

The insulin infusion set with BD FlowSmart technology was developed in collaboration with JDRF and The Leona M. and Harry B. Helmsley Charitable Trust to improve the treatment of type 1 diabetes.

"JDRF is thrilled to have partnered with BD and the Helmsley Charitable Trust to bring the insulin infusion set with BD FlowSmart technology to people with type 1 diabetes," said Aaron Kowalski, Ph.D., Chief Mission Officer for JDRF. "This new infusion set is an important step forward in improving insulin pump therapy, and we hope ultimately, artificial pancreas systems."

"There is an urgent need to improve the daily conditions of those living with type 1 diabetes, a disease that can take a slow but devastating toll on the millions suffering from it," said David Panzirer, trustee of the Helmsley Charitable Trust. "We are tremendously proud that, together with JDRF, our support for BD has helped to accelerate this important infusion set technology, and we look forward to the ways that today's new collaboration with Medtronic will help to bring it into the hands of people living with the disease every day."

The insulin infusion set with BD FlowSmart technology features a unique side-ported catheter designed to improve insulin flow, potentially reducing the number of flow interruptions - defined as a continuous rise in inline pressure lasting at least 30 minutes(i,ii). Without triggering a pump occlusion alarm, these events are known as silent occlusions, and because pump users may be unaware of these lapses in insulin flow, they could lead to unexplained hyperglycemia in some people on pump therapy. This infusion set also features the smallest insertion needle (30 gauge) currently available, which is designed to reduce insertion pain.

Three different studies, each based on the infusion set with BD FlowSmart technology, were presented at the American Diabetes Association's 75(th) Scientific Sessions this past weekend(iii,iv,v). Both preclinical and clinical data showed that an insulin infusion set with BD FlowSmart technology significantly reduced flow interruptions, including silent occlusions, compared to other commonly used infusion sets.

To register for more information, please visit www.bd.com/infusionset.

BD is a leading medical technology company that partners with customers and stakeholders to address many of the world's most pressing and evolving health needs. Our innovative solutions are focused on improving medication management and patient safety; supporting infection prevention practices; equipping surgical and interventional procedures; improving drug delivery; aiding anesthesiology and respiratory care; advancing cellular research and applications; enhancing the diagnosis of infectious diseases and cancers; and supporting the management of diabetes. We are more than 45,000 associates in 50 countries who strive to fulfill our purpose of "Helping all people live healthy lives" by advancing the quality, accessibility, safety and affordability of healthcare around the world. In 2015, BD welcomed CareFusion and its products into the BD family of solutions. For more information on BD, please visit www.bd.com.

About the Diabetes Group at Medtronic(www.medtronicdiabetes.com)

Medtronic is working together with the global community to change the way people manage diabetes. The company aims to transform diabetes care by expanding access, integrating care and improving outcomes, so people living with diabetes can enjoy greater freedom and better health.

About Medtronic

Medtronic plc (www.medtronic.com), headquartered in Dublin, Ireland, is the global leader in medical technology - alleviating pain, restoring health and extending life for millions of people around the world.

- (i) Bolick, N, et al. "Reduction of Silent Occlusion Occurrence During Continuous Subcutaneous Insulin Infusion." Diab Tech Ther 2015 (Suppl 1);17:A-35.
- (ii) Gibney M, et al. Continuous Subcutaneous Insulin Infusion (CSII) sets - Reduced flow interruptions with a novel investigational catheter infusion set. Diab Tech Ther 2015 (Suppl 1);17:A-8
- (iii) Hirsch, L, et al. "Continuous Subcutaneous Insulin Infusion (CSII) Sets: Reduced Flow Interruptions with a Novel Catheter Set." Poster 1071-P presented at the American Diabetes Association 75(th) Scientific Sessions. Boston, MA, 2015.
- (iv) Bolick, N, et al. "Performance Qualification of a Novel Continuous Subcutaneous Insulin Infusion Set Using Medical Imaging." Poster 1088-P presented at the American Diabetes Association 75(th) Scientific Sessions. Boston, MA, 2015.
- (v) Bolick, N, et al. "In Vivo Flow Evaluation and Correlation to Insulin Pharmacokinetics of Continuous Subcutaneous Insulin Infusion Sets." Poster 1085-P presented at the American Diabetes Association 75(th) Scientific Sessions. Boston, MA, 2015.

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