CARE Research Briefs

Making a Tough Job Easier: New Device Improves Diabetes Management

Using “real-time” glucose monitors to measure blood sugar among people with diabetes may revolutionize treatment of Type 1 Diabetes Mellitus (T1DM). This system automatically measures glucose levels once per minute, without the repeated pain and hassle of regular needle sticks. This is important for people with diabetes: less time spent in either a **hypoglycemic** (low blood sugar) or **hyperglycemic** (high blood sugar) state can reduce risk for serious short- and long-term complications.

The purpose of this study was to see if the FreeStyle Navigator Continuous Glucose Monitoring System (CGMS) was feasible and effective—that is practical and useful—for short-term every day use in children with T1DM who were receiving their insulin daily through a pump.

Thirty children with type 1 diabetes using insulin pumps, who were on average 11 years old, were asked to use the Navigator for 13 weeks. Most children and their parents used the Navigator every day and were satisfied with it. Children using the Navigator had several good health outcomes:

(1) improved blood sugar control;
(2) decreased number of high blood sugar incidents [levels above the target range (71 mg/dl to 180 mg/dl)]; and
(3) reduced the unpredictability of blood sugar changes.

Bottom Line

The use of real-time glucose monitors worn under the skin can improve glucose control in children with type 1 diabetes.

CARE Tips

More testing is needed for this device, but if you are helping your child to manage diabetes, you may want to talk to your doctor about new systems to monitor glucose levels that are less painful and easier to use.

CARE:Community Alliance for Research and Engagement is committed to improving health in New Haven. One goal is to disseminate important research findings in our community so that they are easily accessible to all – to educate, inform, and spur action. Yale investigators give thanks to the women, men and children of New Haven who participate in research projects designed to improve health. We value your participation and recognize that you are central to these efforts. We hope that you can use this information to prevent disease and promote good health in your family and in our community.

Publication: Diabetes Research in Children Network (DirecNet) Study Group; Yale site includes: Weinzimer S, Tamborlane W, Doyle E, Mokotoff H, Steffen A. Continuous Glucose Monitoring in Children with Type 1 Diabetes. Journal of Pediatrics (2007); Vol 35: pp: 388-393.