Experts recommend continuous glucose monitors for adults with type 1 diabetes

September 26 2016

The Endocrine Society today issued a Clinical Practice Guideline recommending continuous glucose monitors (CGMs) as the gold standard of care for adults with Type 1 diabetes.

The guideline, titled "Diabetes Technology—Continuous Subcutaneous Insulin Infusion Therapy and Continuous Glucose Monitoring in Adults: An Endocrine Society Clinical Practice Guideline," was published online and will appear in the November 2016 print issue of The Journal of Clinical Endocrinology & Metabolism (JCEM), a publication of the Endocrine Society.

An estimated 29 million Americans have diabetes, according to the Society's Endocrine Facts and Figures Report. The condition occurs when the body's ability to process sugar is impaired. Among individuals with Type 2 diabetes, the body either makes too little insulin, the hormone that processes sugar, or the body uses insulin inefficiently. An individual develops Type 1 diabetes—the less common form of the condition—when the body produces little to no insulin.

Continuous glucose monitors (CGMs) are primarily used to help in the management of Type 1 diabetes, although the devices can be useful for people with type 2 diabetes, as well. CGMs measure glucose levels in the fluid between the body's cells every few minutes throughout the day and night. The technology can tell the user whether glucose levels are rising or falling, and monitor trends from the past several hours. The devices also feature alarms to warn users when glucose levels are too high or too

low.

"Studies have found that people with Type 1 diabetes who use CGMs are able to maintain better control of their blood sugar without increasing episodes of hypoglycemia when blood sugar drops to dangerous levels, compared to those who self-monitor blood glucose with periodic fingersticks," said Anne L. Peters, MD, of the University of Southern California's Keck School of Medicine in Los Angeles, CA, and chair of the task force that authored the guideline. "Scientific evidence supports the use of CGM technology in individuals with Type 1 diabetes whose blood sugar is above the targeted level as well as those whose blood glucose is well managed."

The guideline task force gave its strongest recommendation in support of using CGM technology in individuals with Type 1 diabetes who are able and willing to use the monitors. The task force also suggested that CGMs can be used on a short-term, intermittent basis for individuals with Type 2 diabetes whose blood glucose is above targeted levels.

Although many people with Type 1 diabetes use CGMs, Medicare does not cover the technology for adults 65 and older. The Endocrine Society continues to call for Medicare coverage to improve outcomes and reduce hypoglycemic events in older adults.

The guideline task force also recommended the use of insulin pumps over multiple daily insulin injections in individuals with Type 1 diabetes who have not met their A1C goals and are willing and able to use the device. In addition, pumps are recommended for people with frequent hypoglycemia or glucose variability, and those who require increased insulin delivery flexibility or improved satisfaction with their diabetes care. Insulin pump use was suggested for people with Type 2 diabetes who were not meeting their glycemic goals.

Insulin pumps deliver insulin around the clock via a catheter placed under the skin. The pump gives additional insulin before meals based on what the user enters for their food intake and blood sugar level. Insulin pumps are often used in conjunction with CGMs.

Emerging technology in the treatment of diabetes, including artificial pancreas devices, are designed to automatically manage blood sugar levels in individuals with Type 1 diabetes. Such technologies will use CGM to effectively monitor blood sugar to determine appropriate insulin dosages and to prevent blood sugar levels from going too low or too high.

Regardless of what treatment technologies are used, the guideline recommends that all patients and healthcare providers be properly educated and trained to use the devices.

"A device's success is directly linked to an individual's willingness to use and understand the technology," Peters said. "It is crucial to ensure patients are comfortable with any devices they decide to incorporate into their treatment plans."

The Hormone Health Network offers resources on diabetes technology at www.hormone.org/diseases-and-c … /diabetes-technology .

More information: Anne L. Peters et al. Diabetes Technology—Continuous Subcutaneous Insulin Infusion Therapy and Continuous Glucose Monitoring in Adults: An Endocrine Society Clinical Practice Guideline, *The Journal of Clinical Endocrinology & Metabolism* (2016). DOI: 10.1210/jc.2016-2534

Provided by Endocrine Society