

CGM Category References:

1. Juvenile Diabetes Research Foundation Continuous Glucose Monitoring Study Group. **Continuous Glucose Monitoring and Intensive Treatment of Type 1 Diabetes.** N Engl J Med. 2008;359(14):1464-1476.
 - a. Study Outcomes
 - i. Reduction in A1c levels without increased hypoglycemia
 - ii. Significant decrease in A1c in patients aged 25 or older
 - iii. Increased time in target range
 - iv. Reduction in hypoglycemia throughout the day and night
 - v. Reduction in hyperglycemia throughout the day and night
 - vi. Significantly greater decrease in A1c related to frequency of use
 - vii. A1c reduction in both MDI and CSII therapies
2. Juvenile Diabetes Research Foundation Continuous Glucose Monitoring Study Group. **The Effects of Continuous Glucose Monitoring in Well-Controlled Type 1 Diabetes.** Diabetes Care. 2009;32(8):1378-1383.
 - a. Study Outcomes
 - i. CGM benefits those individuals who have target or low A1cs, across all ages
 - ii. Increased time in target range
 - iii. Maintain A1c levels at baseline (<7%) with LESS hypoglycemia and no increase in hypoglycemia.
 - iv. Results were similar for both MDI and CSII
 - v. Continuous use of CGM shows the most benefit and glycemc improvement.
 - vi. Reduction in hypoglycemia
3. Juvenile Diabetes Research Foundation Continuous Glucose Monitoring Study Group. **Sustained Benefits of Continuous Glucose Monitoring on HbA1c, Glucose Profiles, and Hypoglycemia in Adults with Type 1 Diabetes.** Diabetes Care Published Ahead of Print, published on line August 12, 2009.
 - a. Study Outcomes
 - i. CGM use continued to be > 6 days/week at 12 months
 - ii. CGM continued to benefit subjects by either maintaining reduction in A1c or maintaining target A1c WITHOUT increasing hypoglycemia
 - iii. Rate of severe hypoglycemia was reduced even more at 12 months vs. 6 month outcomes
 - iv. Reduction in glycemc variability
 - v. Increase time in target range
 - vi. CGM provided the ability to achieve target A1c levels much more safely
 - vii. A1c reduction in both MDI and CSII therapies
 - viii. Body weight, daily insulin dose and frequency of SMBG did not notably change
4. Juvenile Diabetes Research Foundation Continuous Glucose Monitoring Study Group. **Factors Predictive of Use and of Benefits from Continuous Glucose Monitoring in Type 1 Diabetes.** Diabetes Care Published Ahead of Print, published on line August 12, 2009.
 - a. Study Outcomes
 - i. Baseline factors associated with greater CGM use were age \geq 25 years old and $>$ 6 SMBG measurements/day
 - ii. Other factors associated with greater on-going CGM use were the more CGM was used during month one and higher percentage of glucose values between 71-180mg/dL during month 1
 - iii. Regardless of age, if CGM was used \geq 6 days/week, the A1c reduction was similar
5. Deiss D, Bolinder J, Riveline JP, et al. **Improved Glycemc Control in Poorly Controlled Patients with Type 1 Diabetes Using Real-Time Continuous Glucose Monitoring.** Diabetes Care. 2006;29(12):2730-2732.
 - a. Study Outcomes
 - i. Reduction in A1c levels without increased hypoglycemia
 - ii. Significantly greater decrease in A1c related to frequency of use
 - iii. A1c reduction with both MDI and CSII therapies
6. Hirsch IB, Abelseth J, Bode BW, et al. **Sensor-Augmented Insulin Pump Therapy: Results of the First Randomized Treat-To-Target Study.** Diabetes Technol Ther. 2008;10(5):377-383.
 - a. Study Outcomes
 - i. Reduction in hypoglycemia
 - ii. Significantly greater decrease in A1c related to frequency of use

DexCom Published References:

7. Bailey TS, Zisser HC, Garg SK, et al. **Reduction in Hemoglobin A1c with Real-Time Continuous Glucose Monitoring: Results from a 12-Week Observational Study.** Diabetes Technol Ther. 2007; 9(3):203-210.
 - a. Study Outcomes
 - i. Reduction in A1c levels without increased hypoglycemia
 - ii. Consistent accuracy over 7 days of use
 - iii. A1c reduction in both MDI and CSII therapies
8. Garg SK, Kelly WC, Voelmle MK, et al. **Continuous Home Monitoring of Glucose: Improved Glycemic Control with Real-Time Use of Continuous Glucose Sensors in Adult Subjects with Type 1 Diabetes.** Diabetes Care. 2007;30(12):3023-3025.
 - a. Study Outcomes
 - i. Reduction in glycemic variability
 - ii. Increased time in target range
 - iii. Reduction in hypoglycemia
 - iv. Reduction in hyperglycemia
9. Garg SK, Zisser HC, Schwartz S, et al. **Improvement in Glycemic Excursions with a Transcutaneous, Real-Time Continuous Glucose Sensor: A Randomized Controlled Trial.** Diabetes Care. 2006;29(1):44-50.
 - a. Study Outcomes
 - i. Reduction in glycemic variability
 - ii. Reduction in hypoglycemia
 - iii. Reduction in hyperglycemia
10. Garg S, Jovanovic L. **Relationship of Fasting and Hourly Blood Glucose Levels to HbA1c Values: Safety, Accuracy, and Improvements in Glucose Profiles Obtained Using a 7-Day Continuous Glucose Sensor.** Diabetes Care. 2006;29(12):2644-2649.
 - a. Study Outcomes
 - i. Increased time in target range
 - ii. Consistent accuracy over 7 days of use
 - iii. Significant improvement in glucose control with both MDI and CSII therapies
11. Garg SK, Schwartz S, Edelman SV. **Improved Glucose Excursions Using an Implantable Real-Time Continuous Glucose Sensor in Adults with Type 1 Diabetes.** Diabetes Care. 2004;27(3): 734-738.
 - a. Study Outcomes
 - i. Increased time in target range
 - ii. Reduction in hypoglycemia throughout day and night
 - iii. Reduction in hyperglycemia
 - iv. Reduction in glycemic variability
12. Garg S, Smith J, Beatson C, Lopez-Baca B, Voelmle M, Gottlieb P. **Comparison of Accuracy and Safety of the SEVEN and the Navigator Continuous Glucose Monitoring Systems.** Diabetes Technol Ther. 2009;11(2):65-72.
 - a. Study Outcomes
 - i. DexCom had statistically significant/superior performance in the hypoglycemic ranges
 - ii. Less skin irritations/site issues and no infections with the DexCom SEVEN
 - iii. DexCom has significantly less sensor replacements through the study due to sensor malfunctions or site issues.

