Continuous Glucose Monitoring

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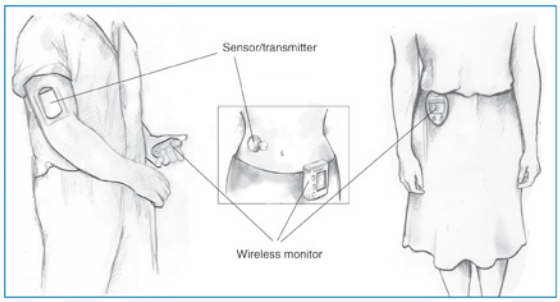
Now that technology has improved enough to be able to reduce the number of insulin injections by the continuous dispensing insulin pump, it seems that it is time for a device to make checking blood glucose levels more convenient. Currently there are a few devices available, however as testing continues future products will become available. These products would include, but are not limited to, an implanted devices that would have sensors that could reliably and accurately detect glucose levels for a year or longer. Studies are currently underway for this technology and have shown very positive signs in test subjects for approximately six months already.



Currently available to consumers is a short term, 3, 5, or 7 day, sensor that is ordered and placed by physicians. These sensors are inserted through the skin. The external side of the sensor is connected to a radio frequency transmitter that wirelessly transfers the collected data to the system processor and then after calculations occur a numerical output is displayed to the user. The calculations that occur are the derivatives, or slopes, of the users change in subcutaneous fluid glucose levels. This calculation is very useful because by knowing the direction in which glucose levels are heading the user can adjust their daily activities to better control their insulin requirements.

Having a tight control over your blood sugar is a very beneficial concept for diabetics. The tighter the control the less risk one has of running the risk of complications (blindness, heart disease, neuropathy, and even death).

With current studies, being conducted to get long-term sensors approved by the FDA an artificial pancreas is in the sight for the future. An artificial pancreas would consist of three major parts: Automatic Insulin Delivery, Continuous Glucose Monitoring, and a program that could automatically determine actions to take for insulin delivery based on blood glucose levels.

Work Cited

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