

# The Tools They Are A-Changin'

To help your young patients, you need to stay in step with technology.

By Gary Scheiner MS, CDE

Don't get me wrong. I have never written a line of software code in my life, and I really do not know the difference between a gigahertz and a gigabyte. But I do know, however, that to properly teach anything, you have to know a bit more about the subject than your students.

Diabetes care is not what it used to be. New treatment options and better management techniques are rolling off the assembly line faster than iPods. In pediatric diabetes care, the assembly line moves even faster, as kids and their parents are not only comfortable with the latest technical devices, they demand them.

So forget about how long you have been in practice or what your own personal technical expertise might be. As health care providers, it is incumbent upon us to be on the cutting edge of technology, and not just learning it secondhand from our patients. In other words, if you want to make a real difference in your patients' lives, it is time to get up to speed.

## DIABETES TECHNOLOGY TODAY

**Blood glucose meters.** These were once used only for checking blood sugars. Now, many come equipped with record-keeping systems, graphing and averaging capabilities, event labeling, pre- and postmeal analysis, and transmission capabilities. We all know that kids' written records are often lacking or inaccurate, so these types of features can be invaluable in performing data analysis.

**Meter downloading software.** This software is available for virtually every type of blood glucose meter. Not only should you be using the software in your office (they are a tremendous

time saver and stats generator), you should also teach your patients where to get the software and encourage them to use it at home. The charts generated by meter software can provide a basic overview of blood glucose levels or a comprehensive set of record-keeping data in logbook format (see paragraph above). Learn to read and interpret the various charts and graphs. Modal day charts can reveal problems at specific times of day. Trend graphs are useful for seeing patterns over a period of weeks or months. Some meter software even allows patients to e-mail raw data or specific graphs/charts. Encourage them to use this technology to transmit data to your team for review, rather than calling or faxing in their numbers.

**Insulin pumps.** These devices are in use by tens of thousands of pediatric patients. Unfortunately, a pump is only as good as the user. And the user is usually only as good as the person who instructs and guides them.

For starters, not every pump (or infusion set, for that matter) is ideally suited to every individual. If your child had diabetes, would you want your decision to be swayed heavily by a sales pitch? Or would you rather have the input of a skilled, trusted health care professional to help guide your choice? Learn the unique characteristics of each pump so that you can steer your patients in the right direction. Consider factors such as total insulin requirements, bolus calculation parameters, downloadability, meter/sensor interface options, dosing increments, alarm/reminder options, and logistical issues such as size, appearance, and clip choices.

A successful pump experience also depends on detailed follow-up and education after the pump training. Make sure that you and your staff

understand the mechanics of each type of pump well enough to counsel your patients on both basic and advanced features such as temporary basal rates, prolonged boluses, and alternate basal patterns.

I have seen enough pump horror stories to know that pumps can be dangerous in the wrong hands. Again, understanding the intricacies of the pumps and infusion systems will allow you to counsel your patients on proper preventive measures and troubleshooting techniques.

**Insulin Delivery Alternatives.** Other insulin delivery options can help to improve patient care and compliance. Familiarize yourself with the full line of pens from each major insulin manufacturer so that you can tailor the pen type to each patient's needs. Have samples on hand so that you can demonstrate the various half-unit pens, pens with dosing memory, disposable pens, cartridge systems, and pen needles in a variety of lengths.

For those utilizing multiple daily injections, indwelling subcutaneous ports such as I-Port (Patton Medical Devices, Austin, TX) and Insulflon (Unomedical, Denmark) can substantially reduce skin trauma from repeated injections. And just to prove that helpful technology need not be "electronic" in nature, spring-loaded injection aids are available for syringe or pen injections (as well as pump infusion sets) for those with needle anxieties, visual limitations, or dexterity concerns.

**Continuous glucose monitors.** These monitors, including the Dexcom Seven (DexCom, San Diego, CA) and Medtronic Guardian (Medtronic, Minneapolis, MN) (and sensor-augmented Paradigm pump), are gaining popularity as the systems become more accurate and user-friendly. Despite the fact that insurance coverage for the hardware and sensors is lacking, many families are choosing to utilize continuous glucose monitors in order to improve glycemic control and provide some much

needed peace of mind. Be prepared to educate your clients on the pros and cons of continuous glucose monitoring, as well as the differences among the various systems. It is also helpful to obtain some experience interpreting both real-time and retrospective sensor data.

**Creativity.** Thinking creatively can be a valuable asset for any diabetes clinician. Given that diabetes management is as much an art as it is a science, creativity might be considered a necessity. Just as a painter knows his paints, brushes, and canvases intimately, a diabetes clinician should have a sound understanding and comfort level with all of the latest medical tools. Tens of thousand of children with diabetes have benefited from diluting insulin, mixing various combinations of basal and mealtime insulins, and utilizing supplementary medications including exenatide (Byetta; Amylin and Eli Lilly and Company, San Diego and Indianapolis), metformin, and insulin-sensitizing agents. Not every patient will benefit from these types of tools, but don't hesitate to "think outside the box" and use creative problem solving when the situation calls for it.

**Internet Resources.** The Internet can be a double-edged sword. Some Web sites and blogs offer support, resources and useful information for kids with diabetes and their families. Others can be misleading and downright scandalous. Do not take anyone's word for it ... check them out for yourself. A great place to start is [www.childrenwithdiabetes.com](http://www.childrenwithdiabetes.com), a fabulous online community for kids, families, and adults with diabetes. Follow the links to the various web sites that serve the young diabetes population, and build your own list of preferred Web sites for your clientele.

So the next time your pharmaceutical or manufacturer's representative stops by, do not ask for lunch for the office. Ask them to teach you what you need to know. Give them an hour, if necessary, to go over the features of the

product in detail, and ask if they can leave samples with which you can practice. Or better yet, use it yourself for a week or two so that you can offer your patients some personal insight.

Just imagine the looks on your patients' faces when you point them in the direction of a great new website, instruct them on a fancy new meter, or cue them in to pump features they may have overlooked.

Who knows... you might even develop a reputation as being the “cool” clinician!

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