

# today's dietitian

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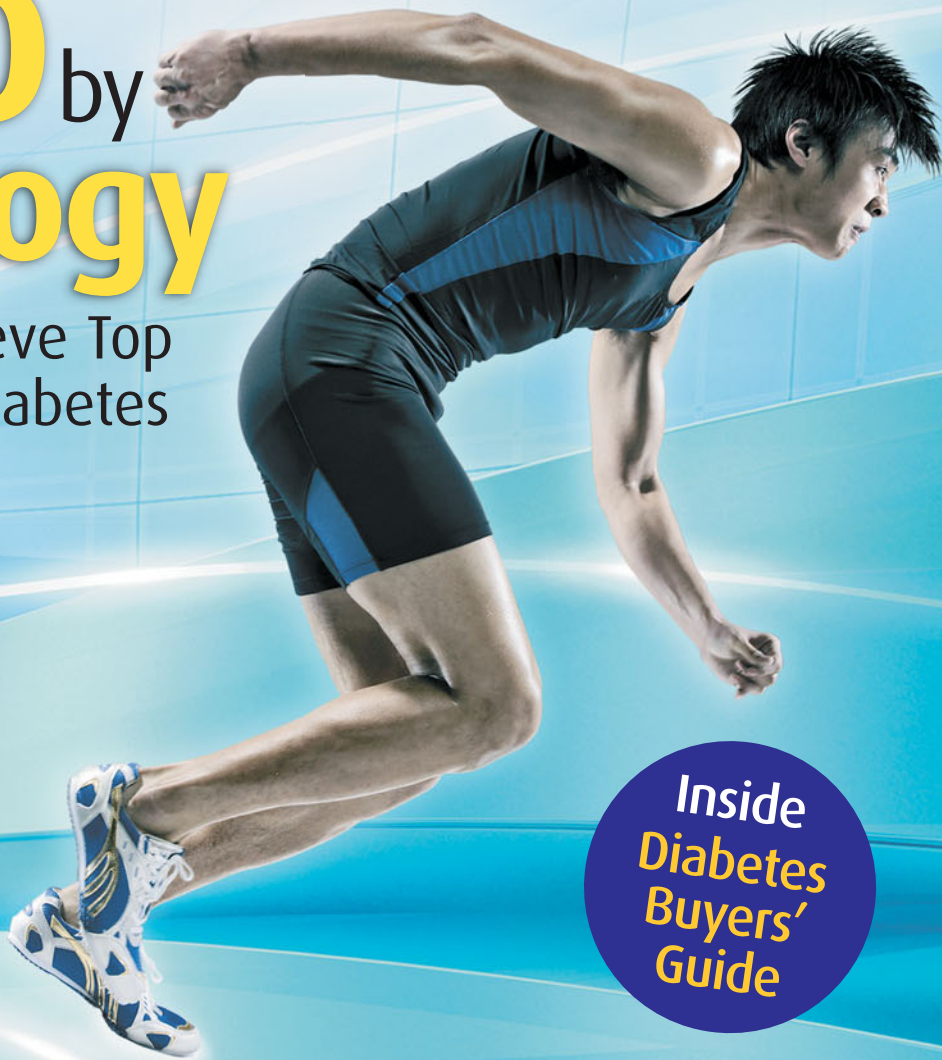
## FUELED by Technology

— Athletes Achieve Top Performance With Diabetes Management Tools

— Minimize Fermentable Carbs to Manage IBS

— Can Diet Reduce Type 1 Diabetes Risk?

— Probiotics in Critical Care



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and bounds ahead of those that existed 15 years ago, “there is always room for improvement,” says Hess Fischl.

“Like all newer technologies, they will be developed further to work better as time progresses,” says Colberg, noting difficulties in that CGM devices do not detect rapid changes in blood glucose levels very effectively due to a time lag between glucose levels in blood and in interstitial fluids, where the sensor is inserted. “It would also be better to have a noninva-

sive way to measure glucose levels continuously as well as a way to get ‘real-time’ readings.”

Regarding what’s on the horizon for diabetes treatment, she says researchers have been working for quite some time on various noninvasive devices to measure blood glucose levels, with one potentially offering athletes a way to get even more precise feedback on blood glucose levels at any given time.

## WITH AID OF TECHNOLOGY, RACECAR DRIVER LEAVES WORRIES IN THE DUST

One example of how athletes are overcoming diabetes-related challenges with the help of technology is Charlie Kimball, the only licensed driver in the Indy Racing League with diabetes. Although currently ranked second in the points standing and projected to vie for the 2010 Indy Lights championship, Kimball was sidelined three years ago after being diagnosed with type 1 diabetes at a routine physician’s visit.

With no family history or previous knowledge of the disease, Kimball thought his dream of being a professional racecar driver might go unrealized. But after a little strategizing with his doctor, along with a helping of soul searching, Kimball got back in the racecar and never looked back.

Kimball quickly realized that racecar driving presented special challenges. “Unlike other sports, [such as] baseball,

basketball, or soccer, I can’t call time-out and check my blood sugar during a race. Once the green flag flies, I’ve got to be fully prepared, fully committed, ready to race, hammer and tongs ... for 100 miles ... at full tilt against guys that if I said, ‘Hey, can

you hold on, I need a snack,’ they’d just laugh at me,” explains Kimball.

Thankfully, Kimball has the help of technology to aid his diabetes management while driving. First, he wears a continuous glucose monitor that is attached with Velcro to the steering wheel, so his blood sugar level is displayed on the dashboard along with the car’s water temperature, speed, and oil pressure data. “It’s a separate display, but it’s right there as part of the car body data display, so I know what my blood sugar is,” Kimball says.

While driving, he also sports a special helmet system that enables him to take a sip of orange juice if his blood sugar levels get too low—without lifting a finger. “There’s a bottle up in the front of the car that I fill with orange juice and the tube runs up and plugs into a tube in my helmet so that when I’m driving, if an alarm on my CGM goes off and shows my blood sugar is getting low, I can drink that orange juice and bring it up so that I don’t have to stop,” he explains.

And while traveling for races and other events, Kimball takes insulin using an on-the-go pen device to keep his glucose levels in check. “There are lots of different challenges thrown at me, and having the ability and the flexibility of the Levemir FlexPen to be able to inject myself on the go really helps me,” he says.

Kimball is a big proponent that diabetes shouldn’t close any doors to athletic potential. “I am a better athlete because of diabetes rather than despite it,” he says. “There were definitely times when I thought I wouldn’t be back into a racecar. And so now when I am, I appreciate it that much more and each success is that much sweeter.

“The biggest point to be made is that diabetes doesn’t have to slow you down,” he adds. “With good healthcare, good management, good routine, and good discipline, on both the healthcare provider and the patient side, just about anything is possible.”

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