

Chapter 28

Research and Type 1 Diabetes



This area is always changing.

THE FIVE SUBJECTS PEOPLE ASK MOST ABOUT ARE:

A cure:

Pancreas or islet transplantation is already possible. The problem is that the strong medicines necessary to prevent rejection can be more harmful than having diabetes. Many new medicines are being tried, but it is still early. Fortunately, advances are being made in the intensive management of diabetes, providing this as an alternative to surgical transplantation and a life of immunosuppression.

Continuous Glucose Monitor (CGM) devices:

Three CGM devices that will likely change diabetes management are: the Navigator® system from Abbott Diabetes Care, the Guardian® (Paradigm®) Real Time (RT) system from Medtronic MiniMed and the DexCom™ STS™. All have a small sensor with a “needle” worn under the skin that transmits subcutaneous glucose levels every one to five minutes (by radio telemetry) to a receiver or insulin pump. However, none of them at this time controls insulin output by an insulin pump. All have alarms for low and high glucose readings. It is likely these CGM devices will bring about the “third era” of diabetes management:

- I) Urine sugar testing
- II) Blood sugar testing
- III) CGM



Prevention of type 1 diabetes (see www.diabetestrialnet.org):

- Several trials are currently under way.
- In the U.S., people can call 1-800-425-8361 to find out where to go for a free TrialNet antibody screening. This area is moving very rapidly.
- Three biochemical islet cell antibodies (Chapter 3) are being used to determine if the autoimmune process has begun.
- Prevention trials are now focused on:
 - ~ preventing the autoimmune process from starting
 - ~ reversing the antibodies
 - ~ stopping further damage after diabetes has been diagnosed
- It is likely that prevention will come before a safe cure.



Prevention of type 2 diabetes:

- This has already been shown to be possible.
- It involves eating less, exercising more, and losing weight.
- It is discussed in Chapter 4 of “Understanding Diabetes.”



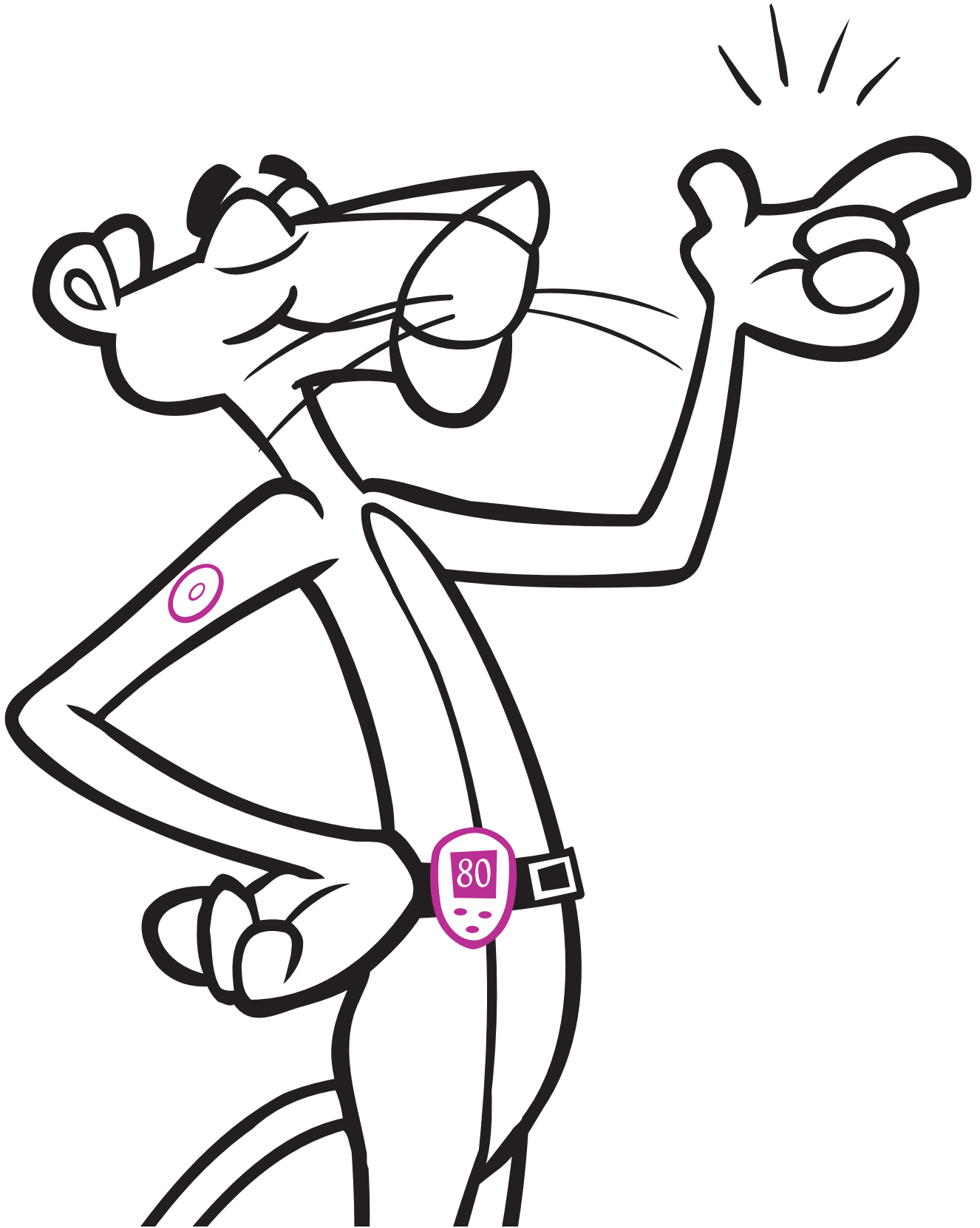
Prevention of complications:

- Diabetes complications of the eye and kidney are decreasing through attention being paid to the following:
 - ~ better sugar control
 - ~ blood pressure control
 - ~ not smoking
 - ~ yearly eye exams and urine microalbumin tests - essential after three years of diabetes in people age 12 years or older (see Chapter 22). Families may need to help remind their diabetes care provider to make sure these tests are done.



Finding the cure





Continuous Glucose Monitoring is here!

Someday there will be
**A CURE FOR
DIABETES!**

