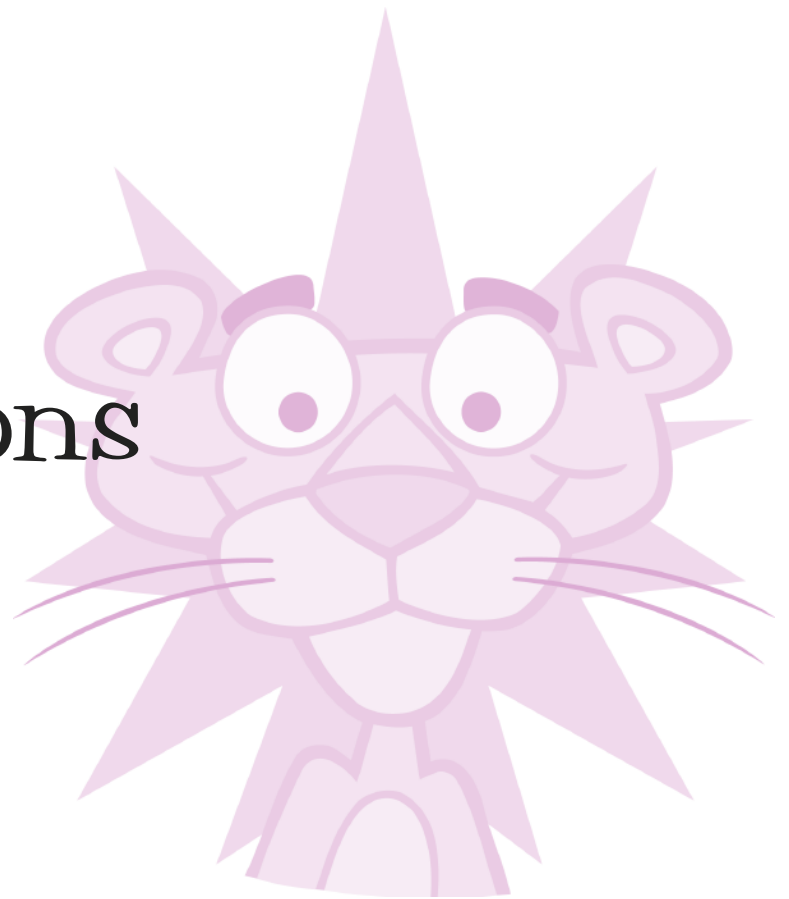


Chapter 22

Long-Term Complications of Diabetes



WHAT CAN MAKE THE RISK OF THESE COMPLICATIONS LESS?

- Good sugar control will reduce the risk for eye, kidney, nerve, and heart complications of diabetes by more than 50 percent as shown by the DCCT (Chapter 14).
- Not smoking (or chewing) tobacco also helps.
- Another factor is the blood pressure. Researchers at our Center showed that even mild increases in blood pressure are bad for the eyes and kidneys.

HOW ARE COMPLICATIONS FOUND?

Small blood vessel problems:

- Eye exams (and sometimes photographs) by the eye doctor tell if someone is developing eye damage.
- The *microalbumin* test tells if someone is getting early kidney damage at a time when it may still be reversible. The instructions for doing the microalbumin test to detect early kidney damage are at the end of Chapter 22 in “*Understanding Diabetes.*” We prefer overnight urine

collections because a false positive result is less likely.

- Screening tests for the eyes and kidneys should be done once yearly for people who have had type 1 diabetes for three or more years and have reached puberty (age 10 to 12 years).
- People who have type 2 diabetes should have the eye and kidney tests done soon after diagnosis and then every year.
- Families may need to help remind the health care team that it is time to do the microalbumin test or to see an eye doctor.
- Treatment of early eye or kidney damage is done by improving sugar control.
- Treatment of early kidney damage is also done by lowering blood pressure. A blood pressure medicine called an ACE-inhibitor is often helpful.
- If many eye changes are present, laser treatment to the back of the eye (retina) may help to prevent more severe problems.

Large blood vessel problems in adults:

- Heart attacks and other blood vessel diseases are a greater risk for adults with diabetes.
- Cholesterol levels and a lipid panel should be checked yearly.
- A baby aspirin and/or a fish oil capsule (omega-3 fatty acid) taken once or twice daily may help in prevention.

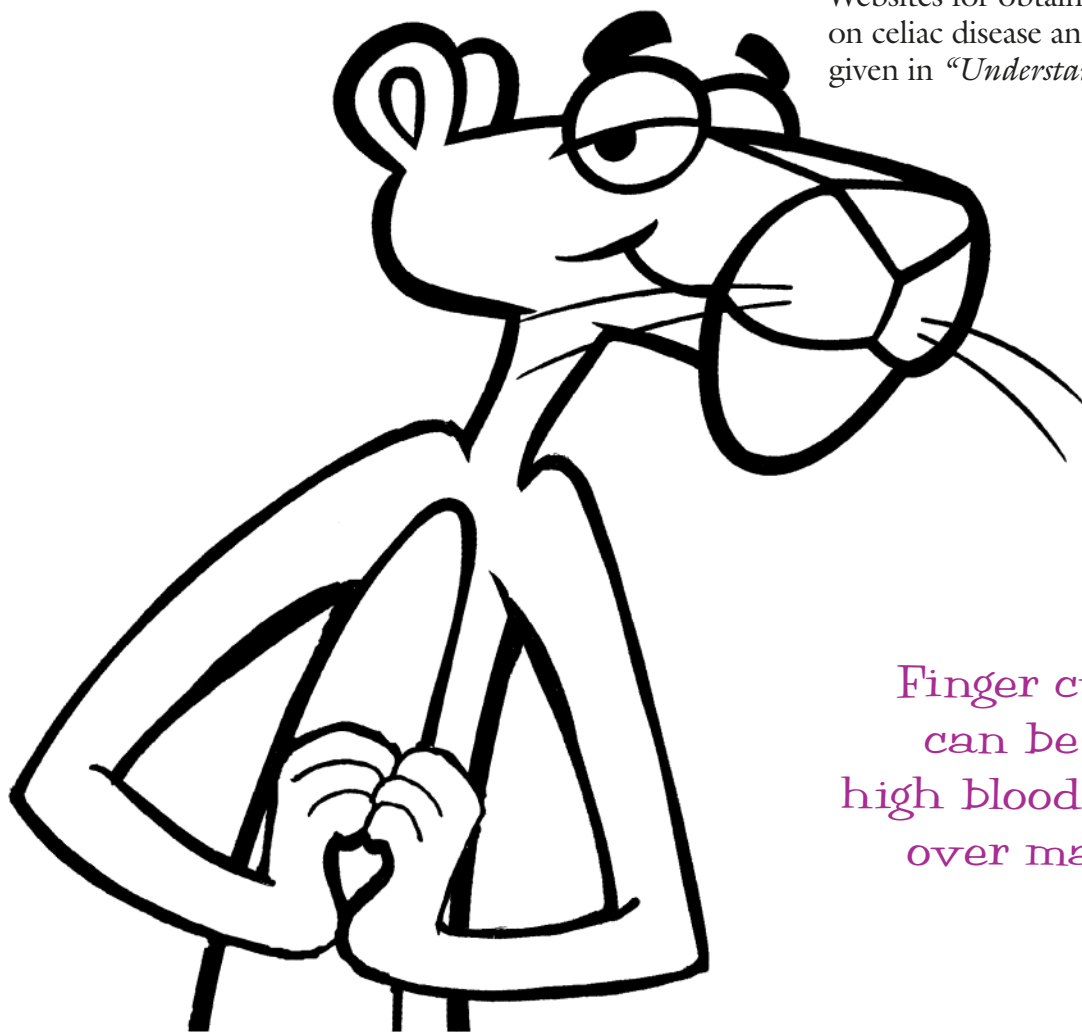
TWO OTHER DISEASES THAT CAN OCCUR IN PEOPLE WITH DIABETES ARE:



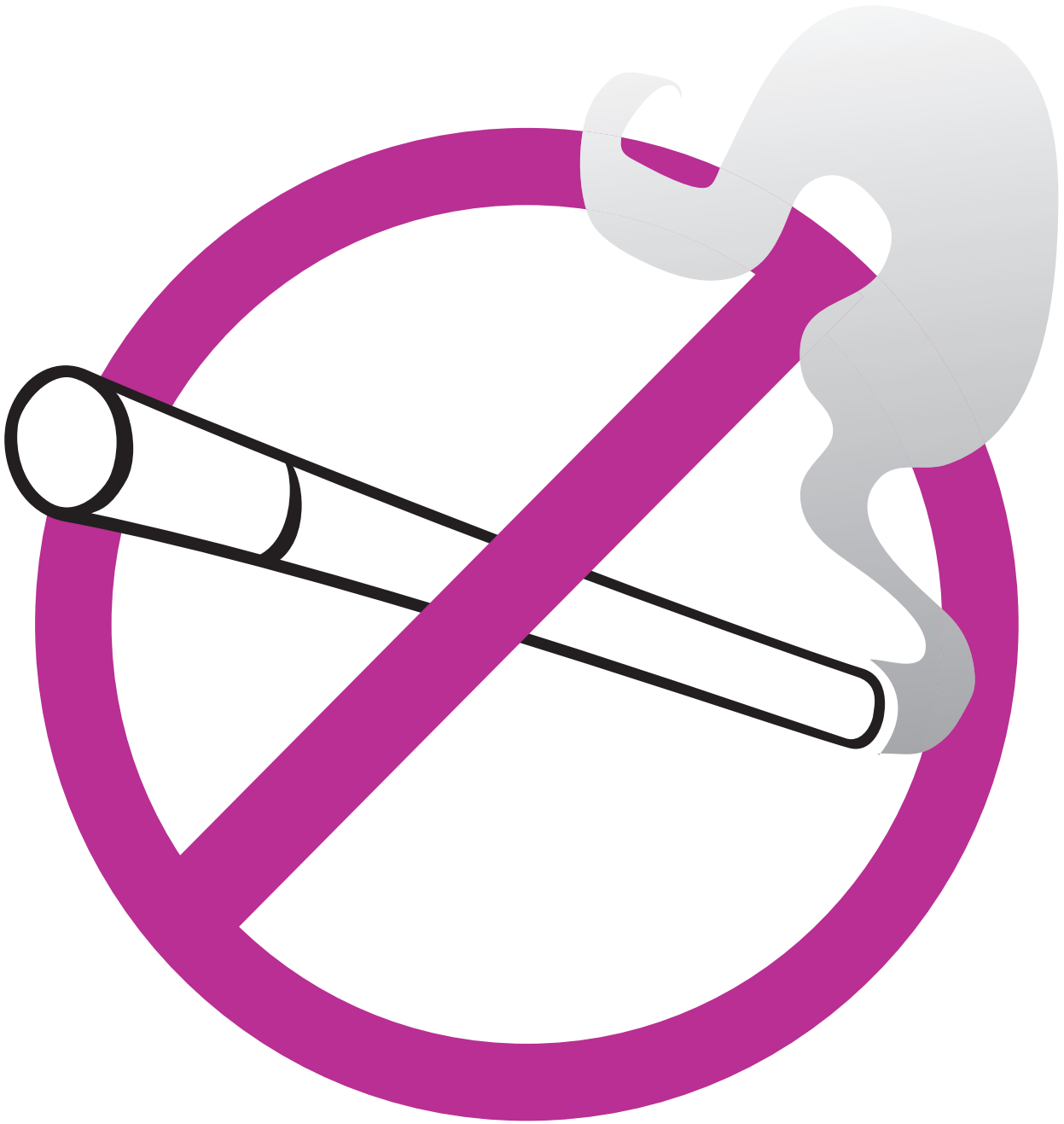
Thyroid problems: thyroid problems (like type 1 diabetes) are due to autoimmunity (see Chapter 3). Antibodies are made against the thyroid gland.



Celiac disease: this is an allergy to the wheat protein, gluten. It occurs in 1 of every 20 people with diabetes. There may be stomach complaints (pain, gas, diarrhea) or poor growth. Half of the people with celiac disease have no symptoms. The treatment is to remove all wheat, rye and barley products from the diet. Meeting with a dietitian is important. Websites for obtaining more information on celiac disease and foods to avoid are given in *“Understanding Diabetes.”*



Finger curvatures
can be a sign of
high blood sugar levels
over many years.



DO NOT SMOKE!
(or chew tobacco!)

School Diabetes Management Checklist for Parents

- _____ Discuss specific care of your child with the teachers, school nurse, bus driver, coaches and other staff who will be involved.
- _____ Complete the individualized school health care plan with the help of school staff and your diabetes care staff.
- _____ Make sure your child understands the details of who will help him/her with testing, shots and treatment of high or low blood sugars at school and where supplies will be kept. Supplies should be kept in a place where they are always available if needed.
- _____ Make arrangements for the school to send home blood sugar records weekly.
- _____ Keep current phone numbers where you can be reached. Collect equipment for school: meter, strips and finger-poker, lancets, insulin, insulin syringes or pen, biohazard container, log book or a copy of testing record form, extra insulin pump supplies, ketone testing strips, photo for substitute teacher's folder.
- _____ Food and drinks; parents need to check intermittently to make sure supplies are not used up:
 - ▼ juice cans or boxes (approximately 15g of carb each)
 - ▼ glucose tablets
 - ▼ instant glucose or cake decorating gel
 - ▼ crackers (\pm peanut butter and/or cheese)
 - ▼ quarters to buy sugar pop (soda) if needed
 - ▼ Fruit Roll-Ups
 - ▼ dried fruit
 - ▼ raisins or other snacks
- _____ Box with the child's name to store these food and drink items

