

Prevent diabetes problems

Keep your feet and skin healthy



U.S. Department
of Health and
Human Services

NATIONAL INSTITUTES OF HEALTH

NIDDK NATIONAL INSTITUTE OF
DIABETES AND DIGESTIVE
AND KIDNEY DISEASES

National Diabetes Information Clearinghouse

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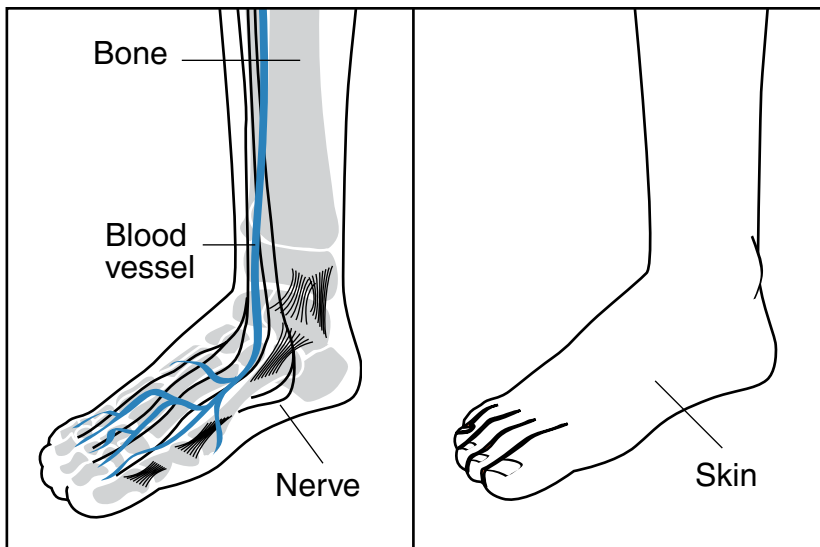
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What are diabetes problems?

Too much glucose in the blood for a long time can cause diabetes problems. This high blood glucose, also called blood sugar, can damage many parts of the body, such as the heart, blood vessels, eyes, and kidneys. Heart and blood vessel disease can lead to heart attacks and strokes. You can do a lot to prevent or slow down diabetes problems.

This booklet is about feet and skin problems caused by diabetes. You will learn the things you can do each day and during each year to stay healthy and prevent diabetes problems.



High blood glucose can cause feet and skin problems.

What should I do each day to stay healthy with diabetes?



Follow the healthy eating plan that you and your doctor or dietitian have worked out.



Be active a total of 30 minutes most days. Ask your doctor what activities are best for you.



Take your medicines as directed.



Check your blood glucose every day. Each time you check your blood glucose, write the number in your record book.



Check your feet every day for cuts, blisters, sores, swelling, redness, or sore toenails.



Brush and floss your teeth every day.



Control your blood pressure and cholesterol.



Don't smoke.

How can diabetes hurt my feet?

High blood glucose from diabetes causes two problems that can hurt your feet:

- **Nerve damage.** One problem is damage to nerves in your legs and feet. With damaged nerves, you might not feel pain, heat, or cold in your legs and feet. A sore or cut on your foot may get worse because you do not know it is there. This lack of feeling is caused by nerve damage, also called diabetic **neuropathy**.^{*} Nerve damage can lead to a sore or an infection.
- **Poor blood flow.** The second problem happens when not enough blood flows to your legs and feet. Poor blood flow makes it hard for a sore or infection to heal. This problem is called **peripheral vascular** disease, also called PVD. Smoking when you have diabetes makes blood flow problems much worse.

These two problems can work together to cause a foot problem.

^{*}See page 14 for tips on how to say the words in **bold** type.

For example, you get a blister from shoes that do not fit. You do not feel the pain from the blister because you have nerve damage in your foot. Next, the blister gets infected. If blood glucose is high, the extra glucose feeds the germs. Germs grow and the infection gets worse. Poor blood flow to your legs and feet can slow down healing. Once in a while a bad infection never heals. The infection might cause **gangrene**. If a person has gangrene, the skin and tissue around the sore die. The area becomes black and smelly.

To keep gangrene from spreading, a doctor may have to do surgery to cut off a toe, foot, or part of a leg. Cutting off a body part is called an **amputation**.



Make sure you wear shoes that fit well.

What can I do to take care of my feet?

- Wash your feet in warm water every day. Make sure the water is not too hot by testing the temperature with your elbow. Do not soak your feet. Dry your feet well, especially between your toes.
- Look at your feet every day to check for cuts, sores, blisters, redness, calluses, or other problems.

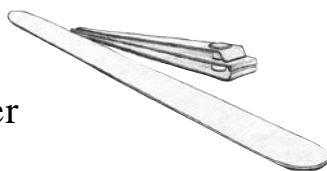
Checking every day is even more important if you have nerve damage or poor blood flow. If you cannot bend over or pull your feet up to check them, use a mirror. If you cannot see well, ask someone else to check your feet.

- If your skin is dry, rub lotion on your feet after you wash and dry them. Do not put lotion between your toes.

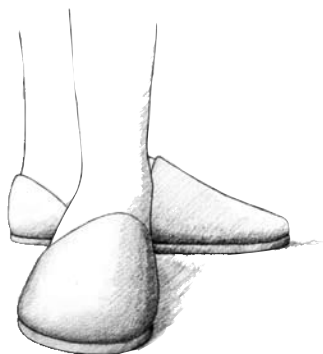


Look at your feet every day to check for problems.

- File corns and calluses gently with an emery board or pumice stone. Do this after your bath or shower.



- Cut your toenails once a week or when needed. Cut toenails when they are soft from washing. Cut them to the shape of the toe and not too short. File the edges with an emery board.
- Always wear slippers or shoes to protect your feet from injuries.
- Always wear socks or stockings to avoid blisters. Do not wear socks or knee-high stockings that are too tight below your knee.
- Wear shoes that fit well. Shop for shoes at the end of the day when your feet are bigger. Break in shoes slowly. Wear them 1 to 2 hours each day for the first few weeks.
- Before putting your shoes on, feel the insides to make sure they have no sharp edges or objects that might injure your feet.



Always wear slippers or shoes to protect your feet.

How can my doctor help me take care of my feet?

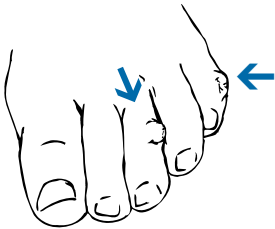
- Tell your doctor right away about **any** foot problems.
- Your doctor should do a complete foot exam every year.
- Ask your doctor to look at your feet at each diabetes checkup. To make sure your doctor checks your feet, take off your shoes and socks before your doctor comes into the room.
- Ask your doctor to check how well the nerves in your feet sense feeling.
- Ask your doctor to check how well blood is flowing to your legs and feet.
- Ask your doctor to show you the best way to trim your toenails. Ask what lotion or cream to use on your legs and feet.
- If you cannot cut your toenails or you have a foot problem, ask your doctor to send you to a foot doctor. A doctor who cares for feet is called a **podiatrist**.



Take off your shoes and socks so your doctor will check your feet.

What are common diabetes foot problems?

Anyone can have corns, blisters, and other foot problems. If you have diabetes and your blood glucose stays high, these foot problems can lead to infections.



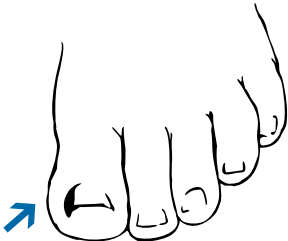
Corn and callus.

Corns and **calluses** are thick layers of skin caused by too much rubbing or pressure on the same spot. Corns and calluses can become infected.



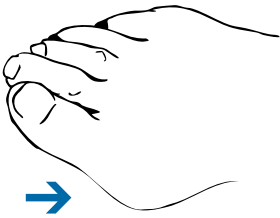
Blisters.

Blisters can form if shoes always rub the same spot. Wearing shoes that do not fit or wearing shoes without socks can cause blisters. Blisters can become infected.



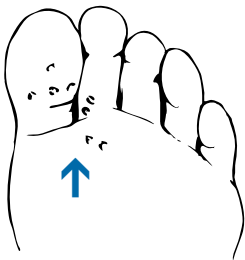
Ingrown toenail.

Ingrown toenails happen when an edge of the nail grows into the skin. The skin can get red and infected. Ingrown toenails can happen if you cut into the corners of your toenails when you trim them. You can also get an ingrown toenail if your shoes are too tight. If toenail edges are sharp, smooth them with an emery board.



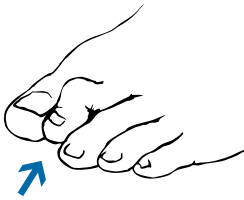
Bunion.

A **bunion** forms when your big toe slants toward the small toes and the place between the bones near the base of your big toe grows big. This spot can get red, sore, and infected. Bunions can form on one or both feet. Pointed shoes may cause bunions. Bunions often run in the family. Surgery can remove bunions.



Plantar warts.

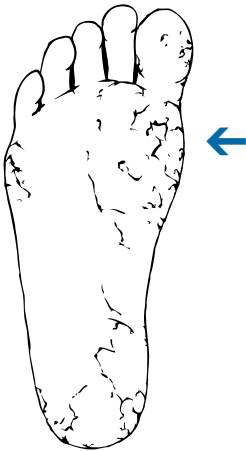
Plantar warts are caused by a virus. The warts usually form on the bottoms of the feet.



Hammertoe.

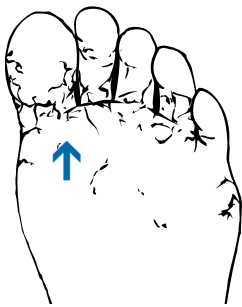
Hammertoes form when a foot muscle gets weak. Diabetic nerve damage may cause the weakness. The weakened muscle makes the tendons in the foot shorter and makes the

toes curl under the feet. You may get sores on the bottoms of your feet and on the tops of your toes. The feet can change their shape. Hammertoes can cause problems with walking and finding shoes that fit well. Hammertoes can run in the family. Wearing shoes that are too short can also cause hammertoes.



Dry and cracked skin.

Dry and cracked skin can happen because the nerves in your legs and feet do not get the message to keep your skin soft and moist. Dry skin can become cracked. Cracks allow germs to enter and cause infection. If your blood glucose is high, it feeds the germs and makes the infection worse.



Athlete's foot.

Athlete's foot is a fungus that causes itchiness, redness, and cracking of the skin. The cracks between the toes allow germs to get under the skin and cause infection. If your blood glucose is high, it feeds the germs

and makes the infection worse. The infection can spread to the toenails and make them thick, yellow, and hard to cut.

Tell your doctor about any foot problem as soon as you see it.

How can special shoes help my feet?

Special shoes can be made to fit softly around your sore feet or feet that have changed shape. These special shoes help protect your feet. Medicare and other health insurance programs may pay for special shoes. Talk with your doctor about how and where to get them.

How can diabetes hurt my skin?

Diabetes can hurt your skin in two ways:

- If your blood glucose is high, your body loses fluid. With less fluid in your body, your skin can get dry. Dry skin can be itchy, causing you to scratch and make it sore. Also, dry skin can crack. Cracks allow germs to enter and cause infection. If your blood glucose is high, it feeds germs and makes infections worse. You may get dry skin on your legs, feet, elbows, and other places on your body.
- Nerve damage can decrease the amount you sweat. Sweating helps keep your skin soft and moist. Decreased sweating in your feet and legs can cause dry skin.



Drinking fluids helps keep your skin moist and healthy.

What can I do to take care of my skin?

- After you wash with a mild soap, make sure you rinse and dry yourself well. Check places where water can hide, such as under the arms, under the breasts, between the legs, and between the toes.
- Keep your skin moist by using a lotion or cream after you wash. Ask your doctor to suggest one.
- Drink lots of fluids, such as water, to keep your skin moist and healthy.
- Wear all-cotton underwear. Cotton allows air to move around your body better.
- Check your skin after you wash. Make sure you have no dry, red, or sore spots that might lead to an infection.
- Tell your doctor about any skin problems.



Keep your skin moist by washing with a mild soap and using lotion or cream after you wash.

Pronunciation Guide

amputation (AM-pyoo-TAY-shuhn)

gangrene (GANG-green)

neuropathy (noo-ROP-uh-thee)

peripheral (puh-RIF-ur-uhl)

podiatrist (poh-DY-uh-trist)

vascular (VASS-kyoo-lur)

For More Information

Diabetes Teachers (nurses, dietitians, pharmacists, and other health professionals)

To find a diabetes teacher near you, call the American Association of Diabetes Educators toll-free at 1-800-TEAMUP4 (832-6874), or look on the Internet at www.diabeteseducator.org and click on “Find a Diabetes Educator.”



Dietitians

To find a dietitian near you, call the American Dietetic Association toll-free at 1-800-877-1600, or look on the Internet at www.eatright.org and click on “Find a Nutrition Professional.”

Government

The National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) is part of the National Institutes of Health. To learn more about feet and skin problems, write or call the National Institute of Arthritis and Musculoskeletal and Skin Diseases Information Clearinghouse, 1 AMS Circle, Bethesda, MD 20892-3675, 1-877-226-4267 (toll-free); or see www.niams.nih.gov on the Internet.

To get more information about taking care of diabetes, contact

National Diabetes Information Clearinghouse

1 Information Way

Bethesda, MD 20892-3560

Phone: 1-800-860-8747

Fax: 703-738-4929

Email: ndic@info.niddk.nih.gov

Internet: www.diabetes.niddk.nih.gov

National Diabetes Education Program

1 Diabetes Way

Bethesda, MD 20892-3560

Phone: 1-800-438-5383

Fax: 703-738-4929

Internet: www.ndep.nih.gov

American Diabetes Association

1701 North Beauregard Street

Alexandria, VA 22311

Phone: 1-800-DIABETES (342-2383)

Internet: www.diabetes.org

**Juvenile Diabetes Research Foundation
International**

120 Wall Street

New York, NY 10005-4001

Phone: 1-800-533-CURE (2873)

Internet: www.jdrf.org

More in the Series

The “Prevent Diabetes Problems” Series has seven booklets that can help you learn more about how to prevent diabetes problems.



For free single copies of these booklets, write, call, fax, or email the

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1 Information Way
Bethesda, MD 20892-3560
Phone: 1-800-860-8747
Fax: 703-738-4929
Email: ndic@info.niddk.nih.gov

These booklets are also available at www.diabetes.niddk.nih.gov on the Internet.

Acknowledgments

The National Diabetes Information Clearinghouse thanks the people who helped review or field-test this publication:

For the American Association of Diabetes Educators

Lynn Grieger, R.D.,
C.D.E.
Arlington, VT
Celia Levesque, R.N.,
C.D.E.
Montgomery, AL
Teresa McMahon,
Pharm.D., C.D.E.
Seattle, WA
Barbara Schreiner, R.N.,
M.N., C.D.E.
Galveston, TX

For the American Diabetes Association

Phyllis Barrier, M.S.,
R.D., C.D.E.
Alexandria, VA
Linda Haas, Ph.C., R.N.,
C.D.E.
Seattle, WA
Kathleen Mahoney,
M.S.N., R.N., C.D.E.
Drexel Hill, PA
Randi Kington, M.S.,
R.N., C.S., C.D.E.
Hartford, CT

For the Centers for Medicare & Medicaid Services

Baltimore, MD
Jan Drass, R.N., C.D.E.

For the Diabetes Research and Training Centers

Albert Einstein School
of Medicine
Norwalk Hospital
Norwalk, CT
Jill Ely, R.N., C.D.E.
Sam Engel, M.D.
Pam Howard, A.P.R.N.,
C.D.E.

Indiana University
School of Medicine
Indianapolis, IN
Madelyn Wheeler, M.S.,
R.D., F.A.D.A., C.D.E.

VA/JDF Diabetes
Research Center
Vanderbilt School of
Medicine
Nashville, TN
Ok Chon Allison,
M.S.N., R.N.C.S.,
A.N.P., C.D.E.
Barbara Backer, B.S.
James W. Pichert, Ph.D.
Alvin Powers, M.D.
Melissa E. Schweikhart
Michael B. Smith
Kathleen Wolffe, R.N.

For the Grady Health System Diabetes Clinic

Atlanta, GA
Ernestine Baker, R.N.,
F.N.P., C.D.E.
Kris Ernst, R.N., C.D.E.
Margaret Fowke,
R.D., L.D.
Kay Mann, R.N., C.D.E.

For the Indian Health Service

Albuquerque, NM
Ruth Bear, R.D., C.D.E.
Dorinda Bradley, R.N.,
C.D.E.
Terry Fisher, R.N.
Lorraine Valdez, R.N.,
C.D.E.

Red Lake, MN
Charmaine Branchaud,
B.S.N., R.N., C.D.E.

For the Medlantic Research Center

Washington, DC
Resa Levetan, M.D.

For the Texas Diabetes Council

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Health
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The National Diabetes Information Clearinghouse (NDIC) is a service of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). The NIDDK is part of the National Institutes of Health of the U.S. Department of Health and Human Services. Established in 1978, the Clearinghouse provides information about diabetes to people with diabetes and to their families, health care professionals, and the public. The NDIC answers inquiries, develops and distributes publications, and works closely with professional and patient organizations and Government agencies to coordinate resources about diabetes.

Publications produced by the Clearinghouse are carefully reviewed by both NIDDK scientists and outside experts.

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This booklet is also available at www.diabetes.niddk.nih.gov.

This publication may contain information about medications used to treat a health condition. When this publication was prepared, the NIDDK included the most current information available. Occasionally, new information about medication is released. For updates or for questions about any medications, please contact the U.S. Food and Drug Administration at 1-888-INFO-FDA (463-6332), a toll-free call, or visit their website at www.fda.gov. Consult your doctor for more information.



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NIH Publication No. 08-4282
May 2008