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Diabetes Complications

Also called: Diabetic complications

What is diabetes?

If you have diabetes [<https://medlineplus.gov/diabetes.html>] , your blood glucose, or blood sugar [<https://medlineplus.gov/bloodglucose.html>] , levels are too high. Glucose comes from the foods you eat. A hormone called insulin helps the glucose get into your cells to give them energy.

With type 1 diabetes [<https://medlineplus.gov/diabetestype1.html>] , your body does not make insulin. With type 2 diabetes [<https://medlineplus.gov/diabetestype2.html>] , your body does not make or use insulin well. Without enough insulin, the glucose stays in your blood.

What health problems can diabetes cause?

Over time, having too much glucose in your blood can cause complications, including:

- Eye disease [<https://medlineplus.gov/diabeticeyeproblems.html>] , due to changes in fluid levels, swelling in the tissues, and damage to the blood vessels in the eyes.
- Foot problems [<https://medlineplus.gov/diabeticfoot.html>] , caused by damage to the nerves and reduced blood flow to your feet.
- Gum disease [<https://medlineplus.gov/gumdisease.html>] and other dental problems, because a high amount of glucose in your saliva helps harmful bacteria grow in your mouth. The bacteria combine with food to form a soft, sticky film called plaque. Plaque also comes from eating foods that contain sugars or starches. Some types of plaque cause gum disease and bad breath [<https://medlineplus.gov/badbreath.html>] . Other types cause tooth decay [<https://medlineplus.gov/toothdecay.html>] and cavities.
- Heart disease [<https://medlineplus.gov/diabeticheartdisease.html>] and stroke [<https://medlineplus.gov/stroke.html>] , caused by damage to your blood vessels and the nerves that control your heart and blood vessels.
- Kidney disease [<https://medlineplus.gov/diabetickidneyproblems.html>] , due to damage to the blood vessels in your kidneys. Many people with diabetes develop high blood pressure [<https://medlineplus.gov/highbloodpressure.html>] . That can also damage your kidneys.
- Nerve problems [<https://medlineplus.gov/diabeticnerveproblems.html>] (diabetic neuropathy), caused by damage to the nerves and the small blood vessels that nourish your nerves with oxygen and nutrients.
- Sexual and bladder [<https://medlineplus.gov/bladderdiseases.html>] problems, caused by damage to the nerves and reduced blood flow in the genitals and bladder.
- Skin conditions [<https://medlineplus.gov/skinconditions.html>] , some of which are caused by changes in the small blood vessels and reduced circulation. People with diabetes are also more likely to have infections, including skin infections [<https://medlineplus.gov/skininfections.html>] .

What other problems can people with diabetes have?

If you have diabetes, you need to watch out for blood glucose levels that are too high [<https://medlineplus.gov/hyperglycemia.html>] (hyperglycemia) or too low for you [<https://medlineplus.gov/hypoglycemia.html>] (hypoglycemia). These can happen quickly and can become dangerous. Some of the causes include having another illness or infection and certain medicines. They can also happen if you don't get the right amount of diabetes medicines [<https://medlineplus.gov/diabetesmedicines.html>] . To try to prevent these problems, make sure to take your diabetes



medicines correctly, follow your diabetic diet [<https://medlineplus.gov/diabeticdiet.html>] , and check your blood glucose regularly.

NIH: National Institute of Diabetes and Digestive and Kidney Diseases


Start Here

- Diabetes -- Know When to Go to the ER [<https://www.emergencyphysicians.org/article/know-when-to-go/diabetes>] (American College of Emergency Physicians)
- Diabetes Complications [<https://www.cdc.gov/diabetes/complications/>] (Centers for Disease Control and Prevention)
Also in Spanish [<https://www.cdc.gov/diabetes/es/complications/complicaciones-de-la-diabetes.html>]

Diagnosis and Tests

- Ketones in Blood [<https://medlineplus.gov/lab-tests/ketones-in-blood/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/prueba-de-cetonas-en-sangre/>]
- Ketones in Urine [<https://medlineplus.gov/lab-tests/ketones-in-urine/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/prueba-de-cetonas-en-la-orina/>]


Prevention and Risk Factors

- Diabetes Care: 10 Ways to Avoid Diabetes Complications [<https://www.mayoclinic.org/diseases-conditions/diabetes/in-depth/diabetes-management/ART-20045803?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/diabetes/in-depth/diabetes-management/art-20045803?p=1>]
- Diabetes, Gum Disease, and Other Dental Problems [<https://www.niddk.nih.gov/health-information/diabetes/overview/preventing-problems/gum-disease-dental-problems>]
 **Easy-to-Read** (National Institute of Diabetes and Digestive and Kidney Diseases)
Also in Spanish [<https://www.niddk.nih.gov/health-information/informacion-de-la-salud/diabetes/informacion-general/prevenir-problemas/boca>]
- Healthy Weight [<https://www.cdc.gov/diabetes/living-with/healthy-weight.html>] (Centers for Disease Control and Prevention)
Also in Spanish [<https://www.cdc.gov/diabetes/es/living-with/peso-saludable.html>]
- Manage Blood Sugar [<https://www.cdc.gov/diabetes/treatment/>] **Easy-to-Read** (Centers for Disease Control and Prevention)
Also in Spanish [<https://www.cdc.gov/diabetes/es/treatment/manejo-de-los-niveles-de-azucar-en-la-sangre.html>]

Living With

- Steps to Prevent or Delay Nerve Damage [<https://diabetes.org/about-diabetes/complications/neuropathy/steps-prevent-or-delay-nerve-damage>] (American Diabetes Association)

Specifics

- Bone and Joint Problems Associated with Diabetes [<https://www.mayoclinic.org/diseases-conditions/diabetes/in-depth/diabetes/ART-20049314?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/diabetes/in-depth/diabetes/art-20049314?p=1>]
- Diabetes & Oral Health [<https://www.nidcr.nih.gov/health-info/diabetes>]  (National Institute of Dental and Craniofacial Research)
Also in Spanish [<https://www.nidcr.nih.gov/espanol/temas-de-salud/la-diabetes-y-la-salud-oral>]
- Diabetes and DKA (Ketoacidosis) [<https://diabetes.org/about-diabetes/complications/ketoacidosis-dka/dka-ketoacidosis-ketones>] (American Diabetes Association)
- Diabetes and High Blood Pressure [<https://diabetes.org/about-diabetes/complications/high-blood-pressure>]
(American Diabetes Association)
- Diabetes and Skin Complications [<https://diabetes.org/about-diabetes/complications/skin-complications>]
(American Diabetes Association)
- Diabetes, Heart Disease, and Stroke [<https://www.niddk.nih.gov/health-information/diabetes/overview/preventing-problems/heart-disease-stroke>]  (National Institute of Diabetes and Digestive and Kidney Diseases)

Also in Spanish [<https://www.niddk.nih.gov/health-information/informacion-de-la-salud/diabetes/informacion-general/prevenir-problemas/diabetes-enfermedades-cardiacas-accidentes-cerebrovasculares>]

- Diabetes, Sexual, and Bladder Problems [<https://www.niddk.nih.gov/health-information/diabetes/overview/preventing-problems/sexual-bladder-problems>]  (National Institute of Diabetes and Digestive and Kidney Diseases)
Also in Spanish [<https://www.niddk.nih.gov/health-information/informacion-de-la-salud/diabetes/informacion-general/prevenir-problemas/sexuales-urologicos>]
- Diabetic Coma [<https://www.mayoclinic.org/diseases-conditions/diabetic-coma/symptoms-causes/syc-20371475?p=1>]
(Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/diabetic-coma/symptoms-causes/syc-20371475?p=1>]
- Diabetic Hypoglycemia [<https://www.mayoclinic.org/diseases-conditions/diabetic-hypoglycemia/symptoms-causes/syc-20371525?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/diabetic-hypoglycemia/symptoms-causes/syc-20371525?p=1>]
- Diabetic Ketoacidosis [<https://www.mayoclinic.org/diseases-conditions/diabetic-ketoacidosis/symptoms-causes/syc-20371551?p=1>] (Mayo Foundation for Medical Education and Research)
- Gastroparesis [<https://www.niddk.nih.gov/health-information/digestive-diseases/gastroparesis>]
 (National Institute of Diabetes and Digestive and Kidney Diseases)
Also in Spanish [<https://www.niddk.nih.gov/health-information/informacion-de-la-salud/enfermedades-digestivas/gastroparesia>]
- Hyperglycemia in Diabetes [<https://www.mayoclinic.org/diseases-conditions/hyperglycemia/symptoms-causes/syc-20373631?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/hyperglycemia/symptoms-causes/syc-20373631?p=1>]

Images

- Diabetic Dermopathy [<https://skinsight.com/skin-conditions/diabetic-dermopathy/?lmiw9cApl=1>] (VisualDX)

Clinical Trials



- ClinicalTrials.gov: Diabetes Complications [<https://clinicaltrials.gov/search?cond=%22Diabetes+Complications%22&aggFilters=status:not%20rec>]  (National Institutes of Health)

Journal Articles

References and abstracts from MEDLINE/PubMed (National Library of Medicine)

- Article: Trained immunity: novel perspectives in diabetes and associated complications.
[<https://www.ncbi.nlm.nih.gov/pubmed/40746537>]
- Article: Early-Onset Diabetes in Ghana's Upper East Region-Insights From Hospital Data.
[<https://www.ncbi.nlm.nih.gov/pubmed/40716044>]
- Article: Data mining-based analysis to explore the application of an animal model...
[<https://www.ncbi.nlm.nih.gov/pubmed/40704142>]
- Diabetes Complications -- see more articles [<https://pubmed.ncbi.nlm.nih.gov/?term=%22Diabetes+Complications%22%5Bmajr%3Anoexp%5D+AND+humans%5Bmh%5D+AND+english%5Bla%5D+AND+%22last+1+Year%22+%5Bedat%5D+NOT+%28letter%5Bpt%5D+OR+case+reports%5Bpt%5D+OR+editorial%5Bpt%5D+OR+comment%5Bpt%5D%29+AND+free+full+text%5Bsb%5D+>]

Find an Expert

- American Diabetes Association [<https://diabetes.org/>]
- National Institute of Diabetes and Digestive and Kidney Diseases [<https://www.niddk.nih.gov>] 
- NIDDK Information Clearinghouses and Health Information Center [<https://www.niddk.nih.gov/health-information/community-health-outreach/information-clearinghouses>]
 (National Institute of Diabetes and Digestive and Kidney Diseases)


Men

- Erectile Dysfunction and Diabetes: Take Control Today [<https://www.mayoclinic.org/diseases-conditions/erectile-dysfunction/in-depth/erectile-dysfunction/ART-20043927?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/erectile-dysfunction/in-depth/erectile-dysfunction/art-20043927?p=1>]

Women

- Diabetes and Women [<https://www.cdc.gov/diabetes/risk-factors/diabetes-and-women-1.html>]
(Centers for Disease Control and Prevention)
Also in Spanish [<https://www.cdc.gov/diabetes/es/risk-factors/la-diabetes-y-las-mujeres.html>]

Patient Handouts

- Diabetes - preventing heart attack and stroke [<https://medlineplus.gov/ency/patientinstructions/000080.htm>]
(Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000080.htm>]
- Diabetes: Dental Tips [<https://www.nidcr.nih.gov/sites/default/files/2021-01/Diabetes-Dental-Tips.pdf>]
 (National Institute of Dental and Craniofacial Research) - PDF
- Diabetic hyperglycemic hyperosmolar syndrome [<https://medlineplus.gov/ency/article/000304.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000304.htm>]
- Diabetic ketoacidosis [<https://medlineplus.gov/ency/article/000320.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000320.htm>]
- Long-term complications of diabetes [<https://medlineplus.gov/ency/patientinstructions/000327.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000327.htm>]



MEDICAL ENCYCLOPEDIA

- Diabetes - preventing heart attack and stroke [<https://medlineplus.gov/ency/patientinstructions/000080.htm>]
- Diabetic hyperglycemic hyperosmolar syndrome [<https://medlineplus.gov/ency/article/000304.htm>]
- Diabetic ketoacidosis [<https://medlineplus.gov/ency/article/000320.htm>]
- Eruptive xanthomatosis [<https://medlineplus.gov/ency/article/007746.htm>]
- Gastroparesis [<https://medlineplus.gov/ency/article/000297.htm>]
- Ketones blood test [<https://medlineplus.gov/ency/article/003498.htm>]
- Ketones urine test [<https://medlineplus.gov/ency/article/003585.htm>]
- Long-term complications of diabetes [<https://medlineplus.gov/ency/patientinstructions/000327.htm>]
- Necrobiosis lipoidica diabetorum [<https://medlineplus.gov/ency/article/007742.htm>]

Potassium urine test [<https://medlineplus.gov/ency/article/003600.htm>]

Scleredema diabeticorum [<https://medlineplus.gov/ency/article/007749.htm>]

Related Health Topics

Diabetes [<https://medlineplus.gov/diabetes.html>]

Diabetes and Pregnancy [<https://medlineplus.gov/diabetesandpregnancy.html>]

Diabetes in Children and Teens [<https://medlineplus.gov/diabetesinchildrenandteens.html>]

Diabetes Type 1 [<https://medlineplus.gov/diabetestype1.html>]

Diabetes Type 2 [<https://medlineplus.gov/diabetestype2.html>]

Diabetic Eye Problems [<https://medlineplus.gov/diabeticeyeproblems.html>]

Diabetic Foot [<https://medlineplus.gov/diabeticfoot.html>]

Diabetic Heart Disease [<https://medlineplus.gov/diabeticheartdisease.html>]

Diabetic Kidney Problems [<https://medlineplus.gov/diabetickidneyproblems.html>]

Diabetic Nerve Problems [<https://medlineplus.gov/diabeticnerveproblems.html>]

National Institutes of Health

The primary NIH organization for research on *Diabetes Complications* is the National Institute of Diabetes and Digestive and Kidney Diseases [<https://www.niddk.nih.gov>]

Other Languages

Find health information in languages other than English [<https://medlineplus.gov/languages/diabetescomplications.html>] on *Diabetes Complications*

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