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Blood Clots

Also called: Hypercoagulability

What is a blood clot?

A blood clot is a mass of blood that forms when platelets [<https://medlineplus.gov/plateletdisorders.html>] , proteins, and cells in the blood stick together. When you get hurt, your body forms a blood clot to stop the **bleeding** [<https://medlineplus.gov/bleeding.html>] . After the bleeding stops and healing takes place, your body usually breaks down and removes the blood clot. But sometimes the blood clots form where they shouldn't, your body makes too many blood clots or abnormal blood clots, or the blood clots don't break down like they should. These blood clots can be dangerous and may cause other health problems.

Blood clots can form in, or travel to, the blood vessels in the limbs, lungs, brain, heart, and kidneys. The types of problems blood clots can cause will depend on where they are:

- Deep vein thrombosis [<https://medlineplus.gov/deepveinthrombosis.html>] (DVT) is a blood clot in a deep vein, usually in the lower leg, thigh, or pelvis. It can block a vein and cause damage to your leg.
- A pulmonary embolism [<https://medlineplus.gov/pulmonaryembolism.html>] (PE) can happen when a DVT breaks off and travels through the bloodstream to the lungs. A PE, especially if it is large, can damage your lungs and prevent your other organs from getting enough oxygen.
- Cerebral venous sinus thrombosis (CVST) is a rare blood clot in the venous sinuses in your brain. Normally the venous sinuses drain blood from your brain. CVST blocks the blood from draining and can cause a hemorrhagic stroke [<https://medlineplus.gov/hemorrhagicstroke.html>] .
- Blood clots in other parts of the body can cause problems such as an ischemic stroke [<https://medlineplus.gov/ischemicstroke.html>] , a heart attack [<https://medlineplus.gov/heartattack.html>] , kidney problems [<https://medlineplus.gov/kidneydiseases.html>] , kidney failure [<https://medlineplus.gov/kidneyfailure.html>] , and pregnancy-related problems [<https://medlineplus.gov/healthproblemsinpregnancy.html>] .

Who is more likely to develop blood clots?

Certain factors can raise your risk of developing blood clots:

- Atherosclerosis [<https://medlineplus.gov/atherosclerosis.html>]
- Atrial fibrillation [<https://medlineplus.gov/atrialfibrillation.html>]
- Being overweight or having obesity [<https://medlineplus.gov/obesity.html>]
- Cancer and cancer treatments
- Certain genetic disorders [<https://medlineplus.gov/geneticdisorders.html>]
- Certain surgeries
- COVID-19 [<https://medlineplus.gov/covid19coronavirusdisease2019.html>]
- Diabetes [<https://medlineplus.gov/diabetes.html>]
- Family history of blood clots
- Overweight and obesity [<https://medlineplus.gov/obesity.html>]
- Pregnancy [<https://medlineplus.gov/pregnancy.html>] and giving birth [<https://medlineplus.gov/childbirth.html>]
- Serious injuries [<https://medlineplus.gov/woundsandinjuries.html>]
- Some medicines, including birth control pills [<https://medlineplus.gov/birthcontrol.html>]

- Smoking [<https://medlineplus.gov/smoking.html>]
- Staying in one position for a long time, such as being in the hospital or taking a long car or plane ride

What are the symptoms of blood clots?

The symptoms for blood clots can be different, depending on where the blood clot is:

- In the abdomen: Abdominal pain [<https://medlineplus.gov/abdominalpain.html>] , nausea and vomiting [<https://medlineplus.gov/nauseaandvomiting.html>]
- In an arm or leg: Sudden or gradual pain, swelling, tenderness, and warmth
- In the lungs: Shortness of breath, pain with deep breathing, rapid breathing, and increased heart rate
- In the brain: Trouble speaking [<https://medlineplus.gov/speechandcommunicationdisorders.html>] , vision problems [<https://medlineplus.gov/visionimpairmentandblindness.html>] , seizures [<https://medlineplus.gov/seizures.html>] , weakness on one side of the body, and sudden severe headache [<https://medlineplus.gov/headache.html>]
- In the heart: Chest pain [<https://medlineplus.gov/chestpain.html>] , sweating, shortness of breath, and pain in the left arm

How are blood clots diagnosed?

To find out if you have one or more blood clots, your health care provider:

- Will do a physical exam.
- Will take your medical history, which includes asking about your symptoms.
- May order blood tests, including a D-dimer test [<https://medlineplus.gov/lab-tests/d-dimer-test/>] .
- May order imaging tests [<https://medlineplus.gov/diagnosticimaging.html>] , such as
 - Ultrasound [<https://medlineplus.gov/lab-tests/sonogram/>] .
 - X-rays [<https://medlineplus.gov/xrays.html>] of the veins (venography) or blood vessels (angiography) that are taken after you get an injection of special dye. The dye shows up on the x-ray and allows the provider to see how the blood flows.
 - CT Scan [<https://medlineplus.gov/ctscans.html>] .

What are the treatments for blood clots?

Treatments for blood clots depend on where the blood clot is located and how severe it is. Treatments may include:

- Blood thinners [<https://medlineplus.gov/bloodthinners.html>] .
- Other medicines, including thrombolytics. Thrombolytics are medicines that dissolve blood clots. They are usually used where the blood clots are severe.
- Surgery and other procedures to remove the blood clots

Can blood clots be prevented?

You may be able to help prevent blood clots by:

- Moving around as soon as possible after having been confined to your bed, such as after surgery, illness, or injury
- Getting up and moving around every few hours when you have to sit for long periods of time, for example if you are on a long flight or car trip
- Wearing compression stockings after surgery or during a long flight
- Regular physical activity [<https://medlineplus.gov/howmuchexercisedoneed.html>]
- Not smoking
- Staying at a healthy weight

Some people at high risk may need to take blood thinners to prevent blood clots.

Start Here

- Blood Clots [<https://www.hematology.org/education/patients/blood-clots>]  (American Society of Hematology)

- Blood Clots [<https://www.mayoclinic.org/symptoms/blood-clots/basics/definition/SYM-20050850?p=1>] (Mayo Foundation for Medical Education and Research)
- Blood Clots [<https://www.radiologyinfo.org/en/info/bloodclot>] (American College of Radiology; Radiological Society of North America)
Also in Spanish [<https://www.radiologyinfo.org/es/info/bloodclot>]
- How Does Blood Clot? [<https://www.nhlbi.nih.gov/health/clotting-disorders/how-blood-clots>]
 (National Heart, Lung, and Blood Institute)

Diagnosis and Tests

- Coagulation Factor Tests [<https://medlineplus.gov/lab-tests/coagulation-factor-tests/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/pruebas-de-los-factores-de-la-coagulacion/>]
- D-Dimer Test [<https://medlineplus.gov/lab-tests/d-dimer-test/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/prueba-del-dimero-d/>]
- MPV Blood Test [<https://medlineplus.gov/lab-tests/mpv-blood-test/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/prueba-de-sangre-de-vpm/>]
- Partial Thromboplastin Time (PTT) Test [<https://medlineplus.gov/lab-tests/partial-thromboplastin-time-ptt-test/>]
 (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/prueba-de-tpt-tiempo-parcial-de-tromboplastina/>]
- Protein C and Protein S Tests [<https://medlineplus.gov/lab-tests/protein-c-and-protein-s-tests/>]
 (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/pruebas-de-proteina-c-y-proteina-s/>]
- Prothrombin Time Test and INR (PT/INR) [<https://medlineplus.gov/lab-tests/prothrombin-time-test-and-inr-ptinr/>]
 (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/prueba-de-tiempo-de-protrombina-e-inr-tpinr/>]

Prevention and Risk Factors

- Understand Your Risk for Excessive Blood Clotting [<https://www.heart.org/en/health-topics/venous-thromboembolism/understand-your-risk-for-excessive-blood-clotting>] (American Heart Association)

Treatments and Therapies

- Blood Thinners: MedlinePlus Health Topic [<https://medlineplus.gov/bloodthinners.html>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/bloodthinners.html>]
- Catheter-Directed Thrombolysis [<https://www.radiologyinfo.org/en/info/thrombo>]
(American College of Radiology; Radiological Society of North America)
Also in Spanish [<https://www.radiologyinfo.org/es/info/thrombo>]

Related Issues

- Blood Thinners: Can I Still Get Blood Clots? [<https://www.mayoclinic.org/diseases-conditions/deep-vein-thrombosis/expert-answers/blood-thinners/faq-20058261?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/deep-vein-thrombosis/expert-answers/blood-thinners/faq-20058261?p=1>]
- Understanding Your Risk for Blood Clots with Travel [<https://www.cdc.gov/blood-clots/risk-factors/travel.html>]
(Centers for Disease Control and Prevention)

Specifics

- Antiphospholipid Syndrome (APS) [<https://www.nhlbi.nih.gov/health/antiphospholipid-syndrome>]
 (National Heart, Lung, and Blood Institute)
Also in Spanish [<https://www.nhlbi.nih.gov/es/salud/sindrome-antifosfolipídico>]
- Cerebral Venous Sinus Thrombosis (CVST) [<https://www.hopkinsmedicine.org/health/conditions-and-diseases/cerebral-venous-sinus-thrombosis>] (Johns Hopkins Medicine)

- Disseminated Intravascular Coagulation (DIC) [<https://www.nhlbi.nih.gov/health/disseminated-intravascular-coagulation>]  (National Heart, Lung, and Blood Institute)
- Hypercoagulation [<https://familydoctor.org/condition/hypercoagulation/?adfree=true>] (American Academy of Family Physicians)
Also in Spanish [<https://es.familydoctor.org/condicion/hipercoagulabilidad-es/?adfree=true>]
- Thrombophlebitis [<https://www.mayoclinic.org/diseases-conditions/thrombophlebitis/symptoms-causes/syc-20354607?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/thrombophlebitis/symptoms-causes/syc-20354607?p=1>]
- Thrombotic Thrombocytopenic Purpura (TTP) [<https://www.nhlbi.nih.gov/health/thrombotic-thrombocytopenic-purpura>]  (National Heart, Lung, and Blood Institute)
Also in Spanish [<https://www.nhlbi.nih.gov/es/salud/purpura-trombotica-trombocitopenica>]

Genetics

- Factor V Leiden thrombophilia: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/factor-v-leiden-thrombophilia>]  (National Library of Medicine)
- Hereditary antithrombin deficiency: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/hereditary-antithrombin-deficiency>]  (National Library of Medicine)
- Learning about Factor V Leiden Thrombophilia [<https://www.genome.gov/Genetic-Disorders/Factor-V-Leiden-Thrombophilia>]  (National Human Genome Research Institute)
- Protein C deficiency: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/protein-c-deficiency>]  (National Library of Medicine)
- Protein S deficiency: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/protein-s-deficiency>]  (National Library of Medicine)
- Prothrombin thrombophilia: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/prothrombin-thrombophilia>]  (National Library of Medicine)

Videos and Tutorials

- Blood clotting [<https://medlineplus.gov/ency/anatomyvideos/000011.htm>]  (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/anatomyvideos/000011.htm>]

Statistics and Research

- Blood Clots Explained: Clearing Blockages in the System [<https://newsinhealth.nih.gov/2021/05/blood-clots-explained>]  (National Institutes of Health)
Also in Spanish [<https://salud.nih.gov/recursos-de-salud/nih-noticias-de-salud/coagulos-de-sangre-explicados>]
- New Research from Emory University May Revolutionize How Stroke, Heart Attack, Related Blood-Clotting Conditions Are Treated [https://news.emory.edu/stories/2025/04/hs_blood_clot_conditions_04-04-2025/story.html] (Emory University)

Clinical Trials

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

Journal Articles

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

- Article: Stress Hyperglycemia Ratio as a Predictor of In-Hospital Stent Thrombosis in... [<https://www.ncbi.nlm.nih.gov/pubmed/40731789>]

- Article: Afucosylated IgG Promote Thrombosis in Mouse Injected with SARS-CoV-2 Spike Expressing... [https://www.ncbi.nlm.nih.gov/pubmed/40725250]
- Article: Matrix Metalloproteinases Family Gene Polymorphisms Are Associated with Thrombosis Risk in... [https://www.ncbi.nlm.nih.gov/pubmed/40724896]
- Blood Clots -- see more articles [https://pubmed.ncbi.nlm.nih.gov/?term=%22Thrombosis%22%5Bmajr%3Aexp%5D+AND+humans%5Bmh%5D+AND+english%5Bla%5D+AND+%22last+2+Years%22+%5Bdat%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

- Centers for Disease Control and Prevention [https://www.cdc.gov/] Also in Spanish [https://www.cdc.gov/spanish/]
- Find a Hematologist [https://www.hematology.org/education/patients/find-a-hematologist] (American Society of Hematology)
- National Heart, Lung, and Blood Institute [https://www.nhlbi.nih.gov/] 

Children

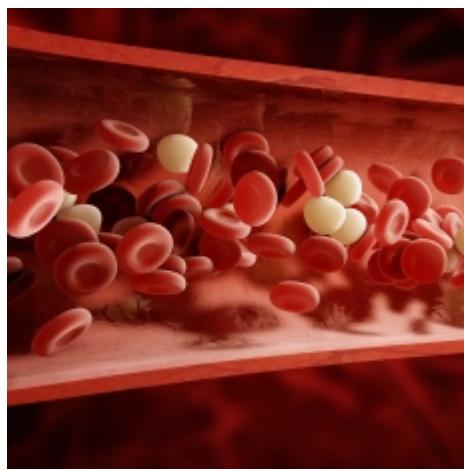
- Blood (For Parents) [https://kidshealth.org/en/parents/blood.html] (Nemours Foundation)
Also in Spanish [https://kidshealth.org/es/parents/blood.html]

Women

- Blood Clots and Pregnancy [https://www.marchofdimes.org/find-support/topics/pregnancy/blood-clots-and-pregnancy]  (March of Dimes Foundation)
Also in Spanish [https://nacersano.marchofdimes.org/embarazo/los-coagulos-de-sangre-y-el-embarazo.aspx]

Patient Handouts

- Arterial embolism [https://medlineplus.gov/ency/article/001102.htm] (Medical Encyclopedia)
Also in Spanish [https://medlineplus.gov/spanish/ency/article/001102.htm]
- Blood clots [https://medlineplus.gov/ency/article/001124.htm] (Medical Encyclopedia)
Also in Spanish [https://medlineplus.gov/spanish/ency/article/001124.htm]
- D-dimer test [https://medlineplus.gov/ency/article/007620.htm] (Medical Encyclopedia)
Also in Spanish [https://medlineplus.gov/spanish/ency/article/007620.htm]
- Prothrombin time (PT) [https://medlineplus.gov/ency/article/003652.htm] (Medical Encyclopedia)
Also in Spanish [https://medlineplus.gov/spanish/ency/article/003652.htm]
- Stop the Clot, Spread the Word® Campaign Resources [https://www.cdc.gov/blood-clots/stoptheclotspreadtheword/] **Easy-to-Read Infographic** (Centers for Disease Control and Prevention)
- Superficial thrombophlebitis [https://medlineplus.gov/ency/article/000199.htm] (Medical Encyclopedia)
Also in Spanish [https://medlineplus.gov/spanish/ency/article/000199.htm]
- Thrombophlebitis [https://medlineplus.gov/ency/article/001108.htm] (Medical Encyclopedia)
Also in Spanish [https://medlineplus.gov/spanish/ency/article/001108.htm]



MEDICAL ENCYCLOPEDIA

Antiphospholipid syndrome - APS [<https://medlineplus.gov/ency/article/000547.htm>]

Antithrombin III blood test [<https://medlineplus.gov/ency/article/003661.htm>]

Arterial embolism [<https://medlineplus.gov/ency/article/001102.htm>]

Blood clots [<https://medlineplus.gov/ency/article/001124.htm>]

Blood clotting [<https://medlineplus.gov/ency/anatomyvideos/000011.htm>]

Cavernous sinus thrombosis [<https://medlineplus.gov/ency/article/001628.htm>]

Congenital antithrombin III deficiency [<https://medlineplus.gov/ency/article/000558.htm>]

Congenital protein C or S deficiency [<https://medlineplus.gov/ency/article/000559.htm>]

D-dimer test [<https://medlineplus.gov/ency/article/007620.htm>]

Disseminated intravascular coagulation (DIC) [<https://medlineplus.gov/ency/article/000573.htm>]

Fibrin degradation products blood test [<https://medlineplus.gov/ency/article/003655.htm>]

Fibrinogen blood test [<https://medlineplus.gov/ency/article/003650.htm>]

Fibrinopeptide A blood test [<https://medlineplus.gov/ency/article/003373.htm>]

Partial thromboplastin time (PTT) [<https://medlineplus.gov/ency/article/003653.htm>]

Protein C blood test [<https://medlineplus.gov/ency/article/003659.htm>]

Protein S blood test [<https://medlineplus.gov/ency/article/003660.htm>]

Prothrombin time (PT) [<https://medlineplus.gov/ency/article/003652.htm>]

Renal vein thrombosis [<https://medlineplus.gov/ency/article/000513.htm>]

Superficial thrombophlebitis [<https://medlineplus.gov/ency/article/000199.htm>]

Thrombophlebitis [<https://medlineplus.gov/ency/article/001108.htm>]

Related Health Topics

Bleeding Disorders [<https://medlineplus.gov/bleedingdisorders.html>]

Deep Vein Thrombosis [<https://medlineplus.gov/deepveinthrombosis.html>]

Platelet Disorders [<https://medlineplus.gov/plateletdisorders.html>]

Pulmonary Embolism [<https://medlineplus.gov/pulmonaryembolism.html>]

The primary NIH organization for research on *Blood Clots* is the National Heart, Lung, and Blood Institute [<http://www.nhlbi.nih.gov/>]

Other Languages

Find health information in languages other than English [<https://medlineplus.gov/languages/bloodclots.html>] on *Blood Clots*

NIH MedlinePlus Magazine

An Almost Perfect Storm [<https://magazine.medlineplus.gov/article/an-almost-perfect-storm>]

Basics of Blood Clots: What You Need to Know [<https://magazine.medlineplus.gov/article/the-basics-of-blood-clots-what-you-need-to-know>]

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