



Deep Vein Thrombosis (DVT)

People living with spinal cord injuries face a heightened risk of developing blood clots in the body's deep veins, a condition known as deep vein thrombosis. Quickly recognizing symptoms and receiving early treatment can help prevent untreated clots from moving to the lungs.

Q: What is deep vein thrombosis? (DVT)

Deep vein thrombosis (DVT) is a serious medical condition that develops when blood fails to circulate and causes clots to form in the deep veins of the body. These blood clots, if untreated, can break loose and move to the lungs, causing a potentially fatal blockage called a pulmonary embolism.

Q: How common is DVT?

People living with spinal cord injuries face a heightened risk of developing DVT, beginning in the days immediately after injury and continuing throughout their lives. The loss of function and diminished mobility that follows an injury often leads to lower activity levels, which in turn slows blood circulation and creates the conditions in which clots can form.

Other factors that can increase individual risk include being overweight, smoking and having a family history of DVT.

Q: Where does DVT occur?

DVT most often develops in the legs, including behind the knee or thigh, and in the pelvis or groin. Less frequently, DVT can occur in the upper arm, forearm, armpit, neck and beneath the collarbone. DVT typically affects only one side of the body.

Q: What are the symptoms of DVT?

Symptoms of DVT vary but can include:

- Swelling in the affected area (veins may look puffy or feel hard or sore)
- Tenderness, pain, or cramping in the leg, possibly starting in the calf

- Pain in the arm or abdomen
- Warm or hot feeling on the skin
- Skin around the affected area may be red, purple, white, or bluish

People living with spinal cord injury (SCI) may not be able to feel the pain or warmth that can be a red flag for DVT. Because of this, it is important to regularly perform visual inspections of the body, especially the legs, to ensure that emerging symptoms are not missed. Use a mirror to check hard-to-see areas or ask a caregiver or family member for help.

DVT can sometimes develop without any symptoms. In these instances, the clot may have already broken away and travelled to the lungs by the time the individual feels anything at all; for this reason, it is vital to recognize the signs of a pulmonary embolism.

Q: What is a pulmonary embolism?

A pulmonary embolism occurs when a blood clot breaks free of the vein and travels through the bloodstream to the lungs. It is a life-threatening condition that can lead to low oxygen levels in the blood and organ damage.

Symptoms of a pulmonary embolism:

- Difficulty breathing
- Fast or irregular heartbeat
- Sharp chest pain or discomfort, which gets worse with deep breaths
- Cough or coughing up blood
- Lightheadedness or fainting

Call 911 immediately if you develop these symptoms.

Q: How is a pulmonary embolism diagnosed and treated?

Pulmonary embolisms will be diagnosed using an imaging test to identify blockages in the lungs and are primarily treated with anticoagulants (blood thinners) and/or thrombolytics (medication to dissolve the clot). If medications do not work quickly enough, the clot will be removed through a minimally invasive surgical procedure called an embolectomy.

Q: Can DVT trigger autonomic dysreflexia (AD)?

Yes. If an unexplained episode of AD occurs, DVT should be suspected.

Autonomic dysreflexia (AD) is a sudden and potentially life-threatening spike in blood pressure that occurs when a painful or uncomfortable sensation prompts the nervous system's "fight or flight" response. After an injury, the signal to counteract this extreme response is blocked from reaching the spinal cord below the injury level. People with T6 injuries and above are at risk of developing AD.

Symptoms of AD vary based on the individual, so it is important to know your own indicators. Some of the signs of AD include high blood pressure, pounding headache, flushed face, changes in vision, sweating above the level of injury, goose flesh below the level of injury, nasal stuffiness, nausea, and a slow pulse (slower than 60 beats per minute). Other symptoms include chills without fever and clammy, cool and pale skin. Some people also experience a tingling sensation or anxiety/uneasy feeling.

Contact your healthcare provider at the first sign of AD.

Q: How is DVT diagnosed?

Healthcare providers will use duplex ultrasonography, an imaging test that captures the flow of blood in the veins, to identify blockages and blood clots. Additionally, a D-dimer blood test, which can detect the substance released when a clot breaks up, may also be used to diagnose DVT.

Q: How is DVT treated?

DVT is primarily treated with anticoagulants, also known as blood thinners, to prevent the clot from growing while the body reabsorbs it. Anticoagulants may be injected or taken orally; patients will be monitored for bleeding. Thrombolytic medications, known as "clot busters," pose a higher risk of bleeding, but may be used in more severe cases. If medication doesn't work quickly enough, a filter may be placed in the vein that brings blood to the heart to trap and remove the clot before it reaches lungs. In rare cases, surgically removing the clot from the vein or lungs may be necessary.

Anticoagulants and the use of compression socks may be prescribed following an episode of DVT to prevent the formation of future clots.

Q: Will I recover from DVT?

Most people recover from DVT with treatment, but there can still be lasting health repercussions. Between one third and one half of people who have DVT develop post-thrombotic syndrome, a condition caused by damage to the valves in the vein. Symptoms include itching, pain, swelling, skin discoloration and ulcers in the affected area. Roughly 30% of people who have had DVT or PE also face heightened risks for future clots.

Q: How can I prevent DVT from developing?

- Inspect your skin daily, including hard-to-see areas of the body, for signs of swelling and/or redness or discoloration that may indicate DVT
- Don't smoke
- Remain as active as possible; perform range of motion exercises each day
- Check wheelchair fit to ensure there is no pressure placed on the back of the knee
- Avoid crossing your legs
- Adjust clothing so it's not tight, especially in underarm and groin areas
- Make sure catheter leg bag straps are loose

Q: Does the National Paralysis Resource Center (NPRC) have any DVT specific resources?

Yes. The NPRC offers free DVT wallet cards that summarize medical history, including baseline blood pressure and body temperature. These cards can be shared with physicians and first responders to help quickly treat DVT during a crisis moment. To download a free card, please visit <https://www.ChristopherReeve.org/cards> or call our Information Specialists at 800-539-7309 to request a copy in the mail.

Sources: Centers for Disease Control & Prevention, Cleveland Clinic, NIH National Library of Medicine.

Need to talk to someone?

Our Information Specialists are available to answer your questions.

Call toll-free 1-800-539-7309 Mon-Fri, 7 am - 8 pm EST.

Or schedule a call or ask a question online at

<https://www.ChristopherReeve.org/Ask>.

Resources for DVT:

National Paralysis Resource Center/Christopher & Dana Reeve Foundation: DVT Wallet Card

<https://www.ChristopherReeve.org/cards>

NIH National Library of Medicine: Pulmonary Embolism/Deep Vein Thrombosis

<https://medlineplus.gov/pulmonaryembolism.html>

Shepherd Center: Deep Vein Thrombosis

<https://myshepherdconnection.org/conditions/sci/medical-concerns/deep-vein-thrombosis/>

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