

## What do veins do?

Arteries carry blood away from the heart to the bodily tissues and organs. Healthy veins carry blood from the bodily tissues back to the heart and lungs.

## What causes Chronic Venous Disease (CVD)?

Healthy leg veins contain valves that open and close to assist the return of blood to the heart. Sometimes, the valves become damaged or diseased and can no longer close properly. As a result, blood can leak back through the valves and pool in the lower leg veins. This can lead to chronic venous disease (CVD).<sup>1</sup>

## Who is affected by CVD?

About 175 million individuals are affected by CVD in the U.S.<sup>2</sup> While risk of CVD increases with age, it can begin as early as adolescence.<sup>3</sup> It's also important to know that visible vein disease is far more than just a cosmetic problem.<sup>2,4</sup> Varicose veins occur about 3 times more often in females than in males.<sup>1</sup> It's important that men still get checked if they are having symptoms or think they are at risk.

## What causes Chronic Venous Insufficiency (CVI)?

CVD can develop into a more serious form of venous disease called chronic venous insufficiency (CVI).<sup>1</sup> When it comes to your health, the more informed you are, the better prepared you'll be to take action.<sup>1</sup>

## What risk factors contribute to CVD?

Many factors contribute to CVD, including family history of varicose veins, being over the age of 50, female sex, deep vein thrombosis (DVT), history of blood clots, multiple pregnancies, obesity, smoking, and lifestyles with long periods of standing or sitting.<sup>1,6</sup>

### References:

1. Eberhardt RT, Raffetto JD. Chronic venous insufficiency. *Circulation*. 2014;130(4):333-346.
2. Yost ML. *Chronic Venous Disease (CVD): Epidemiology, costs, and consequences*. Beaufort, SC: The Sage Group; 2016.
3. Schultz-Ehrenburg U, Reich-Schupke S, Robak-Pawelczyk B, et al. Prospective epidemiological study on the beginning of varicose veins. *Phlebologi*. 2009;38(01):17-25. doi: 10.1055/s-0037-1622252
4. Criqui MH, Denenberg JO, Langer RD, Kaplan RM, Fronek A. Epidemiology of chronic peripheral venous disease. In Bergan J, ed. *The Vein Book*, 1st ed. Academic Press; 2006.
5. Beebe-Dimmer JL, Pfeifer JR, Engle JS, Schottenfeld D. The epidemiology of chronic venous insufficiency and varicose veins. *Ann Epidemiol*. 2005;15(3):175-184.
6. Glowiczki P, et al. The care of patients with varicose veins and associated chronic venous diseases: clinical practice guidelines of the Society for Vascular Surgery and the American Venous Forum. *J Vasc Surg*. 2011 May;53(5 Suppl):25-485.
7. Decision Resources Group. *Varicose Vein Treatment Devices: Medtech 360: Market Analysis: US: 2019*. Canada: Millennium Research Group, Inc.; 2018.
8. Vandy F, Wakefield TW. Varicose veins: evaluating modern treatments, with emphasis on powered phlebectomy for branch varicosities. *Interv Cardiol*. 2012;4(5):527.
9. Whiddon LL. The treatment of venous ulcers of the lower extremities. *Proc (Bayl Univ Med Cent)*. 2007;20(4):363-366.
10. Rice J, Desai U, Cummings AKG, Birnbaum HG, Skornicki M, Parsons N. Burden of venous leg ulcers in the United States. *J Med Econ*. 2014;17(5):347-356.
11. O'Donnell TF, Passman MA, Marston WA, et al. Management of venous leg ulcers: clinical practice guidelines of the Society for Vascular Surgery(R) and the American Venous Forum. *J Vasc Surg*. 2014;60:35-59S.
12. Parker CN, Finlayson KJ, Edwards HE. Predicting the likelihood of delayed venous leg ulcer healing and recurrence: development and reliability testing of risk assessment tools. *Ostomy Wound Manage*. 2017;63(10):16-33.

## What are signs and symptoms of CVD?

Symptoms often occur in the lower legs and can include spider veins or varicose veins (raised or visually noticeable veins), heaviness, aching, tightness, leg fatigue, discomfort, pain, swelling, leg restlessness or muscle cramping.<sup>6</sup> Other late-stage signs are numbness or itching, a change in leg skin color or texture, and wounds or venous ulcers.<sup>1</sup>

## How is CVD treated?

While various treatments are available for venous reflux, radiofrequency (RF) ablation has wide acceptance and is the predominant approach used in the U.S. RF technology has been established as a venous reflux treatment option for more than 20 years.<sup>7</sup> CVD is a progressive disease; without treatment, signs and symptoms may worsen.<sup>1</sup>

## What is a perforating vein?

Small connecting veins, called perforating veins, can have valves that don't work. When blood begins to reflux (flow backwards) or the valve doesn't work, pressure can build within the vein walls. This can lead to nonhealing ulcers and could also cause skin or tissue changes.<sup>8,9</sup>

## How many people are affected by venous ulcers?

About 70-90% of all lower extremity ulcers are venous.<sup>10,11</sup> In the U.S., approximately 4.8 million people suffer from venous ulcers. Direct medical costs represent \$38 billion per year.<sup>2</sup> Venous leg ulcers are likely to recur in 60-70% of patients.<sup>12</sup> Each year the number of new venous ulcer cases is 2 million, which is more than the 1.7 million new cases of all cancers combined in the U.S.<sup>2</sup>