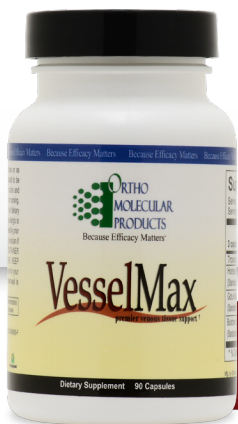


VESSELMAX



CLINICAL APPLICATIONS

- Promotes Healthy Microcirculation in the Legs
- Promotes Normal Tone and Flexibility of Veins
- Helps Maintain Blood Flow and Vessel Strength
- Supports Cardiovascular Health

CARDIOVASCULAR HEALTH

VesselMax includes a powerful blend of botanical extracts shown to promote healthy leg microcirculation and to support tone and flexibility of veins, as well as overall vessel health. The five ingredients in VesselMax work synergistically to support all layers of the veins and the cardiac valve. VesselMax includes 600 mg troxerutin, 500 mg of standardized horse chestnut extract (20% aescin), 200 mg standardized butcher's broom (9-11% ruscogenins), and 250 mg standardized gotu kola (10% asiaticosides) per three-capsule serving, providing full-spectrum vein support.

Overview

The body's veins perform many functions that are vital to the entire circulatory network as a whole. This includes functioning as a passageway for blood to flow back to the heart, regulating the flow of blood via constriction and dilation, as well as storing large volumes of blood required for the proper function of numerous organs including the heart. The alteration of venous health and blood flow can affect cardiovascular health and circulation throughout the lower limbs. Venous difficulties in the lower limbs can result in achy and heavy legs, tingling sensations, cramps, itchy and hot feet, as well as unsightly veins. Each vein is composed of three different layers: the Tunica intima (the innermost layer), the Tunica media (the smooth muscle layer), and the Tunica externa (made up of loose fibrous connective tissue, collagen and hyaluronic acid). Venous difficulties begin when the integrity of the vein is compromised in one or more of the layers. VesselMax contains a powerful and synergistic blend of botanicals that support each layer of the vein, resulting in improved microcirculation and vessel integrity, while preventing the excessive capillary leakage of fluids.

Troxerutin[†]

Rutin is a flavonoid glycoside found in many plants, including citrus fruits. Rutin has been used for many years for its ability to decrease capillary fragility. A group of rutin derivatives, known as troxerutin, have been used for supporting the overall health and integrity of the veins. Troxerutin has been shown to promote healthy blood flow through the veins by preventing the excess clumping of red blood cells and increasing blood profibrinolytic action. ^[1] A meta-analysis of 15 clinical trials including over 1,950 patients reported that troxerutin was significantly superior to placebo in supporting markers of vein health. ^[2] In addition, an eight-month study looked at three groups of patients with vein discomfort. One group received 2 g of troxerutin-based therapy, the second group received 1 g troxerutin-based therapy along with support stockings, and the last group received only support stockings. This study demonstrated that in both of the troxerutin-treated groups, a significant improvement in symptoms was observed over the group who only received support stockings. ^[3]

Horse Chestnut[†]

The horse chestnut tree (*Aesculus hippocastanum*) can be found throughout the Northern hemisphere as a shade tree. The seed of horse chestnut tree is used for its active component, aescin. Aescin supports venous health by promoting normal inflammatory balance and normal microcirculation in the legs. ^[4] Aescin inhibits an enzyme called hyaluronidase that degrades hyaluronic acid, used by skin and capillary cells as part of the proteoglycan matrix that hold collagen fibers in place. Horse chestnut inhibits the age-related breakdown of hyaluronic acid, and by doing so stabilizes the support structures for the veins, skin and other connective tissues. ^[5] Horse chestnut also reduces the number and diameter of

[†] These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

small pores in the capillary membranes, which helps reduce the escape of fluid to the surrounding tissues. A review, which included over 5,000 patients with vein discomfort, found horse chestnut extract to either markedly improve or entirely eliminate tiredness, tension, and itching, comparing equally with another common therapy.^[6] In a randomized, partially blinded, placebo controlled, parallel study, 240 patients were treated for 12 weeks with compression stockings, horse chestnut seed extract (HCSE), or placebo. The researchers found that lower leg volume decreased an average of 43.8 mL with HCSE and 46.7 mL with compression therapy, compared to an average increase of 9.8 mL with placebo, indicating compression stocking therapy and horse chestnut therapy to be equally effective.^[7]

Butchers Broom Extract†

Butcher's broom (*Ruscus aculeatus*) is a short evergreen shrub, native to the Mediterranean region. Butcher's broom has been used for the last 40 years to support healthy veins. The active components of butcher's broom include ruscogenin and neoruscogenin. Both of these saponins increase venous tone by acting as vasoconstrictors and inhibiting elastase, an enzyme that decreases the tone of the veins.^[5] Butcher's broom has been shown to have positive effects on microcirculation, vein constriction, and inhibition of capillary permeability.^[8-10] Clinical trials have shown that together with vitamin C and flavonoids such as hesperidin, butcher's broom can significantly improve various aspects of vein and circulatory health.^[10,11] Various controlled and open trials have demonstrated an improvement in itching, ankle diameter, tension of the leg, and cramping from butcher's broom.^[11-15] Furthermore, a meta-analysis of three randomized, double-blind, cross-over studies concluded that butcher's broom increases venous tone and reduces capillary filtration, resulting in an increase in lymph flow.^[16]

Gotu Kola Extract†

The gotu kola plant (*Centella asiatica*) has been used medicinally throughout China, East Asia and Africa for many years. The active compounds in gotu kola have been shown to support the health of the vein by significantly lowering the activity of lysosomal enzymes, which contribute to venous insufficiency.^[17] Gotu kola stimulates both collagen and glycosaminoglycan synthesis, necessary to vessel integrity.^[18] Several placebo-controlled studies have shown that gotu kola extract significantly improves venous comfort without side effects.^[19-21] In a double-blind study of 94 patients randomized to one of three groups, receiving either 60 or 120 mg of gotu kola or placebo for a period of three months, found that those who took gotu kola at either dose experienced clinical improvements in limb heaviness and overall vein comfort, compared to placebo.^[22]

Directions

3 capsules per day in divided doses or as recommended by your health care professional.

Does Not Contain

Gluten, yeast, artificial colors and flavors.

Cautions

Do not consume this product if you are pregnant or nursing. Consult your physician for further information.

Supplement Facts ^{v2}		
Serving Size 3 Capsules		
Servings Per Container 30		
3 capsules contain	Amount Per Serving	% Daily Value
Troxaerutin	600 mg	*
Horse Chestnut Seed Extract (Standardized to contain 20% Aescin)	500 mg	*
Gotu Kola Extract (aerial portion) (Standardized to contain 10% Asiaticosides)	250 mg	*
Butcher's Broom Extract (root) (Standardized to contain 9-11% Ruscogenins)	200 mg	*
* Daily Value not established		

ID# 549090 90 Capsules

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References

1. Boisseau MR, Taccoen A, Garreau C, et.al. Febrinolysis and hemorheology in chronic venous insufficiency: a double blind study of troxerutin efficiency. *J Cardiovasc Surg* (Torino) 1995 Aug;36(4):369-74.
2. Poynard T, Valterio C. Meta-analysis of hydroxyethylrutosides in the treatment of chronic venous insufficiency. *Vasa* 1994; 23(3):244-50.
3. Cesarone MR1, Belcaro G, Ippolito E, Pellegrini L, Ledda A, Luzzi R, Ricci A, Dugall M, Bavera P, Hosoi M, Stuard S, Corsi M. Clinical improvement in chronic venous insufficiency signs and symptoms with Venoruton® (HR): an 8-month, open-registry, cost-efficacy study. *Panminerva Med.* 2010 Jun;52(2 Suppl 1):43-8.
4. Horse Chestnut. *Alt Med Rev* 2009;14(3):278-83.
5. Facino RM, Carini M, Stefani R, et.al. Anti-elastase and antihyaluronidase activities of saponins and sapogenins from *Hedera helix*, *Aesculus hippocastanum*, and *Ruscus aculeatus*: factors contributing to their efficacy in the treatment of venous insufficiency. *Arch Pharm* (Weinheim) 1995 Oct;328(10):720-4.
6. Greeske K, Pohlmann BK Horse chestnut seed extract an effective therapy principle in general practice. Drug therapy of chronic venous insufficiency. *Fortschr Med* 1996 May 30;114(15):196-200.
7. Diehm C, Trampisch HJ, Lange S, Schmidt C. Comparison of leg compression stocking and oral horsechestnut seed extract therapy in patients with chronic venous insufficiency. *Lancet* 1996;347:292-294.
8. Bouskela E, Cyrino FZ, Marcelon G. Effects of *Ruscus* extract on the internal diameter of arterioles and venules of the hamster cheek pouch microcirculation. *J Cardiovasc Pharmacol* 1993 Aug;22(2):221-4.
9. Bouskela E, Cyrino FZ, Marcelon G. Possible mechanisms for the inhibitory effect of *Ruscus* extract on increased microvascular permeability induced by histamine in hamster cheek pouch. *J Cardiovasc Pharmacol* 1994 Aug;24(2):281-5.
10. Cappelli R, Nicora M, De Perri T. Use of extract of *Ruscus aculeatus* in venous disease in the lower limbs. *Drugs Exp Clin Res* 1988;14(4):277-83.
11. Rudofsky G. Improving venous tone and capillary sealing. Effect of a combination of *Ruscus* extract and hesperidine methyl chalcone in healthy probands in heat stress. *Fortschr Med* 1989 Jun 30;107(19):52,55-8.
12. Parrado F, Buzzi A. A study of the efficacy and tolerability of a preparation containing *Ruscus aculeatus* in the treatment of chronic venous insufficiency of the lower limbs. *Clin Drug Invest* 1999;18:255-261.
13. Cappelli R, Nicora M, Di Perri T. Use of extract of *Ruscus aculeatus* in venous disease of the lower limb. *Drugs Exp Clin Res* 1988;14:277-283.
14. Jaeger K, Eichlisberger CH, Lobs J, et al. Pharmacodynamic effects of *Ruscus* extract (Cyclo 3 Fort®) on superficial and deep veins in patients with primary varicose veins. Assessment by duplexsonography. *Clin Drug Invest* 1999;111-119.
15. Berg D. First results with *Ruscus* extract in the treatment of pregnancy related varicose veins. In: Vanhoutte PM, ed. *Return Circulation and Norepinephrine: An Update*. Paris, France: John Libbey Eurotext; 1991:55-61.
16. Rudofsky G. Effect of *Ruscus* extract on the capillary filtration rate. In: Vanhoutte PM, ed. *Return Circulation and Norepinephrine: An Update*. Paris, France: John Libbey Eurotext; 1991:219-224.
17. Kiesewetter H, Scheffler P, Jung F, et al. Effect of *Ruscus* extract in chronic venous insufficiency state I, II, and III. In: Vanhoutte PM, ed. *Return Circulation and Norepinephrine: An Update*. Paris, France: John Libbey Eurotext; 1991:163-169.
18. Arpaia MR, Ferrone R, Amitrano M, et.al. Effects of *Centella asiatica* extract on mucopolysaccharide metabolism in subjects with varicose veins. *Int J Clin Pharmacol Res* 1990;10(4):229-33.
19. Maquart FX et al. Triterpenes from *Centella asiatica* stimulate extracellular matrix accumulation in rat experimental wounds. *Eur J Dermatol* 1999; 9(4):289-96.
20. Pointel JP, Boccalon H, Cloarec M, et.al. Titrated extract of *Centella asiatica* (TECA) in the treatment of venous insufficiency of the lower limbs. *Angiology* 1987 Jan;38(1 Pt 1):46-50.
21. Belcaro GV, Grimaldi R, Guidi G. Improvement of capillary permeability in patients with venous hypertension after treatment with TTFCA. *Angiology* 1990 Jul;41(7):533-40.
22. Belcaro GV, Rulo A, Grimaldi R. Capillary filtration and ankle edema in patients with venous hypertension treated with TTFCA. *Angiology* 1990 Jan;41(1):12-8.