Shellie Rosen Ph.D., DOM, L.Ac Herb Doc

Shellie Rosen is a Doctor of Oriental Medicine. She can be reached via her website at Bodyvolve.com

E nzymes can help digest food, clear cellular debris, and reduce swelling and inflammation.

Proteolytic or fibrinolytic enzymes break down proteins for digestion and help remove protein debris in tissue, joints, blood, and the cardiovascular system. Because they break down debris, they are helpful for injuries and scar tissue, which can benefit osteoarthritis. When clots, scars, and plaques clear, inflammation decreases, blood flows more efficiently, and pain is often reduced.

Proteolytic enzymes exist throughout the digestive system (stomach, small intestine, and pancreas) to break down proteins from meat, poultry, fish, nuts, eggs, and cheese. Since the enzymes

## **Enzymes To Improve Blood Flow**

are heat sensitive, adding whole, uncooked fruits, vegetables, and fermented foods, such as sauerkraut, yogurt, kefir, and miso, can increase your supply. Pineapple stems (bromelain), papaya (papain), and kiwi are sources of proteolytic enzymes. Ginger is an option for histamine-sensitive individuals. Consider these enzyme-rich foods for dessert to prevent digestive complaints such as gas and bloating after a meal. Taking proteolytic enzymes with meals will focus their efforts on digestion. If you take them between meals, they can enter and support blood, tissue, and organ health, and break down fibrin.

Fibrin is a fibrous protein in the body that helps with clotting. However, it can exceed its usefulness and create scarring or clotting within the blood, blood vessels, organs, tissues, and skin. Fibrinolytics break down fibrin. Lumbrokinase helps break down and clear fibrin along with blood clots and bacterial debris called biofilms. Biofilms protect bacteria from the immune system. Lumbrokinase comes from earthworms and is best known for reducing inflammation and benefitting circulation. It was introduced by Chinese herbalists

in 1578, in the pharmaceutical text "Bencao Gangmu" to "invigorate blood and resolve stasis." Lumbrokinase can help reduce platelet aggregation and lower blood viscosity and is helpful for heart disease and pulmonary

and peripheral vein embolisms, including in the eye. Stomach acid can destroy lumbrokinase, so seek "delayed release" supplements to reach the small intestine intact.

Nattokinase, a fermented soy fibrinolytic, has been a food staple for the Japanese for more than 1,000 years. It supports cardiovascular health. Serrapeptase is a fibrinolytic enzyme that silkworms use to digest their cocoon. It is often used for pain and inflammation and in the place of non-steroidal antiinflammatory drugs (NSAIDs). Lumbrokinase has the most potent effect, and serrapeptase is the weakest of the three fibrinolytics mentioned here.

Endothelial cells of the blood vessels produce thrombolytic



(clot-dissolving) enzymes in the body. Since their production decreases with age, supplementing can help achieve balance. These enzymes benefit circulation by reducing blood viscosity. Improved circulation means oxygen and nutrient-rich blood can support and flush the entire body. Fibrinolytics break down rigid clots, biofilms, and scar tissues. Since they thin blood, avoid them if you have a bleeding disorder. Check with your doctor before adding these to your regimen. Each supplement has a unique enzyme concentration. Dosages depend on your selection. Abundant blessings to your health! Shellie Rosen, Ph.D., Dipl. O.M. (NCCAOM)<sup>®</sup>, DOM, L.Ac.

