

Featured in Barefoot Sport and Wellness Newspaper

Physical Healing with OPCs

By: Nate Dixon, D.P.T.

While reviewing the new research literature last month on the conservative management/treatment of musculoskeletal (physical) conditions, I came across an exciting article relating nutritional factors to the healing of connective tissue. Connective tissue, quite simply put, is what makes up our bodies and holds everything together. It is also inclusive of the blood vessels that make up the cardiovascular system - important in preventing heart attacks and strokes of the brain.

The research article is entitled: Bioflavonoids: Proanthocyanidins and Quercetin and Their Roles in Treating Musculoskeletal Conditions can be found in the Journal of Orthopaedic and Sports Physical Therapy, Vol. 32, Number 7, pp 357 - 363. In order to keep this article short enough, I will concentrate my review on Proanthocyanidins (also called Oligomeric Proanthocyanidins or OPCs). I have been familiar with OPCs for 7 years now and since then I have been supplementing with this nutrient. The research on this unheard of nutrient is quite impressive and there are no known side-effects.

The French Paradox

Although few people have heard of this nutrient, many have heard of the "French paradox" as described in a 1979 Lancet Publication. This paradox referred to the fact that despite a higher intake in saturated fat, French people had a lower incidence of cardiovascular disease compared with other countries with similar dietary habits. This was attributed to their higher consumption of red wine, which contains the bioflavonoid OPC, 100-150 mg./3.5 oz.

OPCs and Quercetin are two specific bioflavonoids that may be beneficial in treating musculoskeletal conditions. The evidence suggests that they limit inflammation and associated tissue degradation, the improvement of local circulation, as well as promoting a strong collagen matrix.

Chronic inflammation has been shown to cause connective tissue degradation. Typically, non-steroidal anti-inflammatory drugs (NSAIDs) and/or corticosteroids are used to control the inflammatory process, however, long-term use has been associated with potentially serious side-effects.

The primary side-effect associated with NSAIDs (such as aspirin, ibuprofen, naproxen sodium, Celebrex, and Vioxx) use are related to the gastrointestinal (GI) tract. These include pain, nausea, constipation, diarrhea, hemorrhage, and perforated ulcers. Stomach ulcers have been reported to occur in 5% - 25% of patients taking NSAIDs (Celebrex and Vioxx may be less although long-term studies are still not available). Renal complications have been reported in 5% of those patients. And, there is some evidence that suggests NSAIDs may interfere with the metabolism of cartilage and repair of bone

(leading to osteoporosis). Corticosteroids have similar side-effects and may also include adrenal insufficiency, predisposition to infection, and the onset of diabetes mellitus.

Aspirin vs. OPCs

In a research article entitled: Inhibition of Smoking-Induced Platelet Aggregation by Aspirin and Pycnogenol (Pycnogenols are OPCs), which can be found in Thrombosis Research, Vol. 95, pp 155-161, the researchers demonstrated that platelet aggregation (blood clumping together and decreasing circulation) was prevented with 125 mg. of OPCs and 500 mg. of aspirin. The significance is that OPCs have no reported side-effects. Furthermore, aspirin significantly increased bleeding time, while the OPCs did not.

Table. Proanthocyanidin (OPCs) and quercetin content of selected foods, in mg per 100 grams (3.5 oz) serving.

	OPCs	Quercetin
Vegetables		
Bean (French)	--	4
Bean (broad)	--	2
Broccoli	--	3
Brussels sprout	--	< 0.01
Cabbage (red)	25	0.46
Cauliflower	--	<0.01
Cucumber	--	<0.01
Kale	--	11
Lettuce	--	1.4
Mushroom	--	<0.01
Onions	0 - 25	35
Radish	--	<0.01
Rhubarb	200	--
Sauerkraut	--	<0.01
Spinach	--	<0.01
Tomato	--	0.8
Turnip tops	--	0.73
Fruits (including peel)		
Apple	20	3.6
Apricot	--	2.5
Blueberry	130 - 250	--
Cherry (sweet)	6 - 7	3.2
Currants (black)	130 - 400	--
Cranberry	60 - 200	--
Grape (red)	65 - 140	1.5
Grape (white)	--	1.2

Hawthorn berry	200	--
Pears	--	0.32
Plums (blue)	10 - 25	0.09
Raspberry (black)	300 - 400	--
Raspberry (red)	30 - 35	--
Strawberry	15 - 35	0.86
Other		
Parsley	--	1400
Sage	--	1000 - 1500
Wine (red)	100 - 150	2 - 4

Dash (--) indicates values less than 1 mg per 100 grams or values unavailable.