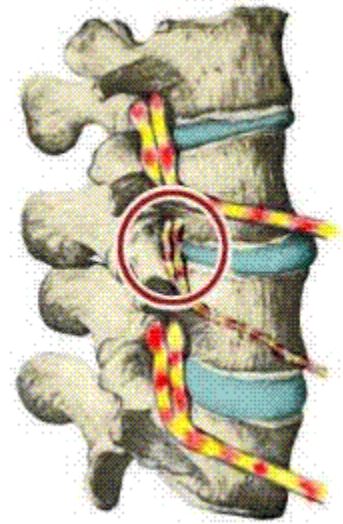


## Early Vascular Narrowing And Chronic Musculoskeletal Pain.

ACHES: Patients with arteriolar sclerosis (*narrowed blood vessels*) and smokers in general are more likely to have back pain and other types of bone and muscle pain<sup>1</sup>. In addition, they are also more likely to have bone and muscle injuries<sup>1</sup>. The reduced blood flow to the bones and muscles that results from smoking and arterial narrowing is at least partly responsible for these problems<sup>1</sup>. LOWER BACK PAIN: Low back pain is common from increased use of the back muscles to compensate for weakened legs. This is fairly common in patients with a sedentary lifestyle. Tobacco users frequently have more significant loss of circulation in three areas that initiate the need for chiropractic care. These include. Carotid arteries, Coronary Arteries and the distal branching of the Common Femoral Artery.

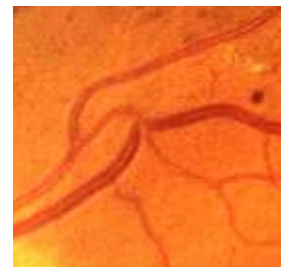


ROOTS OF CHRONIC PAIN: Any compression or arterial sclerosis which might compromise the arterial supply to the ganglia or nerves is likely to promote irritability...ischemia is known to lead to hyperexcitability<sup>2</sup> of neural tissue.

HEADACHES, DIZZINESS AND MALAISE: Due to loss of CNS circulation, many patients experience headaches, vertigo and malaise.<sup>3 4</sup>

Frequent causes of all four of the issues described above are decreased circulation. The cause of this decreased circulation are frequently, diabetes, tobacco use, dietary considerations and lifestyle.

**Digital Retinal Imaging**, provides a non-invasive tool for visualizing one of the basic root causes, a decreased energy flow from the vascular system that limits healing. It also allows the visualization of progress over time as well as failure from inadequate or inappropriate effort. As such, the team approach of Chiropractic and Optometrists armed with



DRI software can provide a vastly superior effort to help the patient understand and participate in their own healing. Optometrists armed with DRI, can refer patients to chiropractor. Chiropractors who suspect circulation may be a contributing source of chronic pain can refer patients to Optometrists armed with DRI to help diagnose and monitor progress in healing. A third person may be helpful if the Chiropractor does not feel they wish to recommend diet and lifestyle changes. This third person in the care chain may be a Nutritionist or Naturopathic Physician.

#### References:

1. *The American Council on Science and Health, ACSH*
2. *Porter EL, Wharton PS. Irritability of mammalian nerve following ischemia. J Neurophys* 1948; 12:109-116.
3. *Cephalalgia. 1985 May;5 Suppl 2:9-15.*
4. *Vestn Otorinolaringol. 2006;(2):15-9.*