

## Fighting inflammation Naturally With Esterified Oils

Kim Vanderlinden, ND, DTCM

Inflammation is a core pathology affecting everything from heart disease to cancer. Even the process of aging is greatly influenced by inflammation. And of course, most if not all pain is either made worse or in many cases is a direct result of inflammation. The question is, what can be done to reduce inflammation in a safe and natural manner in order to enhance chiropractic care? The good news is that there is a new evidence based solution supported by outstanding clinical trial results. Researchers have discovered that esterified fatty acids or oils influence several pathways of the inflammatory cascade.

Please note that esterified fatty acids/oils are not the same thing as essential fatty acids or oils. Essential oils (omega-3 and omega-6) are "essential" by definition, as our body does not manufacture them. Esterified oils do not replace the need for omega-3 oils. Both omega-3 and esterified oils limit inflammation; however, clinical trials have shown esterified oils to be particularly potent.

Radio tagging of esterified oils has shown a very high concentration in white blood cell membranes.<sup>1</sup> With white blood cells (WBCs) being the mediators of inflammation, the high concentration of esterified oils in WBC membranes may explain why esterified oils have demonstrated such pronounced anti-inflammatory effects.

### Esterified Oils vs. Glucosamine for Joint Health

The Cochrane Collaboration is an international, not-for-profit, independent organization that produces and disseminates systematic reviews of health care interventions. [According to a February 2005 review](#) of 20 studies involving 2,570 patients,<sup>2</sup> glucosamine failed to show benefit in pain and WOMAC function. In fact, only a specific brand of glucosamine appeared to have any benefit over placebo.

[As reported in this publication several years ago](#),<sup>3</sup> the GAIT or Glucosamine/Chondroitin Arthritis Intervention Trial, conducted by the National Institutes for Health, is the largest and most rigorous U.S. trial of glucosamine ever done with 1,583 patients. In GAIT, participants were randomly assigned to one of 10 treatment groups: 2 glucosamine alone, 2 chondroitin alone, 2 glucosamine and chondroitin in combination, 2 celecoxib, or 2 placebo. Five of the six glucosamine and/or chondroitin treatment groups failed to show a benefit in pain. Only the sixth group (one of the two glucosamine and chondroitin groups), which only had 72 patients representing less than 5 percent of the participants, showed a benefit in pain reduction after six months.

Patients were given the option to continue for two years to assess joint spacing. Again, there was no benefit over placebo. Ironically, the combination of glucosamine and chondroitin had slightly more cartilage loss than placebo; certainly not a benefit!

On the other hand, also as referred to previously in this publication, two clinical trials using

esterified oils to treat osteoarthritis have been published in the *Journal of Rheumatology*,<sup>4-5</sup> one using esterified oils as an oral capsule and one using the oils as a topical cream. In the topical cream trial, patients improved after as little as 30 minutes and after a month of daily application.

### Esterified Oils for Tissue Restoration

Non steroidal anti-inflammatories are the most common approach used to treat osteoarthritis. A concern about NSAIDs, besides the typical side effects (kidney and stomach problems, etc.) is that if used regularly, they inhibit healing. For example a non-steroidal anti-inflammatory will usually reduce knee pain for several hours; however, the time it takes for the knee to heal will be extended slightly due to NSAID use.

Ground-breaking research on esterified oils was published in 2009 in the *Journal of Periodontology*.<sup>6</sup> Previous research had shown that esterified oils were effective, which is a major advancement because there really are very few, if any, options to treat periodontal disease. The new research, however, had a remarkable twist: connective and osseous tissue was restored!

The research showed that the bone density of the teeth was increased, osteoblast or bone-building cell activity was increased, osteoclast or bone-breaking cell activity was decreased, and the pocket depth between the gums and the teeth was reduced.

Basically, these findings change everything, as tissue regeneration is now a legitimate possibility. For chiropractic, the implication of this research is that our use of natural anti-inflammatories need not inhibit tissue regeneration and the innate ability of the body to heal itself.

### Research on Safety

To assess safety, esterified oils were fed to animals at 1,300 times the regular dose.<sup>7</sup> Basically they couldn't stuff any more in. That's the equivalent of a person taking 3,900 capsules per day (three per day x 1,300). Chances are we would be full, too. But even at this enormous dose, scientists did not detect any pathology.

At a time when chiropractic medicine is being highly scrutinized, it is important to know that we are using evidence-based solutions whenever available to complement our care. Research is demonstrating the value of esterified fatty acids and oils for treating inflammation and thus conditions in which inflammation is a hallmark symptom.

### References

1. Islam A, Gallaher CM, Gallaher DD. Absorption and Metabolism of a Cetylated Fatty Acid. Technical Report, University of Minnesota, 2003.
2. Towheed T, Maxwell L, Anastassiades TP, Shea B, Houpt J, Welch V, Hochberg MC, Wells GA. [Glucosamine therapy for treating osteoarthritis](#). *Cochrane Database of Systematic Reviews*, 2005;2.
3. Vanderlinden K. "[Esterified Fatty Acids for Arthritis Pain](#)." *Nutritional Wellness*, February 2009.
4. Kraemer WJ, Ratamess NA, Anderson JM, et al. Effect of a cetylated fatty acid topical cream on functional mobility and quality of life of patients with osteoarthritis. *Journal of Rheumatology*, Apr 2004;31(4):767-74.
5. Hesslink R Jr, Armstrong D III, Nagendren MV, et al. Cetylated fatty acids improve knee function in patients with osteoarthritis. *Journal of Rheumatology*, Aug 2002;29(8):1708-12.
6. Hasturk H, Goguet-Surmenian E et al. [Tetradecanol complex: therapeutic actions in](#)

[experimental periodontitis](#). *J Periodontology*, 2009;80(7):1103-13.

7. The Acute Toxicology of Oral Cetylated Fatty Acid Gavage CD-1 Mouse Model. Perry Scientific, Inc., 2001; Study No. 00-1075.

MAY 2010