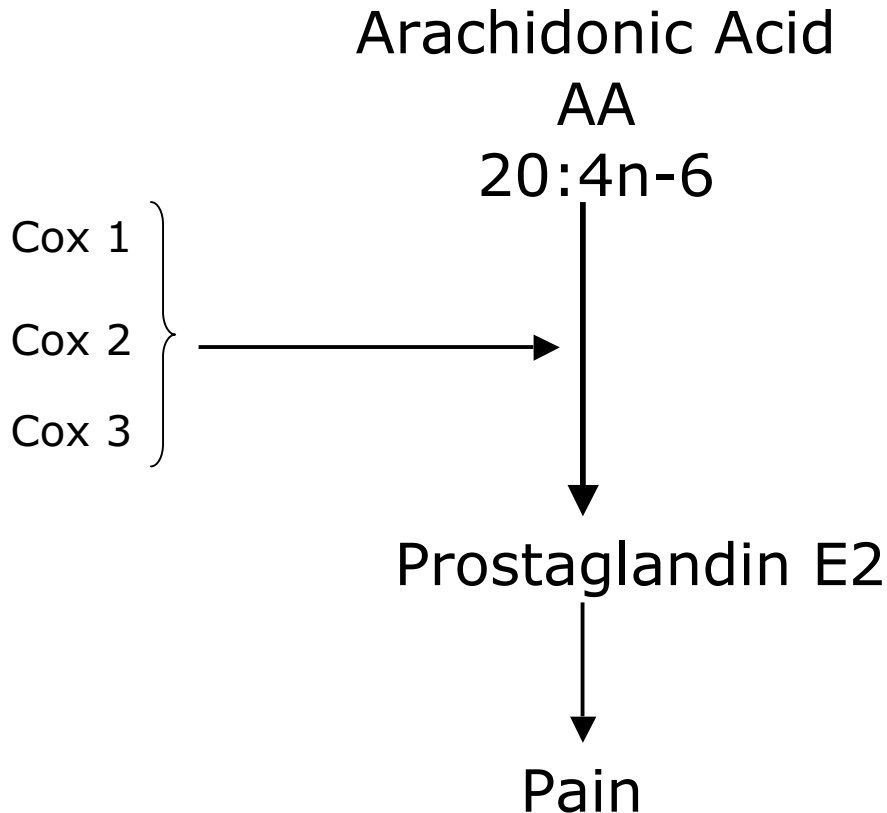


## Spine Pain and Omega-3 Essential Fatty Acids

Dan Murphy, DC

Cox enzymes convert the omega-6 fatty acid arachidonic acid into the pro-inflammatory pain producer prostaglandin E2 (PGE2).



Most cox-enzyme inhibiting pain drugs known as non-steroidal anti-inflammatory drugs (NSAIDs) inhibit both cox-1 and cox-2 enzymes. However, blocking the cox-1 enzyme resulted in significant bleeding problems. A study published in the New England Journal of Medicine in 1999 (1) noted that prescription NSAIDs for rheumatoid and degenerative arthritis alone conservatively accounted for a minimum of 16,500 fatal bleeding deaths per year in the US, which is the 15<sup>th</sup> leading cause of death in the US.

It was thought that if a drug could be developed that blocked only the cox-2 enzyme, there would be fewer bleeding problems / deaths while maintaining significant pain reduction. Starting in 1999, the US Food and Drug Administration (FDA) approved three such cox-2 enzyme inhibitors, Bextra, Vioxx, and Celebrex.

On September 30, 2004, Merck, the maker of the cox-2 inhibiting drug Vioxx, pulled this product from the marketplace because it tripled or quadrupled the incidence of heart attacks and strokes. Bextra had already been pulled from the market for the same reason, and the FDA issued a "black box" warning (strongest possible warning against using the product without actually removing the drug from

the marketplace) against the drug Celebrex. Published accounts suggest that the drug Vioxx resulted in 56,000 fatal heart attacks / strokes in the 5 years it was on the market (see reference #2 for review).

The scrutiny concerning the dangers of the cox-2 enzyme inhibiting drugs expanded to all NSAIDs, including those sold over-the-counter. An article published in 2005 notes (3):

**More Pain Relievers Called Into Question  
Study Stirs Concern About Heart Safety of Over-Counter Drugs**

**Associated Press  
April 19, 2005  
By Marilyn Marchione**

**“With prescription drugs Vioxx and Bextra already pulled from the market, a study has raised disturbing questions about the heart safety of over-the-counter pain relievers such as Advil, Motrin and Aleve.”**

**Those taking the “drugs for at least 6 months had twice the risk of dying of a heart attack, stroke or other heart-related problem.”**

**The study was released at an American Association for Cancer Research conference in Anaheim.**

**“The findings add to the suspicion that the heart risk extends beyond the so-called COX-2 drugs – Bextra, Vioxx and Celebrex – to the larger family of medications known as non-steroidal anti-inflammatory drugs, or NSAIDs, which include naproxen, ibuprofen and virtually all other over-the-counter pain relievers.”**

**“To the best of our knowledge, these are the first data to support putting a [black] box warning on NSAIDs, not just COX-2s’ said Dr. Andrew Dannenberg, a Cornell University scientist who helped do the study.”**

**“The NSAID users were dying at twice the rate of the others from heart related problems.”**

**“Risk was highest among ibuprofen users who were nearly three times more likely to die of cardiovascular disease than non NSAID users.”**

It is clear, that a non-drug approach to pain management is imperative. Dr. Joseph Maroon, neurosurgeon and specialist in degenerative spine disease at the University of Pittsburgh reported on such a non-drug alternative to the treatment of chronic spine pain on April 19<sup>th</sup> at the 73<sup>rd</sup> meeting of the American Association of

Neurological Surgeons. A review of his research was published the following day, and notes (4):

**American Association of Neurological Surgeons:  
High-Dose Omega-3 Oils used to Treat Non-Surgical Neck and Back Pain**

**Doctors Guide, April 20, 2005  
By Cameron Johnston**

**"Investigators at the University of Pittsburgh have treated chronic pain patients with high doses of omega-3 fatty acids – the ingredient found in many cold-water fish species such as salmon."**

**"The researchers say their findings suggest that this could be the answer to the adverse effects seen with nonsteroidal anti-inflammatory drugs (NSAIDs), including cyclooxygenase (COX)-2 inhibitors, which have been associated with potentially catastrophic adverse effects."**

**Patients who took high doses of omega-3 oils were impressed enough with the outcomes that they chose to continue using the oils and forego the use of NSAIDs.**

**The 250 study patients suffered from chronic neck or back pain but were not surgical candidates, and they had been using daily doses of NSAIDs.**

**After 75 days of taking high doses of omega-3s, 59% had stopped taking prescription drugs for their pain.**

**"88% said they were pleased enough with the outcomes that they planned to continue using the fish oils."**

**"No significant adverse effects were reported."**

This omega-3 research by Dr Maroon was published in the medical journal *Surgical Neurology* in April 2006. Comments from the abstract include (5):

**Omega-3 fatty acids (fish oil) as an anti-inflammatory: an alternative to nonsteroidal anti-inflammatory drugs for discogenic pain**

**Department of Neurological Surgery, University of Pittsburgh Medical Center**

**The use of NSAIDs are associated with "extreme complications, including gastric ulcers, bleeding, myocardial infarction, and even deaths."**

**“An alternative treatment with fewer side effects that also reduces the inflammatory response and thereby reduces pain is believed to be omega-3 EFAs found in fish oil.”**

**At an average of 75 days on fish oil, 59% discontinued taking their prescription NSAIDs for pain and 88% stated they would continue to take the fish oil.**

**“There were no significant side effects reported.”**

**“Our results mirror other controlled studies that compared ibuprofen and omega-3 EFAs demonstrating equivalent effect in reducing arthritic pain.”**

**“Omega-3 EFA fish oil supplements appear to be a safer alternative to NSAIDs for treatment of nonsurgical neck or back pain.”**

The ratios of the various omega-3 essential fatty acids is important (ALA/EPA/DHA plus GLA, etc.). I use those from Nutri-West along with their necessary double bond protective co-factors (Nutri-West: 800-443-3333).

#### References

- 1) Wolfe MM, David R. Lichtenstein DR, Singh G; Gastrointestinal Toxicity of Nonsteroidal Antiinflammatory Drugs; New England Journal of Medicine; Volume 340 Number 24; June 17, 1999; pp. 1888-1899.
- 2) Murphy D; Cox Inhibitors and the FDA; January 2005.
- 3) Marchione M; More Pain Relievers Called Into Question: Study Stirs Concern About Heart Safety of Over-Counter Drugs; Associated Press; April 19, 2005.
- 4) Johnston C; American Association of Neurological Surgeons: High-Dose Omega-3 Oils used to Treat Non-Surgical Neck and Back Pain; Doctors Guide, April 20, 2005.
- 5) Maroon JC, Bost JW; Omega-3 fatty acids (fish oil) as an anti-inflammatory: an alternative to nonsteroidal anti-inflammatory drugs for discogenic pain; April 2006;65(4); pp. 326-31.