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Oh, by the Way -- A Review of NSAIDs

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Nonsteroidal anti-inflammatory drugs (NSAIDs) are the most frequently prescribed medications worldwide (this does not take into account the over-the-counter market).[1] This class of drugs is the foundation therapy for musculoskeletal conditions for the medical profession.

The search for the ultimate NSAID continues due to the high demand and the dissatisfaction with the present selection available. NSAIDs also happen to be one of the most common drug groups associated with serious adverse side effects. These side effects are well established and predictable, however their potential and actual harmfulness are underplayed.

The most widely known negative effect of NSAIDs is gastrointestinal irritation. The estimated risk ranges from one bleeding ulcer per 1,000 patients (60 years and older)[2] to as high as 10.3 percent of patients.[3] A meta-analysis concluded that the one year prevalence of serious GI events among NSAID users was one per 1,000; among the elderly it was 3.2 per 1,000; and among young users (<65 years), it was 0.39 per 1000.[4] These conclusions measure bleeding ulcer as the endpoint, thereby ignoring the many patients who discontinue NSAID use when experiencing GI upset.

Not all NSAIDs are created equal, however. Some are more dangerous than others. The list below, albeit incomplete, rates from least toxic to most toxic when considering only GI side effects.[2]

least > > > *most toxic*
ibuprofen advil diclofenac voltaren indomethacin indocin naproxen anaprox, naprosyn piroxicam feldene ketoprofen orudis

There is nothing subtle or silent about GI side effects. This may be the least of the dangers as compared with negative effects on other organs. Let's look at the risks of kidney failure. Researchers estimate 8-10 percent of the overall incidence of end-stage renal disease (ESRD) was attributable to acetaminophen. The risk was dose-dependent with measurable increases of risk beginning at 105-365 pills per year or at greater than 1,000 pills per lifetime. Aspirin did not increase the risk of ESRD, however, other NSAIDs sharply increased ESRD risk in persons who consumed 5,000 or more pills during their lifetime.[5] A lesser studied side effect is hepatotoxicity. Patients who have been tracked after the initiation of daily NSAID therapy have shown a two-fold increase in liver enzymes.[6] There are seven case reports in which significant hepatitis developed associated with the use of diclofenac (voltaren).[7] A growing body of evidence has found central nervous system side effects due to NSAIDs. These are aseptic meningitis, psychosis, and cognitive dysfunction. There have been 23 reported cases of NSAID-induced aseptic meningitis (17 or 23 cases associated with ibuprofen)[8]. I can't help but notice the irony of an anti-inflammatory drug

inducing an inflammatory condition. Psychosis and hallucinations have been reported with the NSAIDs indomethacin and suldinac. These affects are typically only seen in the elderly, though the authors believe this to be widely under- reported. Cases of cognitive dysfunction and depression have been attributed to naproxen and ibuprofen. These side effects are also seen more commonly in elderly populations.[8] Often well known CNS side effect are tinnitus as induced by aspirin and headache as induced by indomethacin. NSAIDs compete with chiropractic care especially in the musculoskeletal condition arena. Our competitors are advertised in every type of media, are sold over-the-counter and by prescription, recommended for short term and chronic use, and are widely perceived as harmless. The above referenced articles should help any DC shoot holes in the "harmless" myth. We have documented negative side effects for the GI tract, kidneys, liver, and central nervous system. These effects are under-reported by the medical profession, underplayed by the drug manufacturers, and under perceived by the public. In our clinical practices, we see these drug-induced effects. Here's how to report them to insurers so that they're documented:

ICD#

NSAID gastropathy 535.4 hepatitis, drug-induced 573.3 meningitis, aseptic 074.9

As to the drug manufacturers: A recent study looked at the relationship between reported drug performance in published trials and financial support of the trials by the manufacturer of the drug (NSAID) under evaluation. The authors concluded that the manufacturer-associated NSAID is always reported as being superior in efficacy and toxicity to the comparison drug. The claims of superiority, especially side effect profiles, are often not supported by trial data.[9] The various methods utilized by researchers to show one drug to be more favorable than a comparison drug are: using inappropriate dosages either accentuating the comparison drug's toxicity or by under-dosing the studied drug thereby minimizing its toxicity, interpretation bias, or selectively publishing. Our competitor in the musculoskeletal arena, NSAIDs, has a reputation that needs to be worse to accurately reflect the known dangers. Patients should be informed about the risks of: kidney failure, liver toxicity, gastrointestinal irritation, and central nervous system affects. These risks are realized at dosages that are often prescribed and/or self-prescribed. The effects are under-reported and under appreciated by both professionals and patients. In short, we've got a lot of work to do. Your patients are interested in this material. You and I, being drugless practitioners, lose perspective of how often people are swallowing these drugs. Telling them the facts is just another way the chiropractic professional can be of service to a drugged and duped public.

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