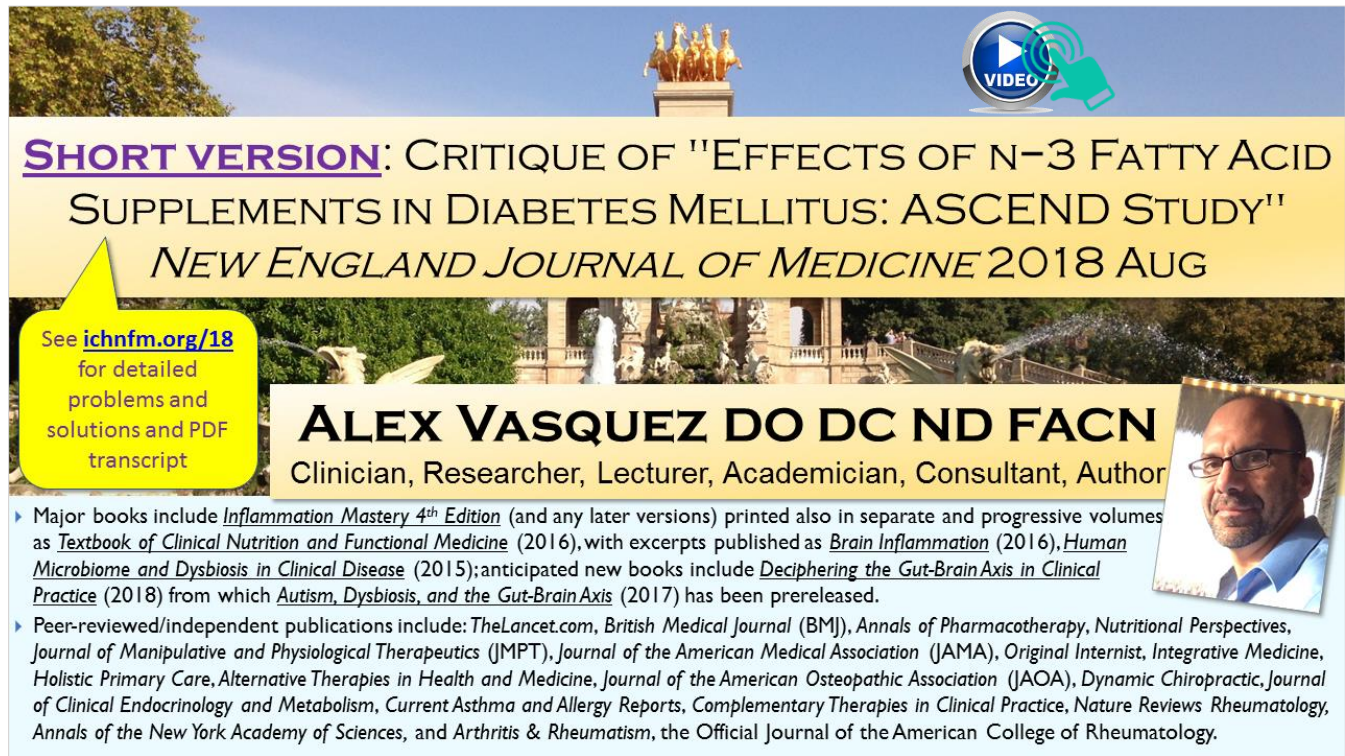


# Brief Critique of "Effects of n3 Fatty Acid Supplements in Diabetes Mellitus: ASCEND Study"

## New England Journal of Medicine 2018 Aug



**SHORT VERSION:** CRITIQUE OF "EFFECTS OF N-3 FATTY ACID SUPPLEMENTS IN DIABETES MELLITUS: ASCEND STUDY"  
NEW ENGLAND JOURNAL OF MEDICINE 2018 AUG

See [ichnfm.org/18](http://ichnfm.org/18) for detailed problems and solutions and PDF transcript

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Clinician, Researcher, Lecturer, Academician, Consultant, Author

- Major books include *Inflammation Mastery 4th Edition* (and any later versions) printed also in separate and progressive volumes as *Textbook of Clinical Nutrition and Functional Medicine* (2016), with excerpts published as *Brain Inflammation* (2016), *Human Microbiome and Dysbiosis in Clinical Disease* (2015); anticipated new books include *Deciphering the Gut-Brain Axis in Clinical Practice* (2018) from which *Autism, Dysbiosis, and the Gut-Brain Axis* (2017) has been prereleased.
- Peer-reviewed/independent publications include: *The Lancet.com*, *British Medical Journal* (BMJ), *Annals of Pharmacotherapy*, *Nutritional Perspectives*, *Journal of Manipulative and Physiological Therapeutics* (JMPT), *Journal of the American Medical Association* (JAMA), *Original Internist*, *Integrative Medicine*, *Holistic Primary Care*, *Alternative Therapies in Health and Medicine*, *Journal of the American Osteopathic Association* (JAOA), *Dynamic Chiropractic*, *Journal of Clinical Endocrinology and Metabolism*, *Current Asthma and Allergy Reports*, *Complementary Therapies in Clinical Practice*, *Nature Reviews Rheumatology*, *Annals of the New York Academy of Sciences*, and *Arthritis & Rheumatism*, the Official Journal of the American College of Rheumatology.


The video of this presentation is archived at [ichnfm.org/18](http://ichnfm.org/18), and the transcript in PDF format—which is considered the final and citable version—is archived at [academia.edu/37326521](http://academia.edu/37326521); any corrections or updates will be made to the PDF file. The video contains citations which are not replicated in the PDF document; both the video and the PDF transcript should be reviewed for a complete representation of the information. This version was updated on **September 2, 2018**.

**Introduction:** Hello everyone. This is Dr. Alex Vasquez with the short version of my “Critique of the Effects of Omega 3 Fatty Acids Supplements in Diabetes” recently published as the Ascend Study in the *New England Journal of Medicine*, 2018 August. If you'd like to see the longer and more detailed version of this review, please see [ichnfm.org/18](http://ichnfm.org/18) for my videos from 2018.

**This was not a placebo-controlled study:** This is a randomized and *supposedly* “placebo-controlled” trial of 15,000 subjects. The intervention included either omega-3 fatty acids or olive oil—so this was *not a placebo-controlled study*. This was a *comparison* of relatively low-dose EPA and DHA against low-dose olive oil—so again, this is **not** a placebo-controlled study.

This study used *two* active interventions. One was fish oil and the other was olive oil, both of which are notably anti-inflammatory and cardioprotective. As such, the conclusion from this study that fish oil does not benefit diabetic patients is completely invalid. Furthermore, neither of the two active treatments were independently tested for their components and both of the treatments were provided by a drug company that has a financial interest in the failure of these treatments.

The drug company, Mylan, specifically paid 19 of the authors, oversaw the study design and supervised its paid consultants at key meetings, provided the treatment and the active comparator, neither of which again were independently tested, and also makes the main competing drug in this category of cardioprotection, in this case the statin drug, simvastatin.

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| DR VASQUEZ'S RESEARCH REVIEW  | <u><i>Olive oil is not a placebo but is clinically active in humans, starting with low doses: biological mechanisms</i></u>  | ALEX VASQUEZ<br>DO ND DC<br>FACN   |
| Today's main article being reviewed   | ▶ <b>Mechanisms of action and biological plausibility:</b> Squalene is also worthy of consideration  |         |
| Problems with this publication  | ▶ <b>Oleic acid:</b> May be described as a “conditionally essential nutrient”; component of cell membranes and thus modifies inflammatory mediator production and transmembrane signaling; directly cardiovascular-protective; “interferes directly with the inflammatory response that characterizes early atherogenesis... decreases the expression of several endothelial leukocyte adhesion molecules, among which vascular cell adhesion molecule-1, involved in the selective monocyte recruitment in the arterial intima. Oleic acid also determines a parallel reduction in messenger RNA for this molecule, interfering with the activation of the most important transcription factor controlling endothelial activation, nuclear factor-kappa B. ... oleic acid may contribute to the prevention of atherosclerosis also through a modulation of gene expression for endothelial leukocyte adhesion molecules” per Massaro et al, <i>Cardiologia</i> 1999 Jun |  |
| Noting the pattern of bogus research  | ▶ <b>Phytochemicals/polyphenols:</b> Ibuprofen-like antiinflammatory activity; notably potent antioxidant and antiinflammatory activity; “antidiabetic effect” per reduction of glycosylated proteins such as HgbA1c and normalization of fasting glucose even at low doses; inhibition of HER2 (erbB-2)-induced malignant transformation (breast cancer); neuroprotective; modulation of gut microbiota is notably relevant for T2DM.   | Doctor of Osteopathic Medicine (DO—UNTHSC, USA)  |
| What can be done  | For additional context, clinical applications, and disease-specific as well as general protocols, see <b><i>Inflammation Mastery 4<sup>th</sup> Edition</i></b> <a href="http://ichnfm.org/im4">ichnfm.org/im4</a> and/or the two-volume set <b><i>Textbook of Human Nutrition and Functional Medicine</i></b> from <a href="http://amazon.com/author/alexvasquez">amazon.com/author/alexvasquez</a>   | Doctor of Naturopathic Medicine (ND—Bastyr University, USA)                                |
| What clinicians should do   |  | Doctor of Chiropractic (DC—Western States, USA)  |
| Critique of "Effects of n-3 Fatty Acid Supplements in Diabetes Mellitus: ASCEND Study" New England Journal of Medicine 2018 Aug |  | Overseas Fellow, Royal Society of Medicine   |
|   |  | Fellow, American College of Nutrition  |
|   |  | Author of <i>Inflammation Mastery</i> , <a href="http://ichnfm.org/im4">ICHNFM.ORG/im4</a> |

This trial is invalidated by the use of an active treatment erroneously described as “placebo.” It may be randomized, but it is *not* placebo-controlled.

They started this study in 2005 and at that time they already knew that olive oil was cardioprotective. In fact, that had been published in *The New England Journal of Medicine* in 2003, two years prior to the start of this study. Their claim that they used olive oil as a placebo is completely absurd because olive oil is well known to have anti-inflammatory and cardioprotective benefits, and more specifically, olive oil is known to be one of the most health-promoting and heart-protecting dietary components available.

The cardioprotective benefits of olive oil have been suggested in the research since the 1950s, were more established by 1986 in a key study, and have since been validated clinically and mechanistically.

In my more than 20 years of looking at biomedical research I have never seen a drug company so well entrenched within a study design including supervising key meetings and paying 19 of the authors. In the text of the article the authors describe themselves as “independent investigators” despite the fact that 19 of them received payment from various drug companies intimately involved with the study.

Furthermore, again, the drug company provided both the active treatment and its comparator. Authors were paid by the drug companies, but **these conflicts of interest were not published in the article**, products were not independently tested. The Omega-3 index was tested in 152 subjects; this is less than 1% of the study population, and I found that to be rather weak.

I also noted that their baseline Omega-3 index was abnormally high and their response to the Omega-3 supplementation was also abnormally high considering that they used only one-half of the typically effective dose.

Now let's take a quick look at some examples from the disclosure forms. Again, these were not printed in the article, but they are, of course, highly relevant considering that 19 of the authors were paid by drug companies including Bayer on four different occasions, also Solvay Pharmaceuticals, Abbott Pharmaceuticals and Mylan Pharmaceuticals.

You'll see that this pattern was recurrent among 19 of the authors of this study, and perhaps even more impressive is the fact that this was not published in the article. One has to go to *The New England Journal of Medicine* website to find this documentation.

What can be done about this is that we all have to become better critical thinkers and careful readers so that we can spot these gross errors in biomedical research publications.

What clinicians should do is to continue using fish oil supplements generally at a dose of 1900 milligrams per day if the goal is to optimize the Omega-3 Index to approximately 10%.

Thank you very much for looking at this brief presentation. If you'd like to see the full version, please go to [ichnfm.org/18](http://ichnfm.org/18). Those are the videos I've produced in 2018, and what you'll see there is the complete video as well as a pdf transcript. ☒

**Citation:** Vasquez A. Critique of "Effects of n3 Fatty Acid Supplements in Diabetes Mellitus: ASCEND Study" New England Journal of Medicine 2018 Aug: Video presentation ([ichnfm.org/18](http://ichnfm.org/18)) and official transcript ([academia.edu/37326521](http://academia.edu/37326521)) Date of this revision: September 2, 2018

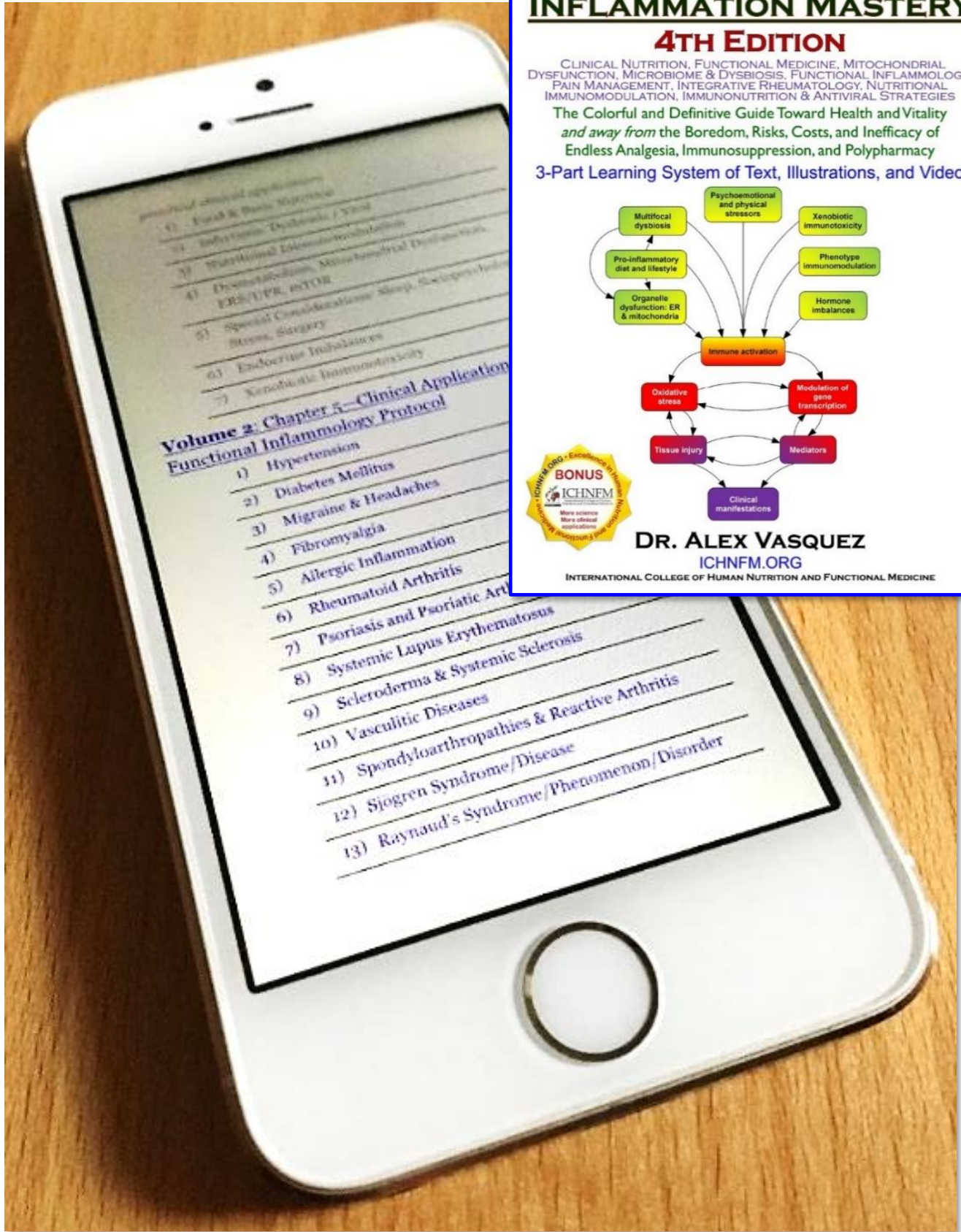
**About the author:** Dr Vasquez holds three doctoral degrees and has completed hundreds of hours of post-graduate and continuing education in subjects including Obstetrics, Pediatrics, Basic and Advanced Disaster Life Support, Nutrition and Functional Medicine; while in the final year of medical school, Dr Vasquez completed a Pre-Doctoral Research Fellowship in Complementary and Alternative Medicine Research hosted by the US National Institutes of Health (NIH). Dr Vasquez is the author of many textbooks, including the 1200-page [Inflammation Mastery, 4<sup>th</sup> Edition](#). (2016) also published (by popular student request) as a two-volume set titled [Textbook of Clinical Nutrition and Functional Medicine](#). "DrV" has also written approximately 100 letters and articles for professional magazines and medical journals such as *TheLancet.com*, *British Medical Journal (BMJ)*, *Annals of Pharmacotherapy*, *Nutritional Perspectives*, *Journal of Manipulative and Physiological Therapeutics (JMPT)*, *Journal of the American Medical Association (JAMA)*, *Original Internist*, *Integrative Medicine*, *Holistic Primary Care*, *Alternative Therapies in Health and Medicine*, *Journal of the American Osteopathic Association (JAOA)*, *Dynamic Chiropractic*, *Journal of Clinical Endocrinology and Metabolism*, *Current Asthma and Allergy Reports*, *Complementary Therapies in Clinical Practice*, *Nature Reviews Rheumatology*, *Annals of the New York Academy of Sciences*, and *Arthritis & Rheumatism*, the Official Journal of the American College of Rheumatology. Dr Vasquez lectures internationally to healthcare professionals and has a consulting practice and service for doctors and patients. Having served on the Review Boards for *Journal of Pain Research*, *Autoimmune Diseases*, *PLOS One*, *Alternative Therapies in Health and Medicine*, *Neuropeptides*, *International Journal of Clinical Medicine*, *Journal of Inflammation Research* (all PubMed/Medline indexed), *Integrated Blood Pressure Control*, *Journal of Biological Physics and Chemistry*, and *Journal of Naturopathic Medicine* and as the founding Editor of *Naturopathy Digest*, Dr Vasquez is currently the Editor of *International Journal of Human Nutrition and Functional Medicine* and the Director for International Conference on Human Nutrition and Functional Medicine. Dr Vasquez has also served as a consultant researcher and lecturer for Biotics Research Corporation.

**Contextualizing resource**—same information in different formats and contexts:

- [Inflammation Mastery, 4th Edition](https://www.amazon.com/dp/B01KMZZLQO/) <https://www.amazon.com/dp/B01KMZZLQO/> and
- [Textbook of Clinical Nutrition and Functional Medicine, vol. 1: Essential Knowledge for Safe Action and Effective Treatment](https://www.amazon.com/dp/B01JDIOHR6/) <https://www.amazon.com/dp/B01JDIOHR6/>



See video at <http://www.ichnfm.org/18>



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- Video introduction to books: <http://www.ichnfm.org/im4> and other videos: <http://www.ichnfm.org/18>
- Conference presentation—introducing the clinical protocol: <http://www.ichnfm.org/video-funct-inflam-1>

### Persistent inadequacies in nutrition education/training among physicians

**Introduction:** Despite the acknowledged importance of diet in the prevention of obesity, diabetes, hypertension and other components of cardiometabolic syndrome/disease, physicians are consistently and systematically untrained in nutrition. A few exemplary citations are summarized per the following:

- What do resident physicians know about nutrition? (J Am Coll Nutr 2008 Apr<sup>29</sup>): "OBJECTIVE: Despite the increased emphasis on obesity and diet-related diseases, nutrition education remains lacking in many internal medicine training programs. We evaluated the attitudes, self-perceived proficiency, and knowledge related to clinical nutrition among a cohort of internal medicine interns. METHODS: Nutrition attitudes and self-perceived proficiency were measured using previously validated questionnaires. Knowledge was assessed with a multiple-choice quiz. ... RESULTS: Of the 114 participants, 61 (54%) completed the survey. Although 77% agreed that nutrition assessment should be included in routine primary care visits, and 94% agreed that it was their obligation to discuss nutrition with patients, only 14% felt physicians were adequately trained to provide nutrition counseling. ... CONCLUSIONS: Internal medicine interns' perceive nutrition counseling as a priority, but lack the confidence and knowledge to effectively provide adequate nutrition education." These are impressive results showing that internal medicine doctors—specialists who commonly deal with diabetes, hypertension, obesity, and metabolic syndrome—do not have competence in nutrition, even by weak and basic standards.
- Relevance of clinical nutrition education and role models to the practice of medicine (Eur J Clin Nutr. 1999 May<sup>30</sup>): "Yet, despite the prevalence of nutritional disorders in clinical medicine and increasing scientific evidence on the significance of dietary modification to disease prevention, present day practitioners of medicine are typically untrained in the relationship of diet to health and disease."
- How much do gastroenterology fellows know about nutrition? (J Clin Gastroenterol. 2009 Jul<sup>31</sup>): "The mean total test score was 50.04%. ...CONCLUSIONS: Gastroenterology fellows think their knowledge of nutrition is suboptimal; objective evaluation of nutrition knowledge in this cohort confirmed this belief. A formal component of nutrition education could be developed in the context of GI fellowship education and continuing medical education as necessary."

**In sum:** The data consistently demonstrate that healthcare providers at the doctorate level are untrained in nutrition when assessed by rather simple standards; their knowledge of functional nutrition at the level of clinical intervention in the treatment of serious disease would reasonably be expected to be approximately zero. Thus, given that doctors are trained neither in musculoskeletal management (despite the fact that all patients have musculoskeletal systems and that related disorders represent no less than 20% of general practice) nor nutrition (despite the fact that all patients eat food and that such dietary habits (and/or the use of nutritional interventions) impact nearly all known diseases in the known universe), one might wonder as to the cause and perpetuation of this *systematically imposed ignorance* on such topics of major importance. Consistent faults in medical education are not accidental.

#### Dumbing Us Down: The Hidden Curriculum of Educational Systems

"Look again at the seven lessons of school teaching: confusion, class position, indifference, emotional and intellectual dependency, conditional self-esteem, and surveillance. All of these lessons are prime training for permanent underclasses, people deprived forever of finding the center of their own special genius."

Such a curriculum produces physical, moral, and intellectual paralysis, and no curriculum of content will be sufficient to reverse its hideous effects. ... Schools teach exactly what they are intended to teach and they do it well."

Gatto JT. *Dumbing Us Down: The Hidden Curriculum of Compulsory Schooling*, p. 16

### Adverse effects of nonsteroidal anti-inflammatory drugs (NSAIDs), COX-2 inhibitors (coxibs)

**Introduction:** Nonsteroidal anti-inflammatory drugs (NSAIDs) have many common and serious adverse effects, including the promotion of joint destruction. Paradoxically, these drugs *cause* or *exacerbate* the very symptoms and disease they are supposed to treat: joint pain and destruction. In a tragic exemplification of Orwellian newspeak<sup>32</sup>,

<sup>29</sup> Vetter et al. What do resident physicians know about nutrition? An evaluation of attitudes, self-perceived proficiency and knowledge. *J Am Coll Nutr*. 2008 Apr;27(2):287-98

<sup>30</sup> Halsted CH. The relevance of clinical nutrition education and role models to the practice of medicine. *Eur J Clin Nutr*. 1999 May;53 Suppl 2:S29-34

<sup>31</sup> Raman M, Violato C, Coderre S. How much do gastroenterology fellows know about nutrition? *J Clin Gastroenterol*. 2009 Jul;43(6):559-64

<sup>32</sup> Orwell G. 1984. Harcourt Brace Jovanovich: 1949. "Newspeak" is defined by the Merriam-Webster Dictionary (m-w.com) as "propagandistic language marked by euphemism, circumlocution, and the inversion of customary meanings" and as "a language designed to diminish the range of thought," in the novel *1984* (1949) by George Orwell.