

# Reducing Pain and Inflammation Naturally.

## Part II: New Insights into Fatty Acid Supplementation and Its Effect on Eicosanoid Production and Genetic Expression

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**Abstract:** Doctors and patients can achieve significant success in the treatment of pain and inflammation by using dietary modification along with nutritional, botanical, and fatty acid supplementation. The first article in this series reviewed recent diet research and the basic biochemistry of fatty acid metabolism, and this second article will provide doctors with a profound understanding of the importance of optimal fatty acid supplementation and will review the clinical benefits of this essential therapy. This review contains the most concise, detailed, up-to-date, and clinically relevant description of fatty acid metabolism that has ever been published in a single article.

### INTRODUCTION

Chiropractic and naturopathic physicians are the only doctorate-level healthcare providers with graduate-level training in therapeutic nutrition and are emerging as the leaders in the treatment and prevention of long-term health disorders, including nearly all of the chronic diseases seen in clinical practice such as obesity, hypertension, adult-onset diabetes, hypercholesterolemia, allergies, asthma, arthritis, depression and a long list of other musculoskeletal and non-musculoskeletal conditions.<sup>1,2</sup> With the increasing substantiation of the effectiveness and cost-effectiveness of the nutritional management of these problems, and the documentation of the excessive cost and adverse effects generally associated with pharmaceutical medications, we are approaching a paradigm shift in healthcare which will eventually (re)position the practitioners of holistic natural healthcare in their proper place—at the forefront of patient management.

Healthcare providers of all disciplines are obligated to act responsibly to protect the health of the public. Current research published in peer-reviewed medical journals suggests that over-utilization of allopathic medical care endangers patients' health by exposing patients to prescribing errors<sup>3</sup>, hospital injuries, and what is described as "substandard care."<sup>4</sup> A recent article in the *New England Journal of Medicine*<sup>5</sup> concluded that deficits in allopathic medical care pose "serious threats to the health of the American public." A 1997 review published by the American Academy of Family Physicians<sup>6</sup> stated, "Recent estimates suggest that each year more than 1 million patients are injured while in the hospital and approximately 180,000 die because of these injuries. Furthermore, drug-related morbidity and mortality are common and are estimated to cost more than \$136 billion a year." New research also shows that several popular "antidepressant" drugs actually increase the risk for suicide in children<sup>7</sup> and adults<sup>8,9</sup>, and, similarly, "antipsychotic" drugs may worsen clinical outcomes in a large percentage of patients with mental illness.<sup>10</sup> Chiropractic diet therapy—not drugs—is the most effective treatment for chronic hypertension.<sup>11, 12</sup> Many anti-inflammatory drugs for the treatment of joint

pain actually promote joint destruction<sup>13, 14, 15</sup> and the newer selective cyclooxygenase inhibitors carry an unjustifiable cost<sup>16, 17</sup> and fail to deliver improved efficacy<sup>18</sup> despite significantly increasing the risk for kidney damage, hypertension, myocardial infarction, stroke, and sudden death.<sup>19, 20, 21</sup> On the other hand, natural treatments such as dietary improvements and fatty acid supplementation have been shown to safely reduce the need for medical treatments, to improve health, to alleviate many common diseases, and to prolong life at lower cost, negligible risk, and with improved overall outcomes.<sup>22, 23</sup> **In order to reduce costs, promote health, and reduce iatrogenic disease, our healthcare paradigm must change from "disease treatment with drugs and surgery" to "health promotion with therapeutic nutrition and lifestyle improvements."** It is safe and reasonable to predict that in the near future, customized dietary improvement, therapeutic nutrition, lifestyle modification, and fatty acid supplementation will be viewed as integral components of patient care for all patients with all diseases. Doctors must therefore be informed of new research on how to use these interventions skillfully.

The combination of dietary improvement and skillful nutritional intervention as reviewed by the current author in the first article in this series<sup>24</sup> and in greater detail elsewhere<sup>25</sup> is the single most powerful approach for the effective treatment of a wide range of conditions. Following closely behind general dietary modification, fatty acid supplementation offers clinicians the opportunity to improve the health of their patients in ways that no other single treatment can.

### FATTY ACID SUPPLEMENTATION: UNDERSTANDING IS THE KEY TO MASTERY

An accurate and detailed understanding of fatty acid metabolism is important for the complete and effective management of many clinical conditions including mental depression, coronary artery disease, hypertension, diabetes, other inflammatory/autoimmune disorders, and many of the musculoskeletal conditions encountered in clinical practice. The practical application of this information is