

ORTHOMOLECULAR MEDICINE

Orthomolecular medicine and **Optimum nutrition** are nutritional health and medical approaches that are based upon the premise that many diseases and abnormalities result from varying biochemical and/or chemical needs specific to each individual. It holds that they can be prevented, treated, or sometimes cured by achieving optimum levels for that individual's body of various natural chemical substances. It normally employs such dietary elements as vitamins, minerals, amino acids, trace elements, and essential fatty acids.¹

Method

Orthomolecular medicine argues that it is preferable to recognize and correct any possible anomalies in [metabolism](#) at an early stage, before they cause disease. Orthomolecular medicine posits that many typical diets are insufficient for long term health; thus, orthomolecular medical diagnoses and treatment often focus on use of nutrients such as [vitamins](#), [dietary minerals](#), [proteins](#), [antioxidants](#), [amino acids](#), [ω-3 fatty acids](#), [ω-6 fatty acids](#), [lipotropes](#), prohormones, [dietary fiber](#) and short and long chain [fatty acids](#).

Orthomolecular therapy attempts to provide what are seen as optimal amounts of these nutrients. Most often, "optimal" has been a matter of the clinical judgment of the orthomolecular practitioner, who gives nutrients in accord with the clinical symptoms of the patient and their judgement of what is appropriate. The modern orthomolecular practitioner also uses a wide range of laboratory analyses, including those for [amino acids](#), [organic acids](#), [vitamins](#) and [minerals](#), functional vitamin status, [hormones](#), [immunology](#), [microbiology](#), and [gastrointestinal](#) function. However, many of these tests have not been accepted by mainstream medicine for common diagnostic use.

In the early days of orthomolecular medicine, supplementation usually meant high-dose, single-agent [nutrient](#) therapy.^[31] Most often today, the orthomolecular practitioner uses many substances: [amino acids](#), [enzymes](#), [hormones](#), [vitamins](#), [minerals](#), or [derivate](#) substances in an effort to supply what they see as optimum levels of these substances.^[32]

Frequently supplementation with relatively large doses of vitamins is given, and the name [megavitamin therapy](#) is popularly associated with the area. Megavitamin therapy is the administration of large amounts of vitamins, often many times greater than the [recommended dietary allowance](#) (RDA). The nominal ratio of dose to RDA to qualify for the term "megavitamin therapy" has been a matter of minor semantic debate.

Administration of short-chain [fatty acids](#) in orthomolecular practice is usually done by increasing the level of [dietary fiber](#). The fatty acids are produced by [fermentation](#) of the fiber in the [colon](#), then absorbed into the body. Attempts are also made to aid this process by a combination of [probiotics](#), [prebiotics](#) and "[glyconutrients](#)". Long chain fatty acids, such as the omega-3 fatty acids [alpha-linolenic acid](#) (ALA), [eicosapentaenoic acid](#) (EPA), and [docosahexaenoic acid](#) (DHA), may also be given directly, in food or in capsules.

