



SPORTS NUTRITION

Basic Education

Dr. Donna F. Smith



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INTRODUCTION

Whether you exercise regularly or you are an amateur or professional athlete, there are four major nutritional factors that must be considered in designing any sports nutrition program in order to meet the dietary and nutritional needs required for the degree of physical activity. Otherwise, injury, illness, organ/gland body weakness, malnutrition, and other health challenges will ensue, even premature death. These major four factors are: Water, Electrolyte Balance, Nutrient Repletion and Detoxification.

TERMINOLOGY

1. **Diet** – what you eat and drink. Dietetics is the study of the diet. Health Care Profession is “Dietitians.”
2. **Nutrients** include both “macro-nutrients” and “micro-nutrients.” **Macro-nutrients** are proteins, carbohydrates and fats/oils. **Micro-nutrients** are vitamins, minerals and water.
3. **Nutrition** – is the biological and biochemical processes (metabolism) of the diet, i.e, the internal effects from what you eat and drink. Due to lack of public education, most people think that the word diet and nutrition are the same. Health Care Profession is “Clinical Nutritionists.”
4. **Metabolism** – the ingestion, digestion, assimilation, absorption, distribution of diet (food and beverages), and the elimination of waste.
5. **Waste** is



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- a. Food particles that have been metabolized and are no longer bio-available or needed by the body. If not removed from the body, they rot in the body, infect cells and tissue, which causes inflammation. **Pain is inflammation.**
 - b. By-products from the cells that result from repairing damaged cells and/or the biological detoxification process of removing any substance or organism that is harmful to the body, such as rotten or fermented food particles, germs, worms, damaged or decaying cells that cannot be repaired, which includes cancer cells, chemicals, drug residues, metals, synthetic or isolated vitamins/minerals, etc. Any of these substances lead to infection and inflammation, which over time, destroy the organ or glands where they are deposited, when the innate healing system is unable to remove (detoxify) them from the body. **This is called “disease.”**
6. **PEP Articles** - Personal (Lifestyle) Education Program (PEP) Articles are written documents by Dr. Smith to provide client educational information on a specific topic. For example, this document is a PEP Article on basic sports nutrition education. They differ from articles by Dr. Smith in that most articles are free to the public, whereas fee-based PEP Articles are for clients only.
7. **Principle-Centered Healthy Lifestyle –**
- a. Everything in the Universe operates based on principles (laws). There are spiritual and physical laws. Spiritual laws such as the Laws of Attraction, Laws of Forgiveness, Grace, etc. and Physical Laws such as the Law of Gravity, which is a law of Physics or the Law of Digestion, a law of Biochemistry. Everything that happens to us is based on the Law of Cause and Effect.
 - b. We do not command our stomach to digest food - the law of digestion is innate operating for that biochemical function. However, what we eat and drink (cause) can have an adverse effect on the outcome of this law. Just as walking off the roof of your house, instead of getting a ladder will cause injury by violating or working against the Law of Gravity.
 - c. Laws are fixed (unyielding), which means what we think of or believe about them, our knowledge or ignorance of them, our adherence to or rebellion against them, does not affect these Laws. They do what they do in spite of outside or human force.
 - d. Our primary responsibility is to learn how these laws operate and then design our lifestyle so that it is in harmony with every law, instead of taking action against them, which causes injury, illness, or disease when we violate physical laws or unhappiness, failure, etc., when we violate spiritual laws. Spiritual Laws include Mental and Emotional Laws.
 - e. Therefore, contrary to what most of the public thinks, illness and disease does not just happen to them, they create their own diseases by violating physical and spiritual laws.
 - f. Dr. Smith has provided PEP Articles and Telephone Consultations to coach and educate clients on these laws and how to develop a **principle-centered healthy**



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lifestyle that is in harmony with these principles (or laws). Thereby, assisting clients in healing, health maintenance, preventing disease and injury and optimal sports performance.

FOUR MAJOR FACTORS IN SPORTS NUTRITION

WATER

The human body can only live for a little over a week without water. Therefore, water is the second most important nutrient required for the human body. Water is required for every biological and biochemical process. Body Composition for Men is 60% Total Body Water and Women is 55%.

1. **Drink only Reverse Osmosis (R.O.) Purified Water** – ask for more information regarding Reverse Osmosis.
2. **Minimum Individual Daily Water Requirement.** Public Health Education recommends eight 8 ounce glasses of water per day. However, this may not be sufficient for your daily needs, it even may be too much water, it all depends upon your body weight. Therefore, here is the formula to calculate your minimum individual daily water requirements.
3. **Water Intake Formula** –
 - a. Drink $\frac{1}{2}$ your body weight in ounces every day. For example if you weigh 120 pounds, drink 60 ounces of R. O. water daily. **This is the minimum requirement. More is required depending on exercise/training daily routine.**
 - b. **Formula to Convert to Quarts** – Weight divided by 2, divided by 8, divided 2, divided by 2 = # of quarts. **Ex:** If your weight is 120 pounds, then $120 \div 2 = 60$ ounces $60 \div 8 = 7.5$ quarts. You can round up to 1.9 or 2 quarts.)
 - c. When your weight changes, recalculate your water needs.

ELECTROLYTE BALANCE

Information on Electrolyte Balance is provided in the PEP Article titled “Sports Drink Recipe,” which provides Dr. Smith’s recipe for making your own sports drink.

NUTRIENT REPLETION

Replenishing nutrients metabolized (burned up) during exercise is essential to prevent malnutrition. Malnutrition leads to cellular, tissue, muscle, organ, and gland weakness, dysfunction and disease, as the degeneration process progresses. In regard to nutrients,



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there must be a proper balance of both macro- and micro-nutrients, according to the individual's daily requirement. Nutrient sufficiency is required for energy production which is essential to sports performance and endurance.

1. **Macro-nutrients** are proteins, carbohydrates and fats/oils.
 - a. **Fats/Oils:** Most sports nutrition education centers around protein and carbohydrate intake, and often totally overlook the importance of Essential Fatty Acids (Fats/Oils). In this regard, the focus is on avoiding fats/oils for the intention of weight loss. However, **Fats/Oils are nature's pain killers**. In other words, Fats/Oils work with the nervous system of the body to regulate and moderate the sensation of pain. Without the proper amount of Fats/Oils, specifically Essential Fatty Acids (EFAs), a person will feel pain more intensely, experience pain for a longer duration. Exercise and healing recovery time is compromised when EFAs are deficient. Information will be provided on how to purchase healthy oils.
 - b. **Caution:** Amino Acids are the building blocks of proteins. Just as you would never take an individual B Vitamin, individual amino acid supplements should never be taken alone. For example, L-Carnitine is an amino acid and should never be taken alone or it will cause a myriad of protein dysfunctions. Note: Under the guidance of a nutritional health care professional, take for a short term effect is the only exception to taking a single amino acid or B-Vitamin supplement, and they must be a whole food supplement, not a synthetic or isolated amino acid or B vitamin.
 - c. **Caution:** Avoid all processed foods that have eliminated the fat or oils from the food. The non-food products are labeled as "Low Fat, Fat Free, Lite, Light, or 2% Fat, etc.
2. **Micro-nutrients** are vitamins, minerals and water.
 - a. Information on water has been provided above.
 - b. Vitamin and Mineral sufficiency is required for health and sports performance. For more information on this, refer to "Nutritional Biochemistry Testing and Evaluations" below.

DETOXIFICATION

Not only do toxic substances (chemical, metals, and other debris) from your air, food, water and environment slowly poison the mind and body over time and thus cause illness and disease, they interfere with metabolism, slow down the efficiency of biological function, damage cells, tissues, muscles, organs and glands and thus compromise sports performance.

Therefore, a **30-Day Full Body Detoxification Program** is required initially and must be repeated 2-3 times per year to cleanse the body and assist in maintaining a lean operating physical machine (body). The number of times annually will be determined by Dr. Smith based



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on a number of personal factors in your lifestyle, such as your daily diet, sports goals, current level of toxicity, degree of ongoing toxic exposure in daily life, etc.

Detoxification Programs are essential to eliminate and reduce your current level of toxicity. However, getting to the cause and eliminating/minimizing the source of all toxic exposures prevent the ongoing accumulation and buildup of more toxicity. This also reduces the annual number of Full Body Detoxification Programs required.

Additionally, there are other lifestyle factors that can either enhance or compromise health and sports performance. Therefore, Dr. Smith has designed a **PEP Series of “Lifestyle Education”** that includes assisting client’s in developing a principle-centered, healthy lifestyle.

PERSONAL (LIFESTYLE) EDUCATION EVALUATION AND PROGRAM (PEP)

There are a number of lifestyle factors that adversely affect sports performance and over-all health by causes toxicity or malnutrition. Therefore, in addition to designing Sports Nutrition Program (Whole Food Supplements and Dietary Plans), Personalized Lifestyle Evaluations and Educational Program is provided for all sports nutrition clients.

1. **Lifestyle Evaluation** is provided to identify adverse lifestyle factors.
2. **Lifestyle Education** is provided to assist clients in developing a “principle-centered, healthy lifestyle.”

NUTRITIONAL BIOCHEMICAL TESTING AND EVALUATIONS

- 1) **Scientific Testing of Biochemical Identifies Individual Requirements**
 - a. The only way to accurately and scientifically determine the amount of nutrients your body requires and to monitor energy input in relationship to output is through obtaining a Clinical Nutrition Analysis of your biochemistry (i.e., blood, urine, hair, saliva and stool). All specimens require testing for a comprehensive analysis of your needs. Ideally, an initial comprehensive analysis at the onset of any exercise or sports event training is ideal; however, each test may be obtaining in a series of one, two, three, or four, over several months, if this is more financially practical for an individual. Dr. Smith will prioritize testing, when required.
 - b. Based on the individual own test results, Dr. Smith designs Sports Nutrition (Whole Food Supplement) and Dietary Programs to meet the individual’s daily needs, and updated testing provides scientific data to revise the client’s program to meet the changing needs resulting from their exercise / training regime effect on their human body.



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- 2) **Scientific Evaluation Identifies Probably Requirements Based on Population Studies.** Dr. Smith also provides Sports Nutrition Supplement and Dietary Program based on clinical and sports nutrition studies on populations.
- 3) **Where To Start? – Testing? Evaluation?**
- Dr. Smith will share information on both scientific testing of your biochemistry and scientific evaluations (population studies), so that a plan of action can be designed that best suit each sports nutrition client's individual health and sports performance goals.
 - When a new client has engaged Dr. Smith's services exclusively for Sports Nutrition purposes, Dr. Smith generally starts with an initial Scientific Evaluation with periodic updates to monitor progress, and integrates Scientific Testing of the client's biochemistry, when updated progress evaluations indicate specific biochemical testing is required to refine or enhance their current sports nutrition program to assure continued successful results.
- 4) **Bio-Electrical Impedance Analyzer (BIA) provides Body Composition Analysis (BCA)**
Locally, Dr. Smith also provides a scientific cellular and tissue test or analysis of Body Composition utilizing a "Bio-Electrical Impedance Analyzer," which as an on-site test at seminars and special events.
- The BIA identifies the effects of the person diet and lifestyle on their body composition.
 - Body Composition includes the body mass index, progression of the aging process, percentage of total body water, muscle mass, fat mass and active metabolic cells, in addition to cellular nutrition/malnutrition, tissue health, skeletal health, affects of protein and many other aspects of body composition.
 - It also identifies whether their Body Composition is athletic, i.e., is the strength and health of their cells and tissue supporting athletic activities, or is their Body Composition healthy, nutrient deficient or currently in a pattern of disease. All of these factors are specifically important in evaluating both over-all health and sports performance.
 - Click here for more information on BIA/BCA testing:
<http://www.advancedclinicalnutrition.com/seminarannouncements/aboutonsitetesting.html>
- 5) Below is a link to our website page that announces when on-site testing events are scheduled.
- For example, each November we hold onsite testing at Christmas Magic sponsored by the Junior League of Women in Wichita Falls, Texas.



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- b. In October, check this website page for dates/times and our booth number.

<http://www.advancedclinicalnutrition.com/seminarannouncements.html>

Because the BIA test provides scientific information about cellular and tissue health that no other test can provide, Dr. Smith recommends that all local and local area clients are tested at least once a year.

ABOUT DR. SMITH

Dr. Donna Smith has a Ph.D. in Clinical Nutrition, is a Naturopathic Doctor (N.D.), a Board Certified Clinical Nutritionist (C.C.N.), Certified Dietitian-Nutritionist (C.D.N.), and a Canadian Chartered Herbalist (C.H.).

Dr. Smith is also a Free Lance Nutritional Health Writer and has written over 100 articles for Internet and traditional magazines, such as the **American Chiropractic Magazine**, the largest chiropractic magazine in the United States.

She also writes nutrition and health related e-books, e.g. "**Fibromyalgia – A Clinical Nutrition Syndrome**" (50 Pages. PDF) and "**Dr. Smith's Hair Color Restoration Program – Anti-Grey Solutions**" (57 Pg. PDF).

She is frequently invited to speak on NBC and ABC local networks, and at clubs, hospitals, universities and corporations on a variety of nutrition and health-related topics, such as, the national groups of scientists and biochemists at the **American Society of Clinical Laboratory Science (ASCLS)**, **International and American Associations of Clinical Nutritionists (IAACN)**, **Stephen F. Austin University**, **Midwestern State University**, Optimist Clubs, Toastmasters, Business and Professional Women's Club, Women Entrepreneurs, Worksite Wellness, American Heart Association, Parkinson's Group, and St Gobain Corporation, to name a few.

Dr. Smith owns **Advanced Clinical Nutrition (est. 1981)** in Wichita Falls, Texas, where she provides a **Clinical Nutrition Analysis or Interpretation of Laboratory Tests (blood, urine, saliva, stool and hair)** to identify and correct dietary, vitamin and mineral deficiencies adversely affecting the healthy function of the human mind and body.

From the findings of these scientific Laboratory Reports, Dr. Smith designs and dispenses therapeutic, whole food supplements, available only through nutritional health care providers, and a Dietary Plan, which is a list of foods selected for the food chemistry's positive effect on the individual's biochemistry, which is also based on test results.

Dr. Smith's Clinical Nutrition Services are also provided to **Healthcare and Fitness Providers**, who want to offer clinical nutrition services to their patients/clients, yet do not have the time or training to do so.



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Clinical Nutrition Testing, Therapy, and Personalized Dietary and Lifestyle Education Services are provided by mail, e-mail and telephone consultations. A.C.N. clients save money as there are no in-office appointment fees, gas expense to/from appointments or time away from home or work for nutritional services. Lab Kits are mailed to the clients' homes, where they collect the samples and mails them directly to our Labs.

Dr. Smith has over 90% success in helping her clients improve their health, increase energy, balance hormones, improve mental function, strengthen joints, muscle, immune system, restore over-all organ/gland function (including the hair system to restore its natural color), manage weight, prevent/reverse disease and enhance life and/or sports performance. Her clientele encompasses 36 U.S. States and five international countries.

For more information, to order a clinical nutrition analysis and laboratory tests, and to contact Dr. Smith, call (940) 761-4045 or e-mail at Services@AdvancedClinicalNutrition.com. Meanwhile, please browse www.AdvancedClinicalNutrition.com to subscribe to Dr. Smith's FREE Newsletter, read Free Articles by Dr. Smith and view **Dr. Smith's Secrets To Healing** TV shows and slide presentations. You may also view Dr. Smith's TV Shows and videos on YouTube.com/DrDonnaFSmith, post questions on her blog at DrDonnaSmith.blogspot.com and follow her on Twitter.com/DrDonnaSmith and Facebook.com/DonnaFSmithPhD.

Disclaimer

Information is provided for nutritional education purposes only and not for the diagnosis or treatment of any medical condition, disorder or disease. Present laws indicate that the author must advise you to seek medical attention for your disease, if you have one. Choosing to do so, or not, is your constitutional right and you are ultimately the only person who is responsible for any decisions, risks or actions you take regarding the care of your mind and body. This author's intention is to provide health care education from a nutritional biochemical perspective so you are equipped to make an informed decision.