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## New Approaches to Nutritional Therapy

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As obesity and related chronic diseases reach epidemic proportions, a myriad diets, pharmaceuticals, herbal and dietary supplements, and surgical treatments are available as potential therapies. Conventionally trained primary care providers, including nurse practitioners, consider nutrition a key component in their intervention toolbox but few adequately understand how nutrition affects health and illness. Even fewer are aware of the emerging approaches to nutrition and the linkages between food and genetic expression. Identified by the NIH/NCCAM as either a biologically-based practice or a whole medical system of CAM, novel nutritional therapies include the whole food movement, the anti-inflammatory diet, body-type diets, and functional nutrition.<sup>1</sup>

### Nutritional Therapy: A New Paradigm

A paradigm shift in nutritional sciences is underway. Nutrigenetics/nutrigenomics, the study of relationship between gene expression and nutrition, proposes that disease can be prevented and reversed by drastically altering the nutritional environment.<sup>2</sup> Basic premises include: (a) people are genetically predisposed to develop some type of chronic illness; (b) expression of these genes is largely influenced by environment; (c) food is a large part of this environment that affects gene expression; and (d) whole food, plant-based, nutritionally-dense diets positively influence genetic expression and the incidence of disease. Nutrigenetics has given rise to “Nutritional Medicine” or “Nutritional Therapy”, a system of healing based on the belief that food, in its whole and natural form, provides the substance needed to obtain and maintain a vibrant state of health.

Nutritional Therapy uses food to prevent and reverse diseases that plague most western societies: diabetes, obesity, heart disease, arthritis, and depression. In order for food to be therapeutic, it must be nutrient-dense, measured in part by the **nutrients and anti-nutrients**, contained in consumed foods.

**Nutrients** are plant and animal sources providing macronutrients (protein, carbohydrates, fat), micronutrients (vitamins, minerals, phytochemicals, antioxidants, probiotics), and fiber. They are whole and unprocessed vegetables, fruits, beans, legumes, whole grains, and raw nuts/seeds. Free range, grass-fed organic meat, dairy, eggs, and wild fish also qualify.

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**Anti-Nutrients** are food products that have no biological necessity. Though edible, these are not considered “food”: high fructose corn sweetener, sugars, artificial sweeteners, highly processed and hydrogenated fats, refined flour products, preservatives, and additives. Further, some critical nutrients become anti-nutrients when consumed in excess. For example, while our biological salt need is as low as 250 mg/day, the US recommended allowance (RDA) of salt is under 2400 mg and Americans often consume more than 3500 mg/day. Thus, salt intake within the RDA limits is considered an anti-nutrient.

Nutritional Therapy is also concerned with the way that foods are prepared and delivered for consumption. In order for foods to be **therapeutically beneficial**, the appropriate micro- and macronutrients must be delivered in a nutritionally dense format without contaminants. While plants are the main source of micronutrients, nutrient content can be altered with improper handling. Fruits and vegetables picked before their peak ripeness contain fewer phytochemicals. These phytochemicals protect plants from all kinds of invaders, and when consumed, transfer these same protective advantages to the human body. Cooking and processing can further destroy vital properties of phytochemicals and antioxidants.

The presence of harmful chemicals in foods, such as pesticides, herbicides, and nitrogen-based fertilizers contribute to altered genetic environments. Organic produce is preferable, particularly for certain fruits and vegetables. A reliable listing of “organic musts” can be found at <http://www.living-foods.com/articles/twelvelist.html> or <http://www.drweil.com/drw/u/ART02985/Foods-You-Should-Always-Buy-Organic.html>.

The Aggregate Nutrient Density Index (ANDI) provides a means to judge and calculate the level of micronutrients per calorie and thus therapeutic value of food. Green leafy vegetables, colorful vegetables, fresh fruit, and berries have the most micronutrients per calorie and are the most nutritionally dense foods to choose from. Refined sweets and oils have almost no nutrition density and are not considered food in a nutrition therapy program. Additional information can be found at <http://drfuhrman.com/library/article17.aspx>.

## The Basics of Nutritional Therapy

Nurse practitioners are leaders in treatment of the whole person, valuing approaches that are holistic, safe, and effective. Nutritional therapy is fundamental for patients seeking relief from obesity and chronic illness and for patients pursuing health promotion and wellness. Basic recommendations include:

1. Avoid anti-nutrients, including processed foods. They contribute to obesity, and a wide range of diseases.
2. Eat **ONLY** whole foods: unprocessed, raw vegetables and fruits, beans, legumes, raw nuts, raw seeds, whole grains, free-range, grass-fed organic animal products, and small wild fish.
3. Eat a variety of whole foods, without as much attention to calories, carbohydrates, and fats.
4. Judge the therapeutic value of the whole food diet by eating a majority of calories from foods that are the most nutritionally dense (micronutrients per calorie), and adjust the macronutrients according to individual caloric needs. For instance, if a person is trying to reverse a disease process, the focus of the diet should be mostly raw fruits and vegetables, eliminating animal products completely. A diet to maintain health can be more flexible and include some grains and animal products.

## Conclusion

Critics of nutritional therapy might argue that these new approaches are radical and that patients will not be able to maintain these dietary changes and recommendations. Yet, there is increasing evidence that diets limited to nutritionally dense foods that are minimally cooked and processed, improve sustained weight loss and glycemic biomarkers.<sup>3-4</sup> Nurse Practitioners have the opportunity to educate patients about sound nutritional practices and encourage positive changes in nutritional self-care based on advances in nutrition science and emerging nutritional systems of health promotion and healing.

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