

New Findings on Diet and Men's Health

The top two causes of death for men are heart disease and cancer¹. Of all cancers, prostate cancer is the second leading cause of cancer death in American men. Research supports that increasing fruit and vegetable consumption to meet recommended nutrient intakes could reduce the risk of many of the chronic diseases, including heart disease and certain types of cancer².

Fruits and vegetables contain numerous beneficial components, including fiber, nutrients and bioactive compounds. Fruits are an important source of at least eight vitamins and minerals including vitamin C, folate, and potassium. Vegetables are important sources of 19 or more nutrients, including potassium, folate, and vitamins A and E². The bioactive compounds in fruits and vegetables, known as phytochemicals, have potent disease-reducing effects. Recently, the 2005 Dietary Guidelines Advisory Committee suggested a consumption range of 5-13 servings of fruits and vegetables daily depending on calorie needs².

Table 1 illustrates the proportion of men meeting the current recommendations as defined by the Food Guide Pyramid for all food groups, including fruits and vegetables³. The figures in the table illustrate very clearly that a large percentage of men are not meeting the fruit and vegetable recommendations. These results were supported by a recent study showing no significant changes in fruit and vegetable consumption from 1991 to 1997⁴. In the latter study, awareness of the recommendation to consume five or more servings of fruits and vegetables daily was associated with significantly higher total daily intake; however, women were much more aware of the message than were men⁴.

Table 1. Percent of Men Meeting the Food Guide Pyramid Recommendations³

Age	Grain	Vegetables	Fruits	Dairy	Meat
All ages	32	39	18	26	41
2-18 years	35	22	21	35	23
≥ 60 years	26	42	29	6	36

Recently, Heinz sponsored an educational session at the American Dietetic Association's Food and Nutrition Conference and Exhibition held in Anaheim, California. The title of the session was "New Findings on Diet and Men's Health," and its objectives were to enable participants to:

1. recognize the impact of dietary components on men's health;
2. understand the new role of antioxidants in cardiovascular disease and prostate cancer; and
3. explain the proposed mechanism for lycopene's effect on men's infertility.

Tammy Bray, Professor and Dean at Oregon State University, College of Health and Human Sciences, addressed a novel anti-inflammatory role for antioxidants, including lycopene in the prevention of cardiovascular disease. Inflammation is a normal immune reaction controlled by cellular signals that basically turn the inflammatory response on and off in response to infection. In recent years, chronic inflammation has been implicated in degenerative diseases, including heart disease. Dr. Bray has found that lycopene and other bioactive compounds have the ability to regulate immune signals. Through this action, they appear to have an anti-inflammatory effect.

Dr. Emma Guns, Assistant Professor at the University of British Columbia in Vancouver, Canada is also Research Scientist at the Prostate Centre at Vancouver General Hospital. Dr. Guns explored the role of lycopene in prostate cancer. Approximately 70% of all diagnosed prostate cancers are found in men aged 65 years and older. Over the past 20 years, the survival rate for prostate cancer has increased from 67 to 97%. Epidemiological and population-based research has correlated lycopene in tomato products with a reduced risk of prostate cancer. Dr. Guns reviewed the evidence regarding the validity of attributing the anticancer potential to lycopene alone. It appears that the beneficial effects of tomato products may be due to lycopene in concert with other compounds in the tomato.

Dr. Armand Zini is Associate Professor of Surgery at McGill University in Montreal, Canada. Dr. Zini's focus of research is male infertility. Infertility affects 15% of all couples and 30-50% of these couples will have an abnormality associated with the male. It has been demonstrated that excess production of reactive oxygen species in semen is associated with male infertility. Reactive oxygen species are compounds produced as a result of normal metabolism and also through lifestyle activities and diet. Reactive oxygen species cause cellular damage; antioxidants can mitigate their damaging effects. Preliminary studies demonstrated that infertile men had lower semen lycopene levels than fertile controls, and that infertile men experienced improved semen

quality after lycopene supplementation.

In summary, the news about consuming fruits and vegetables continues to be positive. Specifically, lycopene in tomato products is the subject of intense research, and a number of health benefits have been attributed to lycopene's actions. These actions include that of an antioxidant and anti-inflammatory. Benefits seem to be associated with lycopene in concert with other bioactive components in tomato products.

References:

1. Anderson RN, Smith BL. Deaths: Leading Causes for 2001. *Monthly vital statistics report*; vol 52 no 9. Hyattsville, Maryland: National Center for Health Statistics. 2003.
2. United States Department of Agriculture. 2005 Dietary Guidelines Advisory Committee Report. Website: <http://www.health.gov/dietaryguidelines/dga2005/report/>.
3. Food Surveys Research Group, Beltsville Human Nutrition Research Center, Agricultural Research Center, United States Department of Agriculture. Pyramid Servings Data. Results from USDA's 1994-1996 *Continuing Survey of Food Intake by Individuals Table Set 9*. Beltsville, MD: 1999. Website: <http://www.barc.usda.gov/bhnrc/foodsurvey/home.html>
4. Stables GJ, Subar AF, Patterson BH, Dodd K, Heimendinger J, Van Duyn MAS, Nebeling L. Changes in vegetable and fruit consumption and awareness among US adults: Results of the 1991 and 1997 5 A Day for Better Health Program surveys. *J Am Diet Assoc* 2002;102:809-817.