Improving the Nutritional Health of Adolescents— Position Statement—Society for Adolescent Medicine

Adolescent nutritional problems are common in the U.S.A. (1,2) and throughout the world (3,4). Some young people lack adequate food (3,4) and others make poor food choices (5,6). Conflicting media messages confuse and overwhelm modern adolescents, while rapidly changing lifestyles interfere with family centered eating patterns (6). Growth and development (7) as well as life long health (8–10) may be permanently impaired when food is not available, not eaten even though available, eaten in excess or out of balance with the normally accelerated, and sometimes modified needs of adolescents (11–13).

Adolescents need sufficient energy and specific nutrients in the categories of carbohydrates, protein, fat, vitamins, minerals and water, to fuel growth and supply basic daily needs. Demands are great since the rate of growth at this stage of life is second only to the rate in infancy; mature body tissues and organ systems are developing (7). Too little food and/or deficits of specific nutrients lead to depletion of energy stores, muscle wastage, and cardiac dysfunction, as well as interruptions in growth, sexual maturation and function (3). All body tissues are susceptible to inadequate nourishment. For example, normal bone strength may never be attained if adolescents are malnourished (8). Brain structure may be altered, and unless the situation is rapidly reversed, short term damage may extend to severely undermine adult health (10).

Adolescent athletes, and those with eating disorders, who restrict food or fluid intake or who exercise beyond the limits of their physical development risk serious short and long-term consequences (10,12). At the other extreme, eating more food than needed during adolescence can cause excess fat to be stored throughout the rest of life. Being overweight or obese increases the risk that youth will develop conditions such as diabetes, heart, lung and blood vessel disease that lead to early death (2). The

reproductive system, general physical abilities, selfesteem and social life are often adversely affected by long term over-fat conditions (14). For other adolescents, including those who have a disease or genetic disorder interfering with metabolic function, obtaining a specific balance of nutrients is particularly important in order to avoid exacerbating the disorder or the early debilitating effects of the disease (13). Childbearing adolescents need to adequately nourish themselves and their developing offspring without overeating foods rich in sugar and fat (11,15). The recommendation that dietary folic acid be available during pregnancy to prevent neural tube defects in infants highlights the need for improved nutrient intake by reproductive-age adolescents as less than one-third routinely choose foods containing sufficient folic acid (16).

Developmentally appropriate assistance to adolescents, particularly high risk youth, including the homeless and incarcerated, helps them improve their nutritional habits and prepares them to live as productive adults who avoid many risks to health (1,2,9,14,15,17–19). Thus, understanding and promoting nutritional health during adolescence warrants renewed attention, followed by the allocation of resources for nutritional advocacy, training, research, and care (1,6,20,21). As an organization devoted to improving the total health of adolescents, the Society for Adolescent Medicine supports the following goals:

- Insure access to adequately nourishing food for all adolescents.
- Develop and maintain health services to assist adolescents to eat adequately, but not excessively, and to meet their nutritional needs, whether normal or modified by chronic disease, metabolic disorders, competitive athletics, pregnancy or other life events.
- Implement nutritional education, health promo-

tion and disease prevention programs for all adolescents, especially those at increased risk for inadequate or excessive nutritional intake.

- Dedicate resources for research to determine the long and short-term consequences of nutritional intake during adolescence, as well as the potential to improve biological conditions by altering the intake of nutrients and to positively influence food choices at this stage of life.
- Strengthen basic and advanced training opportunities in adolescent nutrition for nutritionists and adolescent health professionals, and for students preparing for these professions.

References

- 1. Story M, Neumark-Sztainer D. School-based nutrition education programs and services for adolescents. Adolesc Med State Art Reviews 1996;7:287–302.
- Jacobson MS, Rees JM, Golden NH, Irwin CE, eds. Adolescent Nutritional Disorders: Prevention and Treatment. Ann NY Acad Sci. 1997; Vol 817.
- 3. Eisenstein E. Chronic undernutrition during adolescence. Ann NY Acad Sci. 1997;817:138–161.
- Kurz KM, Johnson-Welch C. The nutrition and lives of adolescents in developing countries: Findings from the nutrition of adolescent girls research program. Washington, DC, 1994, International Center for Research on Women Publications.
- 5. Neumark-Sztainer D. Excessive weight preoccupation: Normative but not harmless. Nutri Today 1995;30:68–74.
- 6. Frank GC. Methodological issues regarding eating behavior of high-risk adolescents. Ann NY Acad Sci 1997;817:66–82.
- 7. Spear B. Adolescent growth and development. In: Rickert VI, ed. Adolescent Nutrition: Assessment and Management. New York, NY: Chapman and Hall, 1995. Pg 1–24.
- Katzman DK, Zipursky RB. Adolescents with anorexia nervosa: The impact of the disorder on bones and brain. Ann NY Acad Sci. 1997;817:127–137.
- 9. Copperman N, Haas T, Arden MR. Jacobson MS: Multidisciplinary intervention in adolescents with cardiovascular risk factors. Ann NY Acad Sci 1997;817:199–207.
- Fisher M, Golden NH, Katzman, DK, et al. Eating disorders in adolescents: A background paper. J Adolesc Health 1995;16: 420–437.

- Position of the American Dietetic Association: Teenage pregnancy and nutritional risks. J Am Diet Assoc 1994;94:449–450.
- Meredith CN. Exercise and fitness. In: Rickert VI, ed: Adolescent Nutrition: Assessment and Management. New York, NY: Chapman and Hall, 1995. Pg 25–42.
- Trahms CM. Nutritional care in metabolic disorders. In: Mahan LK, Escott-Stump S. eds. Krause's Food Nutrition and Diet Therapy, 9th Edition. Philadelphia: WB Saunders, 1996. Pg 699–716.
- Rees JM, Jacobson MS. Adolescent overweight and obesity: A rational approach to prevention and long term treatment. In Shenker IR ed. Monographs in Clinical Pediatrics: Adolescent Medicine, 1994. Pg 93–111.
- Rees JM, Lederman SA, Kiely J. Birth weight associated with lowest neonatal mortality: Infants of adolescent and adult mothers. Pediatrics 1996;98:1161–1166.
- Centers for Disease Control: Recommendations for the use of folic acid to reduce the number of cases of spina bifida and other neural tube defects. MMWR 1992;41:1–7.
- Cusatis DC, Shannon BM. Influences on adolescent eating behavior. J Adolesc Health. 1996;18:27–34.
- McBurney KA. The nutritional health status of incarcerated youth. In Sheahan, PM, ed. Health Care of Incarcerated Youth: Report for the 1991 Tri-regional Workshops. Washington, DC: National Center for Education in Maternal and Child Health. Pg 37–45.
- Society for Adolescent Medicine Position Paper: Eating disorders in adolescents. J Adolesc Health 1995;16:476–480.
- Adams LB. Training and education: Building the nutrition team. In Rickert VI, ed. Adolescent Nutrition: Assessment and Management. New York, NY: Chapman and Hall, 1995. Pg 593–608.
- Story M, Blum RW. Adolescent nutrition: Self-perceived deficiencies and needs of practitioners working with youth. J Am Diet Assoc 1988, 88:591–594.

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