

Mary M. Murphy, R.D.
Managing Scientist

Professional Profile

Ms. Mary M. Murphy is a Managing Scientist in Exponent's Health Sciences Center for Chemical Regulation and Food Safety. Ms. Murphy, a registered dietitian, has over 11 years of experience as a consultant in the areas of dietary intake assessments, evaluation of the safety of food ingredients and dietary supplements, and nutrition science. Ms. Murphy analyzes national data to identify food consumption patterns, to examine relationships between food and nutrient intakes and health measures, and to model the nutritional impact of various fortification scenarios. Findings from these analyses have been used to support product development efforts, marketing initiatives, and product registration. Ms. Murphy's experience with dietary exposure assessments includes use of U.S. and U.K. nationwide food consumption surveys, and development of databases of food constituents. Ms. Murphy also has extensive experience in evaluating the safety of novel ingredients added to foods, medical foods, infant formula, and dietary supplements. Ms. Murphy has developed GRAS dossiers and other safety assessments for food additives such as prebiotics, carotenoids, fatty acids, and proteins, and has convened Expert Review panels. Ms. Murphy also has completed a wide range of projects on nutrition issues such as identifying opportunities for fortification based on nutrient intakes and status, and developing critical reviews of nutrition research.

Academic Credentials and Professional Honors

M.S., Nutrition, University of Minnesota, 1997

R.D., Dietetic Internship for Graduate Students, University of Minnesota, 1997

B.A., Physics, College of St. Benedict (*summa cum laude*), 1989

Publications

Murphy MM, Douglass JS, Johnson RK, Spence LA. Drinking flavored or plain milk is positively associated with nutrient intake and is not associated with adverse effects on weight status in U.S. children and adolescents. *J American Dietetic Assoc* 2008; 108(4):631–639.

Murphy MM, Douglass JS, Birkett A. Resistant starch intakes in the United States. *J American Dietetic Assoc* 2008; 108(1):67–78.

Moore CE, Murphy MM, Holick MF. Vitamin D intakes by children and adults in the United States differ among ethnic groups. *J Nutr* 2005; 135(10):2478–2485.

Moore C, Murphy MM, Keast DR, Holick MF. Vitamin D intake in the United States. *J American Dietetic Assoc* 2004 104(6):980–983.

Berner TO, Murphy MM, Slesinski R. Determining the safety of chromium tripicolinate for addition to foods as a nutrient supplement. *Food Chem Toxicol* 2004; 42(6):1029–1042.

Taylor S, Brock J, Kruger C, Berner T, Murphy M. Safety determination for the use of bovine milk-derived lactoferrin as a component of an antimicrobial beef carcass spray. *Regulatory Toxicol Pharmacol* 2004; 39(1):12–24.

Kruger CL, Murphy M, DeFreitas Z, Pfannkuch F, Heimbach JT. An innovative approach to the determination of safety for a dietary ingredient derived from a new source: Case study using a crystalline lutein product. *Food Chem Toxicol* 2002; 40(11):1535–1549.

Amann MM, Kullen MJ, Martini MC, Busta FF, Brady LJ. Consumption of exogenous bifidobacteria does not alter fecal bifidobacteria and breath hydrogen excretion in humans. *J Nutrition* 1998; 128(6):996–1002.

Kullen MJ, Amann MM, O'Shaughnessy MJ, O'Sullivan DJ, Busta FF, Brady LJ. Differentiation of ingested and endogenous bifidobacteria by DNA fingerprinting demonstrates the survival of an unmodified strain in the gastrointestinal tract of humans. *J Nutrition* 1997; 127(1):89–94.

Published Abstracts

Murphy MM, Douglass JS, Johnson RK, Spence LA. Macronutrient intakes, BMI and metabolic syndrome components of children and adolescents in the United States drinking flavored, plain or no milk. *J American Dietetic Association* 2007; Supp 3, 107(8):A-25.

Douglass JS, Murphy MM, Barr SI, Johnson RK, Frye CP. Associations between patterns of beverage consumption and nutrient intakes and BMI in the U.S. 2007 Experimental Biology meeting abstracts [on CD-ROM], Abstract No. 833.5, 2007.

Murphy M, Douglass J, Latulippe M, Barr S, Johnson R, Frye C. Beverages as a source of energy and nutrients in diets of children and adolescents. 2005 Experimental Biology and XXXV International Congress of Physiological Sciences meeting abstracts [on CD-ROM], Abstract No. 275.4, 2005.

Amann MM, Douglass JS, Heimbach JT. Snack food consumption, BMI and energy intake of children in the United States. Poster presentation at the Society for Nutrition Education Annual Meeting, Baltimore, MD, 1999.

Amann MM, Heimbach JT. Calcium intakes and sources in the United States: A comparison between 1987-88 and 1994-96. *FASEB Journal* 1999; 13(5):A911.

Mohamedshah FY, Douglass JS, Amann MM, Heimbach JT. Dietary intakes of lutein+zeaxanthin and total carotenoids among Americans age 50 and above. *FASEB Journal* 1999; 13(4):A554.

Albertson A, Marquart L, Amann M. Estimated consumption of whole grain foods in the United States. *FASEB Journal* 1999; 13(5):A1023.

Amann MM, Douglass JS, Heimbach JT, DiRienzo DB, Miller GD. Nutritional contribution of milk served at school lunch programs to the diets of children. *J Am College Nutr* 1998; 17(5):533.

Agrawal S, Heimbach JT, Amann MM, Mohamedshah F, Douglass J. Relative intakes of conjugated linoleic acid (CLA) from meat and dairy products as a function of sex and age. *J Am College Nutr* 1998; 17(5):526.

Grove TM, Douglass JS, Amann MM, Heimbach JT, DiRienzo DB, Miller GD. Nutritional contribution of flavored milk in the diet of teenagers 12 to 18 and adults 19 years of age and older as compared to alternative beverages. *J Am College Nutr* 1998; 17(5):519.

Presentations

Murphy MM. The role of flavored milk in building healthy diets among children. Oral presentation at the American Dietetic Association Nutrition News Forecast 2008 Meeting, Sanibel, FL, May 17, 2008.

Murphy MM. Using USDA survey-related data to address food industry issues. Oral presentation to the Beltsville Human Nutrition Research Center, U.S. Department of Agriculture, Beltsville, MD, March 4, 2008.

Murphy MM. Functional foods and dietary supplement ingredients. Oral presentation at the 50th Annual FDLI and FDA Education Conference, Bethesda, MD, April 13, 2007.

Murphy MM. Nutrigenomics and population variability. Oral presentation at American College of Toxicology Annual Meeting, Palm Springs, CA, November 8, 2006.

Murphy M. *Trans Fat Labeling Requirements in the United States*. Oral presentation at American Chemical Society 231st Spring National Meeting, Atlanta, GA, March 28, 2006.

Yates AA, Murphy MM. National nutrition monitoring. Oral presentation at USDA National Obesity Prevention Conference, Bethesda, MD, October 26, 2004.

Murphy MM. Estimating exposure to lactoferrin from dietary sources. Oral presentation at the Institute of Food Technologists Annual Meeting, Las Vegas, NV, July 15, 2004.

Douglass JS, Murphy MM. Assessment of exposure and risk related to dietary supplement use. Oral presentation at the Society for Risk Analysis Annual Meeting, Baltimore, MD, 2003.

Murphy MM. GRAS determinations for functional food ingredients. Oral presentation at the Worldnutra Annual Conference, San Diego, CA, November 18, 2002.

Book Chapters

Douglass JS, Amann MM. Chocolate consumption patterns. In: *Health and Nutritional Properties of Cocoa and Chocolate*. Knight I (ed), Blackwell Science Inc., 1999.

Project Experience

Compared nutrient intakes and body measures among children and teenagers drinking flavored milk, exclusively plain milk, or no milk. This dietary intake assessment was completed with NHANES data and the results of the study were published in the peer-reviewed, scientific literature.

Developed a database of typical resistant starch concentrations in foods and in combination with food consumption data reported in NHANES, estimated ranges of resistant starch consumed in the U.S. by age and sex, and race/ethnicity. The relative proportions of resistant starch intakes from ten categories of foods were estimated for the total population and by race/ethnicity. Results of this study were published in the peer-reviewed, scientific literature.

Estimated nutrient intakes from beverages in the United States, and also compared intake of selected nutrients among subpopulations by patterns of beverage consumption. The analysis used data reported in NHANES and was limited to a sample population with plausible dietary recalls. A report was developed to accompany the research, and the results were used in a marketing campaign by a trade association.

Modeled the effects of various levels of nutrient fortification on nutrient intakes for several clients. One project involved assessment of nutrient intakes assuming different levels of whole grain substitution for refined grains in a variety of food categories.

Analyzed data detailing food and nutrient intakes by children to help identify patterns of consumption and potential nutrient inadequacies.

Developed exposure assessments for use in safety assessments related to food additives, potential contamination, and Prop 65 issues.

Completed safety assessments, prepared GRAS dossiers, and facilitated Expert Panel reviews for the use prebiotics in food and infant formula; also developed GRAS dossiers for the use of nutritional substances such as carotenoids, fatty acids, and proteins in foods.

Developed gap assessments to identify data needs necessary to fill prior to development of a GRAS dossier.

Peer Reviewer

- *Journal of the American Dietetic Association*
- *United States Department of Agriculture, Agricultural Research Service, Food Surveys Research Group*

Professional Affiliations

- American Dietetic Association (member)
- Institute of Food Technologists (professional member)
- American Society for Nutrition (member)