

Health Implications of Ultra-Processed Foods

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The term ultra-processed foods was first coined in 2009 and introduced a new way of thinking about nutrition that focuses on the degree and intent of food processing.¹ Ultra-processed foods are defined as “durable, accessible, convenient, and palatable” food products that often have cosmetic additives and ingredients of no culinary use introduced through industrial processing.^{2,3} These foods require minimal preparation and are packaged to promote consumption across multiple settings.² Ultra-processed foods have become ubiquitous, accounting for an estimated 73% of commercially available products in the US food supply.⁴ Most of the calories consumed in the United States are from ultra-processed foods—approximately 53% among adults and 62% among youth, on average.⁵

In recent years, research on the health implications of ultra-processed foods has grown significantly. Nutrition science has historically focused on the contributions of single nutrients to health and disease, from early work on vitamins to later emphasis on dietary fats and sodium.⁶ As research into the role of food in the development and progression of chronic diseases evolves, new approaches have emerged to better characterize our modern food environment.⁶ Attention has shifted from studying individual nutrients to how foods are processed and manufactured. Dietary factors remain a leading contributor to chronic diseases and a major cause of premature morbidity and mortality.⁷ However, current evidence does not support treating all ultra-processed foods as a uniform category due to mixed associations by product type and nutrient composition. Some ultra-processed foods are associated with neutral or favorable health outcomes (Table 1^{3,8,9}).

This editorial describes the current evidence on ultra-processed foods and recommendations for clinical practice.

CARDIOMETABOLIC HEALTH AND OBESITY

Heart disease is the leading cause of death in the United States across most demographic groups.¹⁰ The American Heart Association notes that most ultra-processed foods are high in saturated fats, added sugars, and sodium, and that these components contribute to negative cardiometabolic outcomes.³ Multiple prospective studies show consistent association between intake of these foods and risk of obesity, type 2 diabetes, hypertension, hyperlipidemia, coronary heart disease, and cardiovascular mortality.^{3,11} Reducing intake of red

TABLE 1

Examples of Potentially Neutral or Beneficial Ultra-Processed Foods

- Plant-based milks (eg, unsweetened soy or almond milk)
- Plant-based soups (eg, mixed bean or tofu chili)
- Plant-based spreads (eg, hummus, peanut butter, avocado products)
- Tofu
- Unsweetened yogurts
- Whole grain breads

Note: These examples refer to preparations that are not high in sodium, sugar, or saturated fat. Furthermore, there are versions of these foods that are not ultra-processed.

Information from references 3, 8, and 9.

and processed meats, refined grain products, sugar-sweetened beverages, and desserts/candies, and substituting minimally processed plant-based foods (eg, vegetables, fruits, legumes, nuts, whole grains) is consistently associated with improved cardiometabolic outcomes.^{3,12-14}

CANCER

Cancer is the second leading cause of death in the United States, with colorectal cancer–related mortality increasing in

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See related article on page 132.

those younger than 50 years.^{10,15} For cancer prevention, the American Cancer Society recommends reducing or eliminating intake of red and processed meats, sugar-sweetened beverages, alcohol, refined grain products, and other highly processed foods.^{8,14} The American Cancer Society further recommends diets rich in minimally processed, plant-based foods such as vegetables, fruits, whole grains, and legumes that are high in fiber and other nutrients.⁸ These recommendations are associated with lower risks of colorectal cancer and postmenopausal breast cancer.¹⁴ Certain alcoholic beverages (eg, premixed cocktails, flavored drinks, many hard seltzers) are considered ultra-processed, and the role of alcohol in the development of seven different cancers (oral, pharynx, larynx, esophagus, breast, liver, and colorectal) was highlighted in a 2025 US Surgeon General's Advisory.¹⁶ However, this risk is often underappreciated by the general public.

GASTROINTESTINAL HEALTH

Prospective studies show a consistent association between ultra-processed food intake and risk of Crohn disease, but the data are inconclusive regarding ulcerative colitis.^{17,18} Limited data also support an association between ultra-processed food intake and risk of irritable bowel syndrome.¹⁹

MENTAL HEALTH AND SLEEP

Low-quality evidence shows an association between ultra-processed food intake and anxiety, depressive symptoms, and adverse sleep outcomes, but this may be a bidirectional relationship.^{20,21}

OVERALL HEALTH

Ultra-processed food intake is associated with increased all-cause mortality across multiple studies.^{11,22} Potential mechanisms of negative health effects include specific industrial processing techniques, use of harmful additives and ingredients during food manufacturing, nutrient composition of ultra-processed foods, displacement of healthier foods in the diet, increased caloric intake due to their hyperpalatability and caloric density, and exposure to contaminants used in packaging.^{3,11,20} The resulting biologic effects include chronic inflammation, disruption of gut microbiome, metabolic dysregulation, and altered appetite signaling.^{3,11,20}

The current literature on ultra-processed foods consists predominately of observational studies and is characterized by considerable heterogeneity. Despite these limitations, it is clear that diets high in sodium and low in whole grains, nuts and seeds, fruits, and vegetables contribute to premature mortality.²³ Lower consumption of red and processed meats, sugar-sweetened beverages, and trans fats, as well as avoidance of excess sodium intake, is consistently associated with better health outcomes.⁹

Family physicians should continue advising patients to focus on minimally processed, plant-based dietary patterns while prioritizing foods that are enjoyable, culturally valuable, and sustainable for optimal health.

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