

Alcohol Use Disorder: Dietary Considerations

What We Know

- › Alcohol use disorder (AUD) is a chronic disease that is characterized by alcohol dependence. Physical dependence on alcohol is evidenced by frequent consumption of large amounts of alcohol, a notable increase in the amount of alcohol intake necessary to achieve intoxication, and cravings and withdrawal symptoms in response to a sudden cessation of or dramatic decrease in alcohol consumption. Over 100,000 deaths are due to alcohol use disorders each year in the U. S., ranking AUDs third among preventable causes of death in the U. S., following cigarette smoking and obesity. Because AUD is also considered to be a progressive disease, even after the excessive drinking has stopped, individuals with AUD are advised to completely abstain from consuming alcohol. There are many treatment programs and support networks (e.g., Alcoholics Anonymous [AA]) designed to assist in achieving and maintaining sobriety, a challenge that persists for the lifetime of those inflicted with the disease of AUD^(1,5,8,9,10,11)
- Alcohol contains ethanol, a sedative-hypnotic drug, and is toxic to all human cells. Absorbed quickly into the bloodstream from the stomach, alcohol is metabolized by the liver at a rate of one-halfounce of alcohol per hour and rapidly crosses the blood-brainbarrier. Consumption of ethanol is known to promote further alcohol intake due to the phenomenon of reinforcement (i.e., a positive feedback loop between alcohol and a variety of receptors in the brain). Excessive intake can have harmful effects, including acute alcohol toxicity (i.e., alcohol poisoning)^(8,10,11)
 - Signs and symptoms of alcohol toxicity⁽¹¹⁾
 - Confusion, stupor, losing consciousness
 - Slurred speech and lack of coordination
 - Pale or blue-tinged skin
 - Vomiting
 - Irregular or slow breathing
 - Seizures
 - Hypothermia
- AUD can lead to many serious health conditions, including:^(1,2,9,10)
 - Liver disease (e.g., alcoholic hepatitis, cirrhosis)
 - Digestive problems (e.g., gastritis, stomach and esophageal ulcers, pancreatitis)
 - Neurological dysfunction (e.g., pain and numbness in hands and feet, difficulty concentrating, short-term memory loss, and dementia)⁽⁷⁾
 - Hypertension
 - Cardiovascular disease (CVD)^(1,2)
 - Complications of diabetes mellitus (e.g., interferes with glucose metabolism, increasing the risk for hypoglycemia)^(1,2,6)
 - Cancer (AUD has been linked to an increased risk for cancers of the mouth, throat, liver, colon, and breast)
 - Birth defects (e.g., fetal alcohol syndrome) in offspring caused by the mother drinking alcohol while pregnant^(1,2)

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› **Dietary Considerations**

- Chronic excessive alcohol consumption can profoundly interfere with nutrient intake, metabolism, and utilization; however, medical manifestations of chronic excessive alcohol use can go undetected for many years^(2,5)
 - Many alcoholics replace vital nutrients with the consumption of alcohol, sometimes ingesting 50% of their required calories in the form of alcohol
 - Individuals with AUD tend to eat less than adequate amounts of the B vitamins, vitamins A and C, and magnesium
 - Alcohol inhibits the metabolism and absorption of nutrients by^(2,5)
 - reducing the secretion of important digestive enzymes from the pancreas
 - damaging the cells that line the stomach and intestinal tract, thereby impeding nutrient absorption, transport, storage, and excretion
 - Alcohol inhibits fat absorption, which can lead to deficiencies in the fat-soluble vitamins, A, D, E, and K. Deficiencies in these vitamins can impair wound-healing, delay blood-clotting, weaken bones, cause night-blindness, and result in neurological damage^(2,5)
 - Fat malabsorption can also inhibit the absorption of calcium.
 - Approximately 80% of chronic alcohol abusers are deficient in thiamine, which often develops in conjunction with deficiencies of other B vitamins^(2,7,13)
 - Signs and symptoms of late thiamine deficiency include severe neurologic complications (“dry beriberi”) and cardiac complications (“wet beriberi”), both of which often lead to permanent damage
 - Signs/symptoms of dry beriberi include:
 - Peripheral neuropathy
 - Exaggerated reflexes
 - Vomiting
 - Leg cramps and pain, particularly at night
 - Seizures
 - Muscle weakness and atrophy
 - Wernicke’s encephalopathy, which results in confusion, gait disturbances (e.g., difficulty walking), and eye and vision impairment including: nystagmus (i.e., involuntary eye movements), partial paralysis of the eyes, and double-vision. Untreated Wernicke’s encephalopathy results in coma and death⁽⁷⁾
 - Korsakoff’s psychosis, which results in memory loss, confusion, delirium, and confabulation (i.e., use of inappropriate words and fabricated information to cover gaps in memory)⁽⁷⁾
 - Signs/symptoms of wet beriberi include:
 - Rapid heart rate and heart enlargement
 - Blood vessel dilation leading to warm, moist skin
 - Lower extremity edema
 - Respiratory distress (e.g., shortness of breath at night and with activity)
 - Heart failure

› **Dietary and Lifestyle Recommendations to Support the Management of AUD**^(2,4,9,12)

- Abstain from alcohol
- Correct fluid-electrolyte imbalance
- Eat a balanced diet that includes lean proteins, unsaturated fats, complex carbohydrates, and a variety of fruits and vegetables
- Choose complex carbohydrates, which stimulate the production of serotonin and maintain normal insulin and glucose levels, stabilizing mood
- Avoid simple carbohydrates, which can increase the risk for mood swings and depression, a frequently by-product of alcohol withdrawal
- Include foods that provide omega-3 fatty acids (primarily found in fish and seafood)
- Include foods that are rich in B-complex vitamins (e.g., green leafy vegetables), vitamin C (e.g., orange and red fruits and vegetables), magnesium (e.g., beans, leafy greens), and protein (e.g., lean meats, beans, nuts)
- Maintain a supply of healthy snacks (e.g., unsalted nuts, fresh fruit, dried fruit) to prevent impulse snacking of junk foods
- Avoid excessive intake of caffeine (e.g., coffee, tea, caffeinated soda), which increases anxiety and agitation and can interfere with healthy sleep patterns

- Participate in daily physical activity. Exercise reduces stress hormones, increases the sense of well-being, improves sleep, and improves overall health

› Research Findings on AUD and Dietary Considerations

- Excessive alcohol consumption has been identified as a risk factor for poor self-care adherence in individuals with diabetes. Alcohol intake can also negatively impact the course of diabetes by interfering with glucose metabolism, impairing pancreatic, kidney, and liver function, and increasing the risk for CVD and malnutrition⁽⁶⁾
- A randomized controlled trial was conducted in an urgent care center in England testing timing of a brief health promotion intervention on patients with AUD among other conditions. The intervention consisted of education, both verbal and written, about risk factors and behaviour change, readiness to change assessment, and referral to a well-being service. Half of the participants received the intervention upon initial presentation at the center; the other half received it later – as much as 4 hours. Results indicated that timing did not affect the decision to participate in the intervention which 64% of the patients did.⁽³⁾

What We Can Do

- › Learn about the dietary considerations of AUD so you can accurately assess your patient’s personal characteristics and health education needs; share this information with your colleagues
- › Assess your patients’ dietary habits and educate regarding the importance of consuming a diet that is high in nutrition and contains a variety of fruits, vegetables, whole grains, and lean meats, as appropriate to individualized patient characteristics
- › Assess risk for diet-related complications associated with AUD and request referral to a mental health clinician for substance abuse counseling and to a registered dietitian for evaluation and education regarding nutrition, as appropriate
- › Educate your patients about the risk for malnutrition secondary to excessive alcohol consumption. Educate about to the importance of maintaining healthy dietary habits by keeping healthy snack foods available and enlisting the help of family and/or friends for food purchase and preparation

Coding Matrix

References are rated using the following codes, listed in order of strength:

M Published meta-analysis	RV Published review of the literature	PP Policies, procedures, protocols
SR Published systematic or integrative literature review	RU Published research utilization report	X Practice exemplars, stories, opinions
RCT Published research (randomized controlled trial)	QI Published quality improvement report	GI General or background information/texts/reports
R Published research (not randomized controlled trial)	L Legislation	U Unpublished research, reviews, poster presentations or other such materials
C Case histories, case studies	PGR Published government report	CP Conference proceedings, abstracts, presentation
G Published guidelines	PFR Published funded report	

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