

# SANDHILLS CENTER

Managing Mental Health, Intellectual/Developmental Disabilities and Substance Abuse Services  
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## INTEGRATED CARE NEWS

Periodic Updates and Information for the Sandhills Center Provider Network

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### ALCOHOLISM AND THE DIGESTIVE SYSTEM

While a lot has been written about the effects of alcohol on memory and the nervous system, less attention has been given to the effects of alcohol on the gastrointestinal (GI) tract, or digestive system.

This brief article should serve as a reminder to us about the effects of alcohol as we serve our clients, and calls for a review of our practice to suggest moderation of alcohol consumption during this season.

Before we delve into the effects of alcohol on the digestive system, it is important to be aware of the catastrophic effects of alcohol on the brain and its executive functions. The impact of alcohol on the impaired driver, the cost in loss of personal freedom, and in loss of life of victims, the shattered lives of family members, and disruption of social and community relationships of those involved cannot be overemphasized.

Large quantities of alcohol, especially when consumed quickly and on an empty stomach, can produce a blackout, which is an interval of time during which the person may not recall details of what happened the night before, or even the entire event.

**As the holiday season approaches and is upon us, you may find this newsletter pertinent to modifying our lifestyles to what is safe and healthy, and enjoy the season without the burden of illness.**

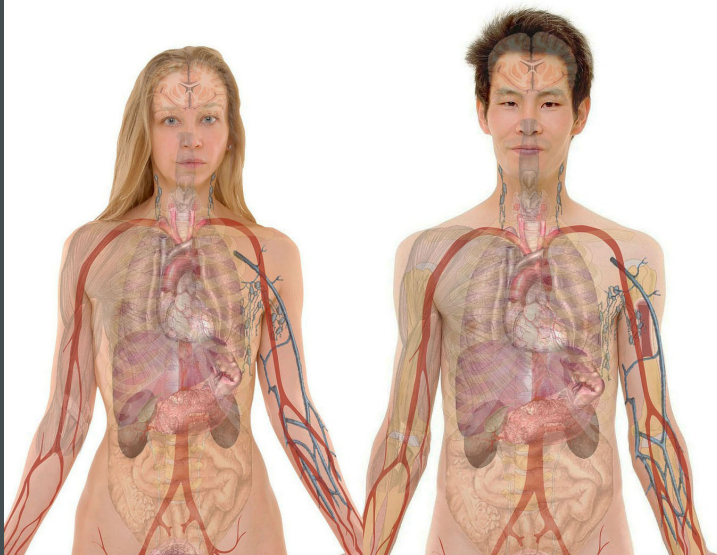
Drinkers who experience blackouts typically drink too much too quickly, causing blood alcohol levels to rise very rapidly. Underage college students may be particularly at risk for experiencing blackouts, as an alarming number engage in binge drinking to celebrate freedom from parental supervision. Sadly, we often hear about college freshmen who are found dead from hazing rituals and overdose.

People who drink large amounts of alcohol over long periods of time run the risk of developing serious and persistent changes in the brain, leading to permanent and debilitating conditions that require lifetime custodial care.

Getting one's daily calories predominantly from alcohol runs the risk of poor overall nutrition and, specifically, thiamin deficiency. Thiamin, also known as vitamin B1, is an essential nutrient required for proper functioning of our tissues, particularly the nervous system and brain. About 80 percent of alcoholics have thiamin deficiency. Many will develop serious brain disorders such as Wernicke-Korsakoff syndrome.

The symptoms of Wernicke's encephalopathy include mental confusion, muscular incoordination and oculomotor disturbances. Patients may be too confused to find their way out of a room or even walk.

The great majority of alcoholics with Wernicke's encephalopathy also develop Korsakoff's psychosis, a



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chronic and debilitating syndrome that is characterized by persistent learning difficulties and memory problems. Post-mortem studies indicate that many cases of thiamin deficiency may not be diagnosed during the life of the individual because not all the signs and symptoms may be present or recognized.

Alcoholic dementia should always be considered within the differential diagnoses of patients presenting with neurocognitive disorders.

The effects of alcohol on the GI tract are not any less dramatic. The digestive tract comprises the mouth, throat, esophagus, stomach, liver, pancreas, small intestines, colon and anus. The function of this tract is to ensure food is ingested, digested, broken down, nutrients are absorbed, and waste products are eliminated from the body.

It is important to remember that ethyl alcohol and its metabolite acetaldehyde can easily reach and damage tissues in the mouth and throat. Acetaldehyde is a known carcinogen, and about 30 percent of mouth and oropharyngeal cancers are caused by chronic alcohol consumption. The risk is greater among tobacco smokers.

The esophagus is the tube that connects the mouth to the stomach. It propels chewed food from the mouth down to the stomach to complete digestion. The esophagus is lined by squamous cells, and high alcohol consumption is a risk factor in squamous cell carcinoma.

The stomach is the place where food is temporarily stored until it is mixed with fluids and broken down by acid and digestive enzymes from the liver and pancreas. Consumed alcohol stays in contact with the stomach lining for a relatively long time, increases acid production and damages the mucous cells protecting the walls of the stomach, leading to gastritis and ulcers. When a person lies down with a full stomach, some of this acid-rich content may break through the lower esophageal sphincter, causing "acid-reflux," or heartburn. High alcohol concentration above 15 percent alcohol-by-volume can further delay gastric emptying, which can result in bacterial decomposition of food, causing abdominal pain.

Alcohol reduces the ability of the stomach to fight bacteria, allowing these bacteria to flourish, mix with food and reach the duodenum and upper small intestines.

The liver is an important organ within the body because it eliminates toxins that we ingest. The liver breaks down alcohol to acetaldehyde which is, itself, a cell toxin

that causes inflammatory changes in the liver, destroys normal liver cells and replaces them initially with fat, increases fat production and then resolves fatty tissue with an inflammatory process resulting in fibrotic tissue, which we call cirrhosis of the liver. Alcoholic hepatitis, fatty liver and cirrhosis have long been known to be caused by chronic alcohol intake.

The pancreas secretes important enzymes that are critical to the absorption of fat and protein. It also produces insulin and other important hormones essential for normal bodily function. Alcohol abuse can cause inflammatory changes to the pancreas, which we call pancreatitis. This inflammatory process prevents or otherwise interferes with the production or release of these hormones and pancreatic enzymes resulting in severe illness to the individual.

Alcohol impairs the ability of the small intestines to break down and absorb nutrients and vitamins. In addition, alcohol reduces motility or emptying of both the stomach and small intestines which has a negative effect on the breakdown of foods. Alcohol can contribute to bleeding and ulcers in the small intestines.

An additional effect of alcohol is to alter the normal bacterial flora that is being recognized as increasingly important for proper digestion and overall health. Undigested fiber pass from the small intestine to the large intestine, the colon, where water and electrolytes are absorbed into the blood stream. The process may take up to 24 hours to complete. What remains is passed out of the body through the anal sphincter as waste product.

In conclusion, alcohol and its metabolite acetaldehyde are both classified as Group 1 carcinogens. This is the highest carcinogen rating, equal to tobacco smoke and exposure to asbestos. Alcohol consumption remains a risk factor for mouth, pharynx, esophagus, bowel and liver cancers. This risk increases with the amount and concentration of alcohol consumed.

Compared to occasional alcohol drinkers, people who consume up to four standard drinks a day are at a 21-percent increased risk for colorectal cancer. Heavy drinkers (people who drink more than four drinks a day) have a 52-percent increased risk for colorectal cancer.

Awareness of these risks, and physical consequences of alcohol consumption on the digestive system, is important when treating someone for alcohol abuse or dependence. Doing so will help to ensure they are properly informed of health risks and receive proper medical care when needed.