Bingeing on Carbs Might Make Your Drunk?

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Everyone loves eating too many carbs and realistically the occasional food-binge doesn’t harm the body very much. For some people, however, it can. For people in the United States who have been diagnosed with Auto-brewery Syndrome, or Gut Fermentation Syndrome, carbo-loading (eating copious amounts of carb-heavy food at once) can have some legal and behavioral consequences. Auto-brewery Syndrome is a condition where the yeast within your gut produce ethanol through fermentation instead of traditional aerobic respiration. For people with this condition who eat large amounts of carbs in one meal, they end up with low levels of alcohol intoxication. Scientists have known about this phenomenon for about a century, describing it as “abnormal gut syndrome,” “germ carbohydrate fermentation,” and “intestinal carbohydrate dyspepsia” as far back as 1912. This syndrome has been shown to affect adults and children and could be a possible cause for sudden infant death. People with this condition can also experience side effects such as hangovers, belching, disorientation, and chronic fatigue. Having a gut that can make its own alcohol seems fun, but controlling it isn’t as easy as you might think.

Auto-brewery Syndrome happens because the yeast within the gut go through anaerobic respiration, also known as fermentation. This means that when breaking down the sugars from the carbs you eat, they produce ethanol as a byproduct. Your liver typically metabolizes and breaks down alcohol, but this extra production by yeast leads to an increased alcohol content in your body even leading to getting drunk. In treating this unintentional alcohol intake, doctors typically recommend low carbohydrate diets, as well as probiotic supplements to increase the amount of normal bacteria in your gut.1

Because individuals with this syndrome do not always know when it happens, multiple people have attempted to use this syndrome as a drunk-driving defense in court. In 2015, a woman from upstate New York was charged with a DWI (driving while intoxicated) hours in court. In 2015, a woman from upstate New York was tempted to use this syndrome as a drunk-driving defense but was always untrained or not provided in a timely manner. This syndrome does raise the question: Can individuals with Auto-brewery Syndrome be convicted for driving while intoxicated if they have BACs that are unintentionally over the legal limit? While being able to get drunk after eating too many carbs may seem fun, individuals with this syndrome struggle with the fluctuating levels of intoxication they experience. Additionally, they may face unintentional conflicts with the law, as well as the detrimental effects of continuous alcohol withdrawal.

**References**
3. The FBI and biohackers: an unusual relationship. EMBO Reports. 17.6. 793-796. https://doi.org/10.15252/embr.201642483