

NUTRITION NOTES

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Sodium Restriction in CHF – Benefit Vs. Harm:

In literature, there is currently no consensus on fluid or sodium restriction for patients with congestive heart failure (CHF). Several studies have shown mixed outcomes tied to these restrictions. With aggressive restrictions of sodium and fluid (less than 1500 mg/d and 1 L/d respectively), studies have shown an increased activation of neurohormonal pathways actually leading to worsened sodium and water retention. On the other hand, studies with modest restrictions demonstrated improved HF outcomes including reduced symptom burden.

It is also relevant to consider that salt taste diminishes with age. As a result, restricting sodium may lead to reduced palatability of foods. For related reasons, sodium restriction has been associated with inadequate intake of other important nutrients such as calcium, phosphate, thiamine, and folate. Moreover, the cost of low-sodium foods can be a financial burden for patients with food insecurity or socioeconomic disadvantages.

Limiting sodium to 2000-2300 mg per day and restricting fluid according to the individual's ideal body weight and known ejection fraction appears to be the most effective approach.

Does Fructose Cause Fatty Liver?:

Fructose metabolism leads to the production of fatty acids in the liver. This is why intake of fructose is often blamed for the development of fatty liver disease. It is important to note, however, that glucose also generates fatty acids via two major metabolic pathways. The presence of free fatty acids leads to the formation of triacylglycerols (TAG) which are then exported to the serum by the liver. When the rate of fatty acid production is too high, some TAG is retained rather than exported, resulting in fatty liver. Thus, excess intake of any sugar, regardless of its original form, can result in high blood TAG, increased lipogenesis, and fatty liver. Conversely, the beneficial contributions of nutrient-dense fruit, vegetables, and whole-grain foods must be considered. These foods, which also contain naturally occurring fructose, have been associated with improved metabolic outcomes in diet intervention studies.

The take home message is this: Spotlighting fructose does not consider the full metabolic picture. Based on current evidence, it is recommended to avoid excess calorie intake from all sugars while increasing intake of nutrient-dense foods such as whole grains, fruits, and vegetables.