



## Haff Disease

Haff disease is a rare seafood-related illness that affects about one person in the United States each year<sup>1</sup>. There have been three reported incidents of Haff disease in Illinois, with the last case occurring in 2019. The two prior incidents occurred in 2004 and 2014. All Illinois cases of Haff disease were related to consumption of buffalo fish.

### WHAT IS HAFF DISEASE?

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Haff disease is a syndrome of unexplained rhabdomyolysis occurring within 24 hours of fish consumption. It is suspected of being caused by an unidentified toxin<sup>1</sup>. Rhabdomyolysis occurs when damaged muscle tissue releases its protein and electrolytes into the blood. Rhabdomyolysis is a serious medical condition that can cause kidney damage, dangerous heart rhythms, seizures, nausea and vomiting, permanent disability, and death.

### WHAT FISH ARE ASSOCIATED WITH HAFF DISEASE?

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In the United States, Haff disease has been linked to the consumption of buffalo fish, crawfish, and salmon<sup>2</sup>. In Illinois, the three observed cases have involved buffalo fish, which are commercially harvested from large rivers and reservoirs. Three species of buffalo fish occur in Illinois (bigmouth, smallmouth, and black buffalo), though it is unknown which species have been associated with the cases of Haff disease due to the species' physical similarities and overlapping habitats.

### WHAT ARE THE POTENTIAL HEALTH EFFECTS?

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Common symptoms associated with Haff disease include extreme muscle stiffness, muscle pain, chest pain, difficulty breathing, numbness, loss of strength throughout the body, and dark brown urine. Severe symptoms typically resolve within two to three days, though prolonged muscle weakness may remain. Complications of Haff disease include acute kidney failure and abnormal blood clotting. The case fatality rate of Haff disease is about 1%<sup>3</sup>.

### WHAT CAN I DO TO LOWER MY RISK OF HAFF DISEASE?

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Other than limiting your consumption of seafood, there are no known measures to lower your risk for Haff disease. You cannot tell if a fish contains the toxin based on its taste, smell, or appearance, and the toxin cannot be destroyed by cooking. It is unknown if the disease is caused by improper packaging or storage of fish or if it is attributed to the fish's environment. Since the majority of incidents in the United States have involved buffalo fish<sup>2</sup>, those who frequently consume buffalo fish should monitor themselves for the symptoms of Haff disease.

## WHAT SHOULD I DO IF I START SHOWING SYMPTOMS OF HAFF DISEASE?

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Seek medical attention immediately if you've recently consumed seafood and are exhibiting symptoms of Haff disease. After you have received medical attention, notify your local health department to document the illness and prevent others from becoming inflicted. If leftover fish is available from the meal, do not throw it out. IDPH or partner agencies may request a fish sample for testing.

## WHERE CAN I GET MORE INFORMATION?

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Illinois Department of Public Health  
Division of Environmental Health  
525 W. Jefferson St.  
Springfield, IL 62761

217-782-5830

TTY (hearing impaired use only) 800-547-0466

[DPH.Tox@illinois.gov](mailto:DPH.Tox@illinois.gov)

<http://www.dph.illinois.gov/>



<sup>1</sup> Louis, J.V.; Sein, S.; Lyon, C.; Apergis, G. Two cases of rhabdomyolysis (Haff disease) after eating carp fish. J. Investig. Med. High Impact Case Rep. 2016, 4, 2324709616663230.

<sup>2</sup> Diaz, James. (2015). Don't be Half-Educated About Haff Disease in Louisiana. The Journal of the Louisiana State Medical Society : official organ of the Louisiana State Medical Society. 167. 6-10.

<sup>3</sup> Centers for Disease Control and Prevention. Haff disease associated with eating buffalo fish—United States, 1997. MMWR Morb Mortal Wkly Rep. 1998;47(50):1091-1093.

*This project has been funded wholly or in part by the U.S. Environmental Protection Agency (USEPA) under assistance agreement GL00E02467 - 1 to IDPH. The contents of this document do not necessarily reflect the views and policies of the USEPA, nor does the USEPA endorse trade names or recommend the use of commercial products mentioned in this document.*