

Bowhead blubber: fatty acids

Fatty acids are the chemical building blocks that make up fat
Omega 3's are considered the "healthy fats"

Human Health Implications of Omega-3 and Omega-6 Fatty Acids in Blubber of the Bowhead Whale (*Balaena mysticetus*).

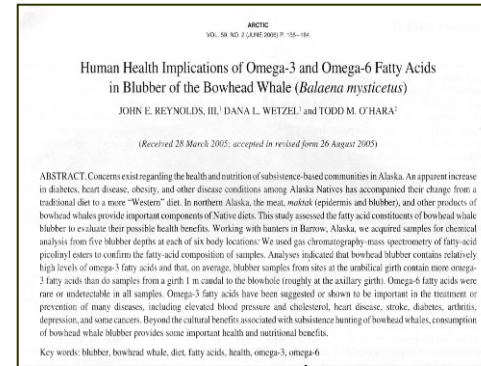
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Abstract: Concerns exist regarding the health and nutrition of subsistence-based communities in Alaska. An apparent increase in diabetes, heart disease, obesity, and other disease conditions among Alaska Natives has accompanied their change from a traditional diet to a more "Western" diet. In northern Alaska, the meat, *maktak* (epidermis and blubber), and other products of bowhead whales provide important components of Native diets. This study assessed the fatty acid constituents of bowhead whale blubber to evaluate their possible health benefits. Working with hunters in Barrow, Alaska, we acquired samples for chemical analysis from five blubber depths at each of six body locations. We used gas chromatography-mass spectrometry of fatty-acid picolinyl esters to confirm the fatty-acid composition of samples. Analyses indicated that bowhead blubber contains relatively high levels of omega-3 fatty acids and that, on average, blubber samples from sites at the umbilical girth contain more omega-3 fatty acids than do samples from a girth 1 m caudal to the blowhole (roughly at the axillary girth). Omega-6 fatty acids were rare or undetectable in all samples. Omega-3 fatty acids have been suggested or shown to be important in the treatment or prevention of many diseases, including elevated blood pressure and cholesterol, heart disease, stroke, diabetes, arthritis, depression, and some cancers. Beyond the cultural benefits associated with subsistence hunting of bowhead whales, consumption of bowhead whale blubber provides some important health and nutritional benefits.

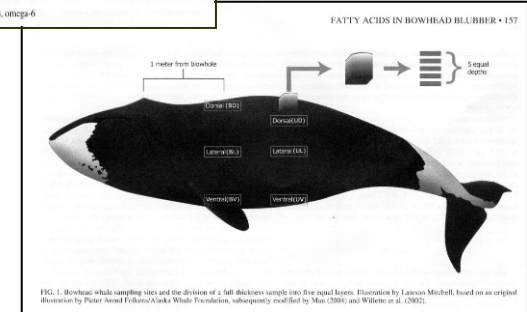
This research increases understanding of:

Bowhead health and physiology
Nutrients in bowheads (fatty acids)
Omega-3 and Omega-6

And documents bowhead nutrient values



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Samples for this study were collected from bowhead whale 98B23 harvested at Barrow in 1998. 29 blubber samples were analyzed from 6 different body locations at 5 different blubber depths.

The main points of this study tell us that:

- Bowhead blubber has relatively high levels of omega-3 fatty acids (the "good" fatty acids)
- Blubber samples collected from the umbilical girth (belly button level) contained more omega-3 fatty acids than samples from a girth 3 feet behind the blowhole (between the flippers), on average.
- Omega-6 fatty acids were rare or undetectable in all samples

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