

# Fish derived serum omega-3 fatty acids help reduce the risk of type 2 diabetes

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High concentrations of serum long-chain omega-3 fatty acids may help reduce the risk of type 2 diabetes, according to a University of Eastern Finland study published recently in *Diabetes Care*. The sources of these fatty acids are fish and fish oils.

Type 2 [diabetes](#) is becoming increasingly widespread throughout the world, including Finland. Overweight is the most significant risk factor, which means that diet and other lifestyle factors play important roles in the development of type 2 diabetes. Earlier research has established that weight management, exercise and high serum linoleic acid concentrations, among other things, are associated with reduced risk of diabetes. However, findings on how fish consumption or long-chain omega-3 fatty acids affect the risk of diabetes have been highly contradictory. A protective link has mainly been observed in Asian populations, whereas a similar link has not been observed in European or US studies – and some studies have even linked a high consumption of fish to increased [diabetes risk](#).

Ongoing at the University of Eastern Finland, the Kuopio Ischaemic Heart Disease Risk Factor Study (KIHD) determined the serum omega-3 fatty acid concentrations of 2,212 men between 42 and 60 years of age at the onset of the study, in 1984–1989.

During a follow-up of 19.3 years, 422 men were diagnosed with type 2 diabetes.

Serum long-chain omega-3 fatty acid concentrations were used to divide the subjects into four categories. The risk of men in the highest serum omega-3 fatty acid concentration quarter to develop type 2 diabetes was 33% lower than the risk of men in the lowest quarter.

The study sheds new light on the association between fish consumption and the risk of [type 2 diabetes](#). A well-balanced diet should include at least two fish meals per week, preferably fatty fish. Fish rich in long-chain [omega-3 fatty acids](#) include salmon, rainbow trout, vendace, bream, herring, anchovy, sardine and mackerel, whereas for example saithe and Atlantic cod are not so good alternatives. Weight management, increased exercise and a well-rounded diet built around dietary recommendations constitute the cornerstones of diabetes prevention.

**More information:** Serum Omega-3 Polyunsaturated Fatty Acids and Risk of Incident Type 2 Diabetes in Men: The Kuopio Ischaemic Heart Disease Risk Factor Study, Jyrki K. Virtanen, Jaakko Mursu, Sari Voutilainen, Matti Uusitupa, Tomi-Pekka Tuomainen *Diabetes Care* 2014;37(1):189-96.

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