

HS-Omega-3 Index[®]

(Dried Blood Spots)

Overview

- Evidence from population studies and randomized, controlled trials over the last 25 years have documented the cardioprotective effect of omega-3 oils and have shown the HS-Omega-3 Index[®] to be a better indicator of relative risk* for sudden cardiac death than other CHD risk factors
- The HS-Omega-3 Index[®] test measures levels of omega-3 fatty acids (EPA and DHA) in dried blood spots. It may be used to determine a baseline level and also to monitor the omega-3 levels in patients who are prescribed fish oil supplements or advised to add fish to their diets
- Omega-3 oils are found predominantly in oily fish, such as salmon, mackerel, sardines, albacore tuna, herring, and are also available as a supplement in fish oil capsules

Diagnostic Value

Researchers have now discovered that one of the best risk* indicators for sudden cardiac death is the level of omega-3 fatty acids found in the blood, the HS-Omega-3 Index[®]. This is a reliable and affordable blood test that lets physicians evaluate their patients' risk* for sudden cardiac death. At the highest Omega-3 level, this risk* is reduced by 90%.

The desired level is above 8%.



Uses

The HS-Omega-3 Index[®] test monitors omega-3 biostatus

- If the Index is over 8%, the patient is advised to continue with current intake of omega-3 fatty acids.
- If the Index is between 4% and 8%, the patient is advised to increase intake of omega-3 fatty acids by 500 to 1000 mg/day
- If the Index is between below 4%, the patient is advised to increase intake of omega-3 fatty acids by 1000 to 3000 mg/day

*** See chart on back for content of EPA and DHA in common fish and fish oil supplements.**

Specimen Requirements

1–2 drops of whole blood collected on filter paper provided by Sanford Laboratories. Blood applied to filter paper can be either from a finger stick or from a tube of unclotted whole blood. Fasting is preferred. Transport at room temperature. Stability: RMT – 4 days

Test Code: **9899** CPT code: **0111T**

References

- Harris WS. Fish oil supplementation: evidence for health benefits. Cleve Clin J Med 2004; 71:208.
- Harris WS. The omega-3 index as a risk factor for coronary heart disease. Am J Clin Nutr 2008;87(suppl): 1997S-2002S.

*As used here, the word “risk” refers only to that risk associated with differing fatty acid levels, not to that associated with other heart disease risk factors like smoking, high blood cholesterol or blood pressure, genetics, diabetes, overweight, etc. These factors, which should be addressed in consultation with your healthcare provider, will not be changed by correcting your HS-Omega-3 Index[®].



The Content of EPA and DHA (in mg) in Commonly Consumed Types of Fish* and in Fish Oil Supplements

Fish and Seafood	EPA	DHA	EPA+DHA
	Per 3 oz (85 g) serving		
Atlantic Salmon (farmed)	587	1238	1825
Pacific Herring	1056	751	1807
Atlantic Herring	773	939	1712
Atlantic Salmon (wild)	349	1215	1564
Bluefin Tuna	309	970	1279
Pink Salmon (wild)	456	638	1094
Coho Salmon (farmed)	347	740	1087
Mackerel (canned)	369	677	1046
Sockeye Salmon (wild)	451	595	1046
Chum Salmon (canned)	402	597	999
Rainbow Trout (farmed)	284	697	981
Coho Salmon (wild)	341	559	900
Sardines (canned)	402	433	835
Albacore (or White) Tuna (canned)†	198	535	733
Shark (raw)	267	444	711
Swordfish†	117	579	696
Sea Bass	175	473	648
Pollock	77	383	460
Flat fish (Flounder/sole)	207	219	426
Blue Crab	207	196	403
Halibut	77	318	395
Oysters (farmed)	195	179	374
King Crab	251	100	351
Walleye	93	245	338
Dungeness Crab	239	96	335
Scallops	141	169	310
Skipjack Tuna	77	201	278
Mixed Shrimp	145	122	267
Clams	117	124	241
Yellowfin Tuna	40	197	237
Light Chunk Tuna (canned)	40	190	230
Catfish (wild)	85	116	201
Catfish (farmed)	42	109	151
Cod	3	131	134
Mahi-Mahi (dolphin fish)	22	96	118
Tilapia	4	111	115
Orange Roughy	5	21	26

Dietary Supplements

(mg per 1,000 mg capsule or per teaspoon)

Standard Fish Oil Capsules	180	120	300
Fish Oil Concentrates (many varieties)	100–400	100–400	300–700
Cod Liver Oil (teaspoon)	300	500	800

*Based on USDA Nutrient Data Lab values. Values are for fish cooked with dry heat unless otherwise noted.

† Because of the possibility for mercury contamination, the FDA and EPA recommend that these fish (along with King Mackerel and Tilefish) not be consumed by women who already or are trying to become pregnant, nursing mothers, and children under the age of two. For all other people, the intakes of these fish should be limited to 6 oz per week (or 12 oz per week for albacore tuna).

Table adapted from Harris et al. *Curr Athero Reports* 2008; 10:503-509.