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DHA Benefits for Cardiovascular Health

Docosahexaenoic acid (DHA) is a long chain polyunsaturated omega-3 fatty acid that is the most abundant omega-3 fatty acid in cell membranes throughout the body and present in all organs. DHA is rich in neural cells such as brain and retina tissue. Alpha-linolenic (ALA) and eicosapentaenoic (EPA) acids are present in tissue in tiny amounts, whereas there is usually 5 to 30 times more DHA than EPA in most organs including the heart.[1,2]

In the past both DHA and EPA were presumed necessary to obtain observed cardiovascular benefits of omega-3 administration, since fish oil, containing both long chain omega-3s, was generally the source. More recent research demonstrates the following benefits that DHA alone can provide.

Favorable Effects on Blood Lipids

DHA supports normalization of high triglyceride levels (reduces both fasting and postprandial [after-meal] triglycerides).

- DHA is equal to, or more potent than, EPA and DHA for lowering triglycerides.[3,4]
- DHA is equal to, or more potent than, EPA for lowering triglycerides.[5]
- DHA is more potent than EPA for the reduction of postprandial triglyceride levels.[6]
- DHA supports normal triglyceride levels.[3,4,5,6,7,8,9,10,11,12]

DHA supports healthy HDL levels (increases HDL – the "good" cholesterol).

- DHA promotes a modest increase in HDL.[5,7,8]
- DHA is more potent than EPA for increasing levels of the large HDL particles which are the more protective fraction of HDL.[5]
- DHA supports healthy LDL particle size (improves LDL particle size).[9,13]
- DHA, particularly when administered for reduction of triglycerides, improves LDL particle size and density so that it is less atherogenic.[6,13,14,15,16]

Heart Rate

- DHA contributes to a healthy resting heart rate.[7,17]
- DHA helps maintain a normal heart rate.[7,18]
- DHA, but not EPA, reduces heart rate.[7,16,19,20]

Blood Pressure

- DHA contributes to normal blood pressure (modest reductions in blood pressure at higher doses).[2]
- DHA, but not EPA, contributes to normal blood pressure.[16]

References

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