



# OmegaCheck<sup>®</sup>

CPT Code **82542\***

Order Code **C302**

Specimen Type **Whole Blood**

Tube Type **Lavender Top**

## Low omega-3 fatty acid levels are associated with:

- Hypertriglyceridemia
- High blood pressure
- Increased risk of heart disease

## Description

Omega-3 and omega-6 fatty acids are polyunsaturated long chain fatty acids (PUFA) required by the body for proper functioning, normal growth and the formation of neural synapses and cellular membranes. Omega-3 and -6 fatty acids are considered “essential” and obtained primarily from dietary sources.

Three of the most important omega-3 fatty acids are eicosapentaenoic acid (EPA), docosapentaenoic acid (DPA), and docosahexaenoic acid (DHA). Omega-3 fatty acids are primarily obtained from food sources, such as oily fish. They have antioxidant,<sup>1</sup> anti-inflammatory,<sup>2</sup> and antithrombotic<sup>3</sup> effects, and can help to reduce triglyceride levels.<sup>4-6</sup> Two of the most important omega-6 fatty acids are arachidonic acid (AA) and linoleic acid (LA). Omega-6 fatty acids are obtained from animal sources and plant oils, and have proinflammatory<sup>2,7</sup> and prothrombotic<sup>7</sup> properties at high levels.

## Clinical Use

OmegaCheck<sup>®</sup> may be performed on individuals with hypercholesterolemia, hypertriglyceridemia, hypertension, and/or those at high metabolic or cardiovascular risk.

## Clinical Significance

- Consumption of omega-3 fatty acids reduces the occurrence of major acute cardiac events in healthy individuals or patients with cardiovascular risk factors or who have cardiovascular disease.<sup>8-14</sup>

- Consumption of omega-3 fatty acids leads to a reduction in triglycerides<sup>4-6</sup> and non-high-density lipoprotein (non-HDL),<sup>6</sup> as well as lipoprotein-associated phospholipase A<sub>2</sub> (Lp-PLA<sub>2</sub>) levels.<sup>6</sup>
- A high intake of omega-6 fatty acid precursors can interfere with the absorption of omega-3 fatty acids.<sup>8</sup>
- The mean omega-6:omega-3 ratio of the standard American diet is approximately 10:1.8 A diet with an omega-6:omega-3 fatty acid ratio of 4:1 or less may reduce total mortality up to 70% over two years.<sup>11</sup>

## Testing Frequency

Testing frequency depends on the individual's medical history. OmegaCheck<sup>®</sup> may be run alongside a standard lipid panel or other cardiometabolic tests.

## Specimen Type

OmegaCheck<sup>®</sup> should be performed on a whole blood specimen. Fasting samples are preferred, but not required, and omega-3 supplementation should not be altered immediately prior to the blood draw.

## Commercial Insurance or Medicare Coverage

Coverage guidelines have not been established or posted by CMS (Medicare & Medicaid). We have reviewed the larger carriers (Aetna, United Healthcare, Cigna, Blues) and information is limited or has not been posted.

# RELATIVE RISK

OmegaCheck®

EPA+DPA+DHA (%by weight)

≥5.5  
Low

3.8–5.4  
Moderate

≤3.7  
High

The OmegaCheck® was developed and validated at Cleveland HeartLab with the support of Nutrasource Diagnostics, Inc.

## Specimen Considerations

Omega-3 and -6 fatty acid levels can be measured in whole blood or within red blood cell (RBC) membranes. The OmegaCheck® test measures omega-3 and -6 fatty acid levels in whole blood. The whole blood test provides a complete picture of the amount of omega-3 and -6 fatty acids in the body, and may reflect more recent levels of supplementation or dietary intake. RBC membrane levels provide a picture of consumption levels over a longer period of time, because the incorporation of these fatty acids into the membranes of RBC takes several days to weeks. Regardless, both whole blood (EPA+DPA+DHA (%)) and RBC membrane (EPA + DHA (%)) measurements demonstrate positive correlation ( $r=0.91$ ,  $p<0.0001$ ).<sup>14</sup> This finding has been confirmed by studies run by Cleveland HeartLab. Additional studies suggest that EPA, DHA, and DPA are associated with different cardioprotective roles against CHD, indicating benefit for assessing these omega-3 levels.

## Treatment Considerations†

These treatment considerations are for educational purposes only. Specific treatment plans should be provided and reviews by the treating practitioner.

### ✓ Assess lifestyle habits.

- Consider diet/exercise/weight reduction efforts if appropriate.<sup>15</sup>
- Dietary sources of omega-3 fatty acids include fatty fishes (salmon, tuna, sardines), walnuts, flax and chia seeds, and plant oils.<sup>15</sup> Foods high in omega-6 fatty acids include meat, poultry, grain-based products (cakes, pizza, pasta), and soy/corn/sunflower oils.<sup>2,16</sup>

### ✓ Consider omega-3 fatty acid supplementation.

- If currently taking, consider adjusting dosage.<sup>17</sup>

\* The CPT codes provided are based on AMA guidelines and are for informational purposes only. CPT coding is the sole responsibility of the billing party. Please direct any questions regarding coding to the payer being billed.

† The treatment considerations are provided for informational purposes only and are not intended as medical advice. A physician's test selection and interpretation, diagnosis, and patient management decisions should be based on his/her education, clinical expertise, and assessment of the patient.

## References

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