F_2-Isoprostanes

Know your risk™ for oxidative stress.

inflammation

Why is lifestyle so important?

Eating right and getting enough exercise are important factors for your health today as well as in the future. Bad habits, such as for your health today as well as in the future. Bad habits, such as bypassing a home-cooked meal to grab fast food or spending your days on the couch watching TV rather than taking a 20 minute walk, can contribute to the onset of various chronic diseases such as diabetes, heart disease, and cancer.

Poor lifestyle choices not only contribute to how you feel mentally but how your body functions physically. As part of everyday life, our bodies produce some potentially harmful molecules called free radicals. These free radicals cause damage to parts of the cells in your body, such as DNA and lipids, by a process called oxidation. Most of the time, your body is able to combat damage to its tissues through the use of antioxidants. However, lifestyle choices may increase the amount of oxidation in the body and overwhelm its antioxidant capabilities. This creates a state of imbalance often referred to as oxidative stress which, in turn, increases the likelihood of tissue damage and the potential for chronic disease.

One chronic disease which has been associated with oxidative stress is atherosclerosis, the build-up of plaque in the arteries. Atherosclerosis can lead to heart disease, heart attacks or strokes. Therefore, knowing how much oxidative stress your body is under can help you keep your heart and entire vascular system healthy. Your physician now has the ability to assess the amount of oxidation in your body by using a non-invasive urine test to measure your F_2-Isoprostanes (F_2-IsoPs) levels.

What are F_2-IsoPs?

F_2-IsoPs are compounds formed from arachidonic acid. Arachidonic acid is required by your body to make muscles and for basic functioning. Your body can make arachidonic acid on its own, or can get it from the foods you eat, such as red meat or egg yolks. As with many things, having too much or too little arachidonic acid can be harmful to the body. Having too much arachidonic acid can increase the production of F_2-IsoPs which can damage the body's tissues and therefore contributes to the onset of chronic disease.

Why check my F_2-IsoPs?

F_2-IsoPs can cause blood vessels to constrict, which may raise your blood pressure, and promote blood clotting resulting in a heart attack or stroke. In support of this, F_2-IsoPs may be elevated at the earliest stages of plaque development in your arteries. Research has shown that people with high levels of F_2-IsoPs are 30x more likely to develop heart disease.[1]

When should my F_2-IsoPs levels be checked?

Your F_2-IsoPs levels can be checked at the same time your medical provider runs other tests, such as a cholesterol test, to determine if you are at increased risk for developing vascular disease.

How should I prepare for the F_2-IsoPs test?

The F_2-IsoPs test does not require any special preparation. You do not need to be fasting, and can be taking medications.

What can I do to help lower my F_2-IsoPs levels?

Because F_2-IsoPs are known as "lifestyle" markers, their levels are affected by lifestyle choices you make, such as what you eat and how much you exercise. Therefore, you can make changes in your daily life which can lower your F_2-IsoPs to safe levels.

- Reducing the amount of red meat and increasing the amount of fruit and vegetables you eat can help lower your F_2-IsoPs levels. Adding one fish meal a week as part of a low-fat diet may also lower F_2-IsoPs levels.
- Your F_2-IsoP levels may also be lowered by increasing the amount you exercise.
- If you smoke, you should consider stopping as smoking also increases F_2-IsoPs levels.

1. Schwedhelm E et al. Urinary 8-iso-prostaglandin F_2 a as a risk marker in patients with coronary heart disease: A matched case-control study. *Circulation*. 2004; 109: 843-848.

REFERENCE RANGE

F_2-Isoprostanes/Creatinine (ng/mg)

<0.86 Low	≥0.86 High

Disclaimer: *The information provided here is for educational purposes only. All testing results should be reviewed and interpreted by your treating physician.*

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Know your risk.

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