



GENERAL HEALTH TESTING

# Transferrin Saturation Information Sheet

## Iron and Transferrin

Iron is a mineral with several essential functions in the body. It is required to transport oxygen around the body and is also essential for growth, normal cell function, and the production of connective tissue and some hormones (1).

Transferrin is the main protein that binds to and transports iron around the body.

Transferrin saturation is an estimate of how many of the transferrin iron-binding sites are occupied by iron.

Average transferrin saturation is 25%, with a normal range of 14 - 50%. Below 10% indicates severe iron deficiency (2), and above 50% indicates iron overload, which can result in organ damage due to toxic non-transferrin bound iron (3).

### Signs of iron deficiency

Low iron levels inhibit the production of hemoglobin, resulting in reduced red blood cells and a condition called anemia, which affects an estimated two billion people around the globe (4). Symptoms include:

- Tiredness
- Pale skin
- Headaches
- Fatigue
- Shortness of breath
- Dizziness

These initial symptoms of deficiency can go unnoticed, but if left untreated, anemia can have serious repercussions, including impaired cognitive function, disturbances in the digestive system, and impaired immunity. Pregnant women, young children and frequent blood donors are at a much higher risk of iron deficiency (5).

### Signs of excess iron

Increased iron concentrations occur in hemochromatosis and acute liver disease (6). Excess iron cannot be naturally excreted from the body, so it accumulates in organs and tissues, eventually causing serious health complications.

The symptoms of iron overload include:

- Fatigue
- Joint pain
- Abdominal pain
- Memory problems
- Depression
- Decreased sex drive
- Shortness of breath
- Heart flutters

Further serious complications can occur in untreated individuals, including heart failure, liver cirrhosis and disease, and endocrine problems (7).

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## Where can I find more info?

Visit [www.genetrackdiagnostics.com](http://www.genetrackdiagnostics.com) for full test information, including specimen collection requirements

### CONTACT US:

Email: [support@genetrackdiagnostics.com](mailto:support@genetrackdiagnostics.com)

Phone: 1-888-802-0703

### NOTE:

This brochure is provided for general information purposes only. It is not intended to replace medical advice from a health professional.

### References:

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- (4) Zimmermann MB and Hurrell RF. (2007). Nutritional iron deficiency. *The Lancet.* 370(9586), 511-520.
- (5) Camaschella C. (2015). Iron-Deficiency Anemia. *N Engl J Med.* 372, 1832-1843.
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- (7) Beutler E, Felitti V, Gelbart T, Ho N. (2001) Genetics of Iron Storage and Hemochromatosis. *Drug Metab Dispos.* 29(4):495-499.