

IRON REIGN(TM)

KNOW YOUR NUMBERS

Your Quick Guide to Hemochromatosis & Iron Overload Testing

Your laboratory numbers tell a story. Learn what they mean, keep track of them, and watch the trend over time.

THE FOUR CORE IRON TESTS

TEST	WHAT IT TELLS YOU	GENERAL GUIDE	IRON-OVERLOAD CLUE
Transferrin Saturation (TSAT)	Percent of transferrin carrying iron	Often about 20-45%	>=45% warrants evaluation
Ferritin	Indirect indicator of stored iron	Varies by lab, age and sex	Above lab range; >1,000 ng/mL is important in HH
Serum Iron	Iron circulating in blood	Often about 60-170 mcg/dL	May be elevated
TIBC	Blood's capacity to bind iron	Often about 250-450 mcg/dL	May be normal or relatively low

Important: Always compare your result with the reference range printed on your own laboratory report. Reference ranges vary among laboratories.

1. TRANSFERRIN SATURATION - TSAT

Transferrin is the major protein that transports iron through your bloodstream. Transferrin saturation tells you how much of that iron-carrying capacity is being used.

Below ~20%: Low **~20-45%:** Common range **>=45%:** Elevated; further evaluation may be needed.

Persistently elevated transferrin saturation can be an important early clue to hereditary hemochromatosis. **Calculation:**
 $\text{Serum Iron} / \text{TIBC} \times 100 = \text{TSAT \%}$

2. FERRITIN

Ferritin is a protein that stores iron. Serum ferritin helps doctors estimate stored iron, but it must be interpreted in context. A value above the laboratory's upper reference limit is elevated.

Ferritin >1,000 ng/mL (mcg/L) in a person with hereditary hemochromatosis deserves particular medical attention because it is associated with greater risk of advanced liver fibrosis or cirrhosis. It does not mean everyone above 1,000 has liver damage.

High ferritin does not automatically mean hemochromatosis. Ferritin can also rise with inflammation, infection, liver disease, alcohol-related liver injury, metabolic conditions and other illnesses.

3. SERUM IRON

Serum iron measures iron circulating in your bloodstream at the time of the blood draw. A general adult range is approximately **60-170 mcg/dL**, but your laboratory may use a different range. Serum iron can fluctuate and should not be used alone to diagnose iron overload.

4. TOTAL IRON-BINDING CAPACITY - TIBC

TIBC estimates your blood's capacity to bind and transport iron. A general reference range is approximately **250-450 mcg/dL**. With iron overload, TIBC may be normal or relatively low while serum iron and transferrin saturation are elevated.

YOUR GENETICS MATTER TOO

HFE genetic testing looks for variants associated with hereditary hemochromatosis.

GENOTYPE	WHAT IT GENERALLY MEANS
C282Y/C282Y	Two C282Y variants. Strongest association with classic HFE-related hereditary hemochromatosis.
C282Y/H63D	Compound heterozygous. Risk of substantial iron overload is generally lower than with C282Y homozygosity.
One C282Y variant	Carrier/heterozygous. Most do not develop classic HFE iron overload from this genotype alone.
H63D/H63D	Much less commonly associated with clinically significant iron overload than C282Y/C282Y.

GENETIC RISK does not equal ACTIVE IRON OVERLOAD. Genetics describes susceptibility; iron studies show what is happening in the body.

DURING THERAPEUTIC PHLEBOTOMY

Hemoglobin (Hgb): Typical adult ranges are approximately Men 13.5-17.5 g/dL; Women 12.0-15.5 g/dL.

Hematocrit (Hct): Typical adult ranges are approximately Men 41-53%; Women 36-46%. Your healthcare team may monitor these before phlebotomy.

THE TWO NUMBERS TO RECOGNIZE

45%	1,000
TSAT >=45% Commonly used threshold for further evaluation for iron overload.	Ferritin >1,000 ng/mL Important in HH because of concern for advanced liver disease.

These are clinical clues - not diagnoses by themselves.

MY IRON NUMBERS

DATE	FERRITIN	TSAT %	SERUM IRON	TIBC	HGB	HCT

WATCH THE TREND - NOT JUST ONE NUMBER

Hemochromatosis is evaluated by considering the pattern of **transferrin saturation + ferritin + iron studies + HFE genetics + medical history + liver health + trends over time**.

Know your numbers. Keep copies of your laboratory reports. Compare results over time. Ask questions. Understand your genetic results. Know your treatment goals.

RESEARCH • SUPPORT • ADVOCACY

Educational information only. Laboratory reference ranges vary by laboratory method, age, sex and individual circumstances. Test results and treatment decisions should be discussed with a qualified healthcare professional.