



### **% Transferrin Saturation Decreased**

[Down-arrow %-Saturn](#)

In iron deficiency anemia, the percent transferrin saturation decreases.

### **Pregnancy and OCP Use**

[Pregnant-woman with Oral-Contraceptive-Case](#)

In pregnancy or when taking birth control pills, transferrin production from the liver increases as a response to estrogen even though iron level in the blood stays normal. These patients are not really anemic but can have abnormal lab values.

### **Serum Iron Normal**

[Normal Serum Iron](#)

In pregnancy or OCP use, serum iron level is normal. If the serum iron level is low, then you might consider iron deficiency anemia which can occur in pregnancy.

### **Transferrin Increased**

[Up-arrow Train-fern](#)

In pregnancy or OCP use, estrogen may cause hepatic transferrin production to increase.

### **Ferritin Normal**

[Ferret-tin](#)

In pregnancy or OCP use, ferritin level should be normal in a healthy patient.

### **% Transferrin Saturation Decreased**

[Down-arrow %-Saturn](#)

In pregnancy or OCP use, percent transferrin saturation decreases because transferrin level increases while iron level stays the same.

### **Anemia of Chronic Disease**

[Crone with Anemone](#)

Anemia of chronic disease is an anemia seen in chronic conditions such as chronic infection, inflammation or malignancy. Research suggests possible involvement of production of hepcidin that leads to changes in iron storage.

### **Serum Iron Decreased**

[Down-arrow Serum Iron](#)

In anemia of chronic disease, serum iron levels are decreased.

### **Transferrin Decreased**

[Down-arrow Train-fern](#)

In anemia of chronic disease, transferrin levels are decreased.

### **Ferritin Increased**

[Up-arrow Ferret-tin](#)

In anemia of chronic disease, ferritin levels are increased. Research suggests that release of inflammatory cytokines may cause the liver to produce more hepcidin which causes iron sequestration. Ferritin levels may sometimes be normal, however. Unfortunately ferritin is generally difficult to interpret since it is also used by the body as an acute phase reactant.

### **% Transferrin Saturation Decreased or Normal**

[%-Saturn or Down-arrow %-Saturn](#)

In anemia of chronic disease, serum iron levels are decreased, and transferrin levels are decreased, and because the decrease in serum iron and transferrin can be proportional, the percent saturation is often normal. However, the percent transferrin may also be decreased depending on the

exact balance, so it is important to recognize both cases.

### **Hemochromatosis**

[He-man-chrome](#)

Hemochromatosis is a condition in which the body is overloaded with iron. Common causes are genetic hemochromatosis and frequent transfusion.

### **Serum Iron Increased**

[Up-arrow Serum Iron](#)

In hemochromatosis, serum iron level increases significantly.

### **Transferrin Decreased**

[Down-arrow Train-fern](#)

In hemochromatosis, due to an increase in iron in the body, the liver produces less transferrin and the level of transferrin therefore decreases.

### **Ferritin Increased**

[Up-arrow Ferret-tin](#)

In hemochromatosis, ferritin or iron storage increases.

### **% Transferrin Saturation Increased**

[Up-arrow %-Saturn](#)

In hemochromatosis, because iron levels are overloaded and transferrin levels decrease, the percent transferrin saturation increases significantly.