CENTER FOR DIGESTIVE HEALTH & NUTRITION
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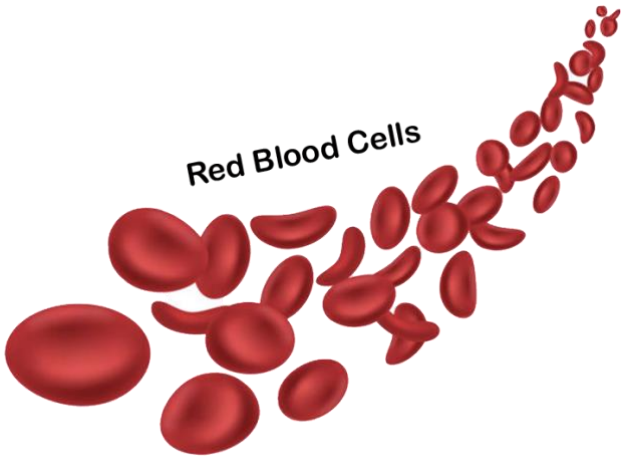
Gilbert's Syndrome (Unconjugated Hyperbilirubinemia)

Gilbert's Syndrome [pronounced “Jill-Bears”] , often referred to as *unconjugated or indirect hyperbilirubinemia*, is a common and generally benign hereditary liver condition often passed down through families. Gilbert Syndrome affects about 5% of people in the United States. Males are more frequently diagnosed than females. It is usually not noticed until late childhood to early adulthood. It affects the liver's ability to process bilirubin, a yellow pigment produced during the normal breakdown of red blood cells. Gilbert syndrome was first described by French gastroenterologist Augustin Nicolas Gilbert and co-workers in 1901. The key feature of this syndrome is that it does not typically lead to serious health problems.

First, Some Background info…
Well, it's a little complicated, but follow along…
In your blood, you have three basic cells floating in the liquid plasma:

1. Red blood cells that contain iron and carry oxygen
2. White blood cells that fight infection and
3. Platelets that help stop bleeding when you are injured.

Red Blood Cells Come and Go
Red blood cells are made in your bone marrow and last about 120 days. Then, those cells die and are replaced by new red blood cells. *What happens to the old dead red blood cells?* Well, your body is very efficient. The iron in those cells is recycled back to your bone marrow for reuse. The rest of the cell is "digested" and turned into a yellow waste product called *unconjugated bilirubin*. (Also called free or indirect bilirubin.)

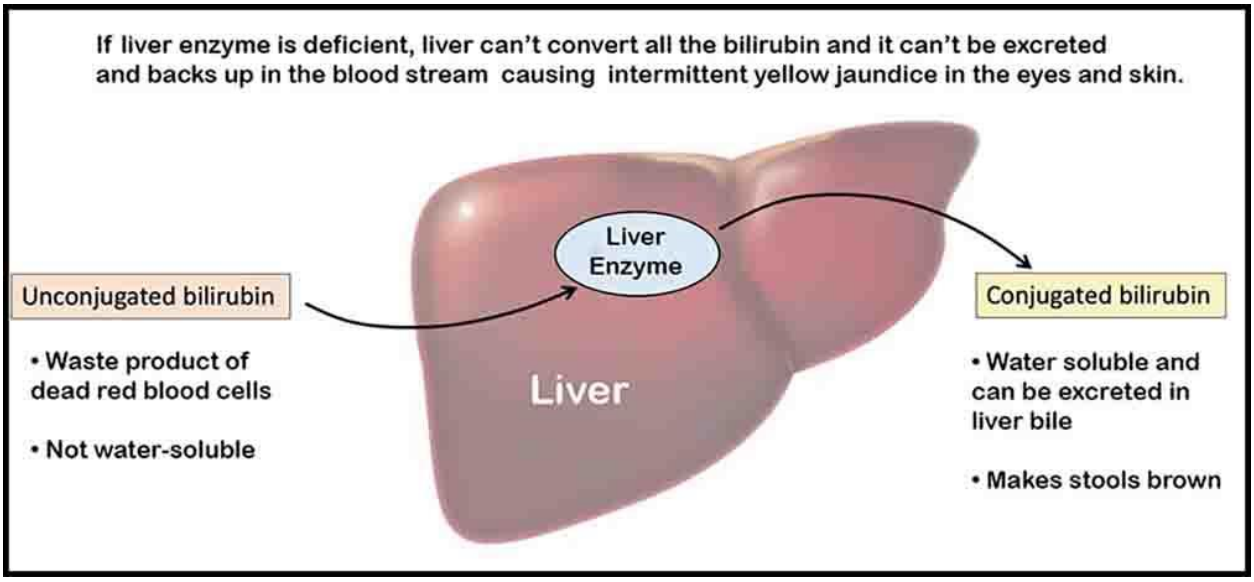


Unconjugated bilirubin is not water-soluble. To rid your blood of this waste product, it must be made water-soluble. Normally, the liver has an enzyme that converts this into a water-soluble form called *conjugated bilirubin*. Conjugated bilirubin passes from the liver into the intestines and is mixed with liver and gallbladder bile. It's then excreted in stool. As a bonus, yellow liver bile helps digest the fat in your diet and then finally turns brown. (This accounts for the normal brown color of your bowel movements.)

KEY POINT: Remember dead red blood cells make a waste product called UNCONJUGATED BILIRUBIN, which your liver normally converts into water-soluble CONJUGATED BILIRUBIN, which can be excreted from your body.

What Causes Gilbert's Syndrome?

The liver enzyme that converts bilirubin into the water-soluble conjugated bilirubin is controlled by a gene called the UGT1A1 gene. GILBERT'S SYNDROME IS CAUSED BY A GENETIC MUTATION IN THIS GENE. People with Gilbert syndrome have approximately 30 percent of normal bilirubin-UGT enzyme function, which contributes to a lower rate of "conjugation" of bilirubin, leading to the accumulation of yellow bilirubin in the blood. While this may seem alarming, the condition is generally considered benign and does not cause significant harm.



Signs and Symptoms

Most individuals with Gilbert's Syndrome are asymptomatic, meaning they do not exhibit any symptoms. However, when symptoms do occur, the most notable is jaundice, which is the yellowing of the skin and eyes. Yellowing of the whites of the eyes is termed *scleral icterus.* Normal total serum bilirubin is less than 1.2 mg/dl. Scleral icterus is noted when bilirubin rises above 3.0 mg/dl.

There are reports of other symptoms, such as fatigue and abdominal pain, but generally, no other associated symptoms are attributed to Gilbert's.

Common Triggers

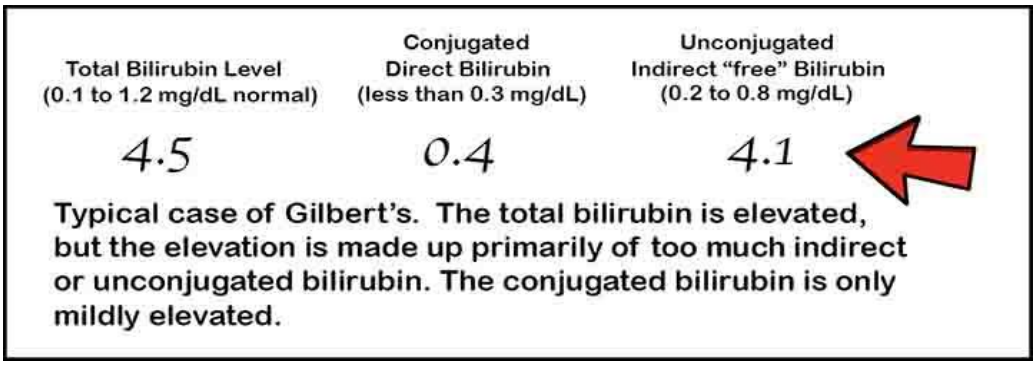
This jaundice is usually mild. Since Gilbert's Syndrome is a benign condition, it generally does not require treatment. However, understanding the condition and knowing what triggers jaundice can help manage the symptoms. These are common triggers:

1. Dehydration
2. Fasting or skipping meals
3. Sleep deprivation
4. Stress
5. Menstruation
6. Overexertion
7. Illness with an infection
8. Surgery

Diagnosis

Diagnosing Gilbert's Syndrome typically involves blood tests showing elevated levels of unconjugated bilirubin. Other liver function tests are usually normal. It's essential for healthcare providers to rule out other liver diseases or red blood cell conditions that can also cause increased bilirubin levels. Once the diagnosis has been established, no further testing or treatment is required. Minimal blood tests would include:

1. Complete Liver Panel including ALT and AST to screen for liver disease
2. CBC to screen for other red blood cell conditions.
3. Total blood bilirubin level with fractionation into direct and indirect fractions
   Direct fraction = Conjugated bilirubin
   Indirect fraction = Unconjugated Bilirubin



Thus, another common name for Gilbert's is INDIRECT HYPERBILIRUBINEMIA.

Living with Gilbert's Syndrome
Living with Gilbert's Syndrome usually does not require significant lifestyle changes. However, being aware of the condition and its triggers can help manage episodes of jaundice. Regular check-ups and open communication with healthcare providers are recommended.

The biggest risk of Gilbert's Syndrome is when an inexperienced healthcare provider assumes that jaundice is a sign of serious liver disease and orders a variety of expensive and potentially dangerous and unnecessary diagnostic tests like a liver biopsy. If you have a previously established diagnosis of Gilbert's Syndrome and become jaundiced, ask your doctor to first order a simple liver profile blood test with FRACTIONATION OF THE BILIRUBIN LEVEL. This may be the only test you need - avoiding an extensive and unnecessary workup.

Conclusion
Gilbert's Syndrome is a common genetic condition that affects the liver's ability to process bilirubin. While it can cause episodes of jaundice, it is generally harmless and does not require extensive testing or treatment. Understanding the condition and its triggers can help individuals manage their symptoms effectively.

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