

BILIRUBIN

An Overview

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IMPORTANT

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Introduction

Bilirubin is a breakdown product of haemoglobin, the substance in blood that carries oxygen. Normally when blood cells become old they are trapped and destroyed by the spleen.

When this occurs, the haemoglobin must be broken down in the liver to bilirubin in order to be disposed of. Bilirubin is eventually excreted in the bile and leaves the body in the faeces.

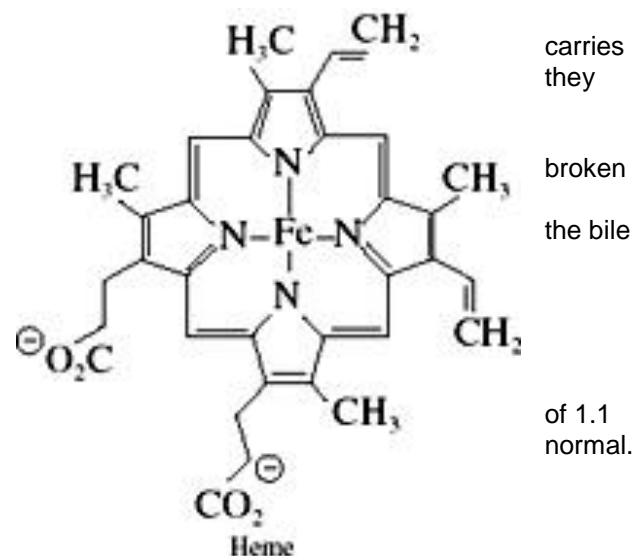
What is a normal level of bilirubin?

The normal level depends on the individual laboratory. Most laboratories consider a level of 1.1 milligrams per deciliter (mg/dl) or lower to be normal.

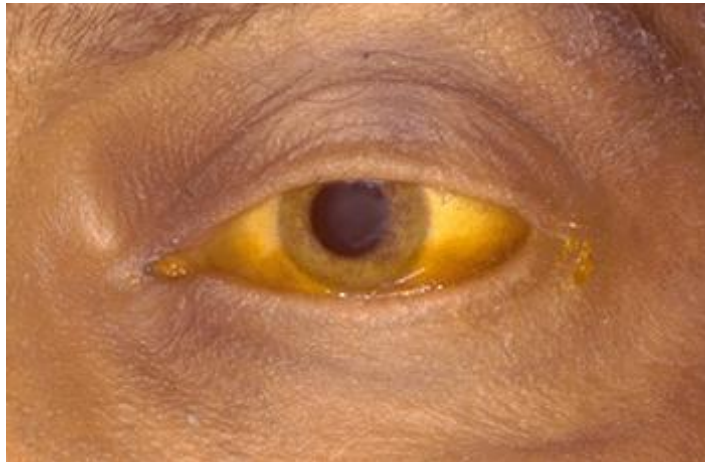
What happens if the bilirubin is too high?

When the bilirubin level reaches about 3 mg/dl the white parts of the eyes become yellow ('icterus'), the urine becomes dark, and the skin becomes yellow ('jaundice'). Patients with high levels of bilirubin also experience itching.

Bilirubin is the major pigment normally found in bile. It is derived from hemoglobin (heme moiety). Bilirubin is a porphyrin ring that has broken open and lost its iron; it's very toxic and must be eliminated through the bile.



(Picture below - Jaundice Indication in Sclera)



Being fat soluble, bilirubin is normally carried in the plasma by albumin, which deposits its load of bilirubin in the liver; the liver cells conjugate it with glucuronic acid and excrete it in the bile. When this route of exit is obstructed or overwhelmed, bilirubin levels in the blood rise and cause jaundice (icterus). Jaundice is a sign of serious liver disease.

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