

Serum Bilirubin (See also Chap. 49) Bilirubin, a breakdown product of the porphyrin ring of heme-containing proteins, is found in the blood in two fractions—conjugated and unconjugated. The unconjugated fraction, also termed the *indirect fraction*, is insoluble in water and is bound to albumin in the blood. The conjugated (direct) bilirubin fraction is water-soluble and can therefore be excreted by the kidney. Normal values of total serum bilirubin are reported between 1 and 1.5 mg/dL with 95% of a normal population falling between 0.2 and 0.9 mg/dL. If the direct-acting fraction is <15% of the total, the bilirubin can be considered to all be indirect. The most frequently reported upper limit of normal for conjugated bilirubin is 0.3 mg/dL.

Elevation of the unconjugated fraction of bilirubin is rarely due to liver disease. An isolated elevation of unconjugated bilirubin is seen primarily in hemolytic disorders and in a number of genetic conditions such as Crigler-Najjar and Gilbert's syndromes (**Chap. 49**). Isolated unconjugated hyperbilirubinemia (bilirubin elevated but <15% direct) should prompt a workup for hemolysis (**Fig. 337-1**). In the absence of hemolysis, an isolated, unconjugated hyperbilirubinemia in an otherwise healthy patient can be attributed to Gilbert's syndrome, and no further evaluation is required.