

# Bilirubin (Total) – [Serum] Analysis

## Objective

The objective of this test is to measure total bilirubin levels in serum. Total bilirubin is a key marker for liver function and is used in diagnosing jaundice, hemolytic disorders, and hepatobiliary diseases.

## Materials and Methods

### Materials:

- Serum sample from patient
- Diazo reagent or automated biochemical analyzer
- Standard laboratory equipment (centrifuge, pipettes, test tubes)

### Methods:

1. Sample Collection: Collect venous blood and separate serum via centrifugation.
2. Measurement: Perform total bilirubin assay using diazo method or automated analyzer.
3. Calculation: Total bilirubin is often the sum of direct (conjugated) and indirect (unconjugated) bilirubin.
4. Interpretation: Elevated levels may indicate liver dysfunction, bile duct obstruction, or hemolysis.
5. Quality Control: Utilize calibrators and quality control sera to ensure accuracy.

## Results

- Normal total bilirubin: 0.3–1.2 mg/dL (varies by laboratory)
- Elevated total bilirubin: Suggests liver disease, hemolysis, or bile duct obstruction
- Significantly high levels: Associated with severe jaundice and liver failure

## Conclusion

Total bilirubin testing is crucial for assessing liver function and diagnosing conditions like jaundice and hepatobiliary disease. Results should be correlated with clinical presentation and other liver function tests (ALT, AST, ALP) for accurate diagnosis.