



Reichert UNISTAT® Bilirubinometer

Sample Type – Neonatal Serum

Parameters Analyzed – Total Serum Bilirubin (TSB)

Methodology – STAT photometric analyzer (Direct Spectrophotometry)

Sample Size – 20uL

Reading Range – 0 to 40 mg/dL (0 to 684 umol/L)

Accuracy - +/- 5% (0 to 30 mg/dL)
 +/- 10% (30+ mg/dL)

Corrects for presence of Oxyhemoglobin. Results are not elevated if samples are hemolyzed.

No Dilution/Chemical Reaction (reagents) of Sample Required

Analysis Time – Display in 5 seconds, total time 15 seconds

Calibration Setting – Automatic

Reusable Calibration Cuvette – no need to buy calibration liquids

Reusable High-Level Check and Low-Level Check Cuvettes

Out of Range Warning – YES

Trouble-Shooting Codes – YES

Consumables – Disposable Sample Cuvettes

Cost per Test –\$1.14 (Package of 51 cuvettes is priced \$58.00)

Principles of Operation – Light is passed through the sample cuvette. The beam is split by a dichroic mirror and directed toward the 460nm and 550nm filters. The transmittance of the light exiting the filters is measured by photodetectors. The control electronics calculate total bilirubin based on output from the photodetectors. Since peak absorbance is shared by bilirubin and oxyhemoglobin at 460nm, it is necessary to measure oxyhemoglobin at 550nm. The difference in the readings at 460nm and 550nm is the total bilirubin value, corrected for the presence of oxyhemoglobin. Since the Bilirubinometer measures and subtracts oxyhemoglobin, bilirubin results are not effected by hemolyzed samples.



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Reichert UNISTAT® Bilirubinometer has been shown to have the greatest correlation (>0.99) of any STAT Bilirubin analyzer with the "Gold Standard" for accuracy and reliability. It employs the High Precision Liquid Chromatography (HPLC) method for Total Bilirubin concentration. The HPLC is a wet chemistry method, which is done by an analytical chemist using a very expensive, complex instrument (HPLC). It is not intended for use in a clinical/hospital setting or as a STAT analyzer. This study was presented at the 1998 Pediatric Academic Societies' annual meeting. Published in *Clinical Chemistry* 48, No. 7, 2002.

Reichert UNISTAT® Bilirubinometer provides the advantage of a small instrument size, small sample volume, and rapid turnaround. This analyzer is easy to use by personnel with limited laboratory training.



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