
COMPARIBILITY OF URINALYSIS INSTRUMENTS AND METHODS

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Purpose

The purpose of this document is to provide technical staff with policies and rules for performing comparisons of patient urinalysis samples across the instruments and methods used within the Urinalysis section of the lab. The instruments and methods involved in this comparison are the Clinitek 500, IRICELL iChem Velocity and iQ200 System, Manual Dipstick read and Manual Microscopic. Correlation is done to look for bias in an up or down direction between the analyzers.

Specimen Collection and Handling

Fresh, well-mixed, uncentrifuged urine.

Reagents

iChem Velocity Urine Chem Strips
Bayer Multistix 10 SG
Urinalysis Instrument/ Method Comparison Worksheet

Procedure

The comparisons of the instruments and methods within the Urinalysis section are performed biannually (2x/yr).

A total of five random patient urine samples are analyzed.

*Note: Make sure there is sufficient urine to test in all areas.

Using fresh urine samples, analyze each specimen across each of the following platforms:

- IRICELL iChem Velocity and iQ200 System
- Clinitek 500
- Manual Dipstick
- Manual Microscopic (Phase)

Record Data on the worksheet provided—one sample per worksheet.

Return worksheets to the Urinalysis Supervisor

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Criteria for Acceptability

The worksheets are first reviewed by the Urinalysis Supervisor and then passed to the Medical Director for final review and signoff.

Criteria for acceptability:

1) Dipstick - Comparisons between the instruments/ methods match within +/- one color block for each analyte.

Dipstick analytes include Color, Clarity, Glucose, Bilirubin, Ketone, Specific Gravity, Blood, pH, Protein, Urobilinogen, Nitrite and Leukocyte Esterase.

2) Microscopic - Comparisons between the instruments/ methods match within one reportable range. Parameters for the iQ200 and Manual Microscopic include: RBC, WBC, Bacteria, Squamous Epithelia Cell, Hyaline Cast and Bacteria.

ELEMENT	REPORTABLE RANGE
RBC/hpf	0-2, 3-10, 11-24, 25-50, >50
WBC/hpf	0-2, 3-10, 11-24, 25-50, >50
Squamous, epithelial/lpf	Negative, 1-5, 6-30, 31-50, >50
Hyaline Casts/lpf	0-2, 3-5, 6-10, 11-20, >20
Bacteria/hpf	negative, 1+, 2+, 3+, 4+

3) All data is reviewed for positive or negative bias in analytes/parameters across platforms.

Authorized Reviewers

Section Medical or Technical Director

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