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Guideline for Handling Suboptimal Urinalysis Samples

Document Type: Guideline

I. PURPOSE AND OBJECTIVE:

This guideline serves as a quick reference for technologist performing Urinalysis testing on how to proceed with testing of suboptimal specimens submitted for Urinalysis testing.

II. PROCEDURE:

Note: All smart phrase comments referenced below should be added in the white comment box in the LIS.

A. Specimen Stability:

1. Refrigerated specimens greater than 2 hours old may be reported with the following smart phrase comment: "**.2HO" (Sample greater than 2 hours old - may be loss of cell casts and other formed elements. Dipstick testing may yield inaccurate results.**
2. Specimens left at room temp for greater than 2 hours may be reported with the following smart phrase comment: "**.UA2H" (Sample >2 hours old and not refrigerated-may be loss of cell casts and other formed elements. Dipstick testing may yield inaccurate results.)**

B. Suboptimal Volume:

1. If less than 10 milliliter (mL) of specimen is submitted for analysis, perform the urinalysis. Make a notation of how much sample was received for analysis in the white comment box in the Laboratory Information System (LIS).
2. If one mL or less of specimen is submitted for analysis, perform chemical analysis.

If a microscopic is indicated and the quantity is not sufficient (QNS) to do the microscopic, report smart phrase comment:. **".1~~qns~~QNS"** (**Less than 1 mL specimen received for analysis - QNS for Microscopic**.)

3. ~~Urine samples that are sent with <3 mL can also be diluted using Iris Diluent™ so there is a sufficient amount of sample for iQ200 testing. A 1:3 dilution is recommended with a specimen volume of less than 3 mL.~~
4. ~~If~~For a cloudy or turbid sample, if there is enough (a few drops) for an uncentrifuged microscopic, a microscopic may be done and the smart phrase comment appended: "**~~.1ucent~~.1UCENT**" (**Less than 1 mL specimen received. Microscopic analysis performed on uncentrifuged specimen.)** ~~All comments should be added in the white comment box in the LIS.~~

C. Bloody Urine Specimen:

~~1. To run a bloody specimen:~~

~~a. Enter the smart phrase comment ".bldyua" (**Bloody specimen. Urine chemistry testing was performed on the supernatant of a centrifuged specimen. Interpret results cautiously)** in the white comment box in the LIS.~~

~~b. Aliquot the bloody specimen into three tubes, one to spin, one to dilute, and one to retain for requests for additional testing.~~

~~c. Spin one aliquot at approximately 1800 rotations per minute (RPM) for 5 minutes to recover the supernatant. A supernatant volume of at least 2 mL is required.~~

~~d. Label the supernatant tube with a patient barcode and run the supernatant sample through the iChem Velocity module using a yellow-orange dilution rack. If a color interference flag appears, report it accordingly.~~

~~e. Label the second tube with a patient barcode and a selected dilution label or manually order the dilution under the INSTRUMENT/MANUAL ORDER tabs. Using the IRIS diluent, make the appropriate dilution in the tube. A minimum patient volume is 0.5 mL, with a total dilution volume of at least 3 mL.~~

~~2. A 1:10 or 1:20 dilution is recommended for bloody samples.~~

1. To run a bloody specimen:

a. Enter the smart phrase comment ".**BLDYUA**" (**Bloody specimen. Urine chemistry testing was performed on the supernatant of a centrifuged specimen. Interpret results cautiously)** in the white comment box in the LIS and save.

b. Pour over a labeled aliquot of the specimen to spin at approximately 1800 rotations per minute (RPM) for 5 minutes to recover the supernatant. A supernatant volume of at least 2 mL is required.

i. If the supernatant is yellow or dark yellow, then perform the chemistry portion of the urinalysis on your lab's stand alone

instrument.

ii. If the supernatant remains red, DO NOT perform the chemistry portion of the urinalysis.

a. Manually result the color and clarity.

b. Perform and report the Specific Gravity by refractometer.

c. Report "color interference" for Glucose, Bilirubin, Ketone, Blood, pH, Urobilinogen, Nitrite, and Leukocytes.

c. Perform a manual microscopic exam of the sediment.

i. Mix one drop of urine sediment and one drop of 3% acetic acid to lyse the red cells to allow better visualization of other formed elements.

D. Abnormally Colored Urine Specimen:

1. Abnormally colored or very dark urine may interfere with or obscure reagent strip test results. If such a specimen is submitted, all results (except color, clarity and Specific Gravity) should not be reported and should be resulted as COLOR INTERFERENCE in the LIS. Color and Clarity should be determined visually, and Specific Gravity testing should be performed on the refractometer and these results should be manually entered into the LIS. A microscopic exam should be performed.

III. REFERENCES:

1. ~~iRICELL Automated~~ Urinalysis Procedure for Analyzing Bloody Specimens Procedure
2. Clinitek Chemical Urinalysis Procedure
3. Laboratory Examination of Urinary Sediment Procedure
4. ~~iRICELL Dilution and Bloody Specimen Workflow~~
5. ~~Laboratory Test Directory~~

Approval Signatures

Step Description	Approver	Date
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Applicability

Dearborn, Taylor, Trenton, Wayne