URINALYSIS BACK UP

METHOD

If a submitted urine specimen is of insufficient quantity to run on the Clinitek Advantus analyzer, or the specimen exhibits gross hematuria or excessive turbidity, or the instrument is down, manual testing may be performed. Multistix 10 SG reagent strips are used to test for specific gravity, pH, protein, glucose, ketone, occult blood, leukocytes, nitrite, and bilirubin. The concentrated sediment is examined with low power microscopy for casts and high power microscopy for red blood cells, leukocytes, epithelial cells, crystals, bacteria and other miscellaneous elements.

SPECIMEN

A clean-catch urine specimen should be obtained. If microbiology studies are ordered the specimen must be collected in a sterile container. The urine specimen may be stored at room temperature for up to two hours prior to testing. For storage longer than two hours and up to 24 hours, the specimen must be refrigerated. Refrigerated specimens must be brought to room temperature before testing. If specimens are collected in BD vacutainer UA preservative tube, it is stable for 72 hrs. at room temperature. The specimen must be labeled according to laboratory policy on the side of the container. Specimens with labels on the lid will be discarded.

CONTROLS

Controls must be performed once every 24 hours.

Bio Rad qUAntify Advance Liquid Urine Control Level 1 and 2 are the control material for Multistix 10 SG strips (manual sticks)
qUAntify Advance Liquid Urine Controls are prepared from a liquid base matrix with human urine and added constituents of human and animal origin, chemicals, and preservatives. The control is provided in liquid form.

- Controls are stable until the expiration date when stored unopened at 2 – 8 degrees C.
- Once opened the controls are stable for 31 days when stored tightly capped at 2 – 25 degrees C.
- Before sampling, allow the control to reach room temperature. Invert the bottle several times to ensure homogeneity.
- Compare the test results with the lot-specific assigned values recorded on the QC sheets. If the controls are not within the specified limits retest with new QC material. If the controls are still not within limits, retest with a new vial of Multistix. If QC results are still unacceptable, report situation to a supervisor. DO NOT PERFORM ANY MANUAL PATIENT TESTING USING MULTISTIX UNTIL QUALITY CONTROL IS ACCEPTABLE.

DIPSTICK EXAMINATION

Prior to centrifugation use the Multistix 10 SG strips to read visually comparing to the color chart at the indicated times.

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REPORTING FOR MULTISTIX 10 SG strips

Glucose: Report as negative (<30 mg/dl), trace (30 & 50 mg/dl), 1+ (70 & 100 mg/dl), 2+ (150 & 200 mg/dl), 3+ (300 & 500 mg/dl) or 4+ (1000 mg/dl or greater).
Ketone: Report as negative (<10 mg/dl), trace (10 mg/dl), 1+ (20 & 40 mg/dl), 2+ (60 & 80 mg/dl), 3+ (100 & 150 mg/dl), or 4+ (greater than 150 mg/dl).
Specific Gravity: Report as 1.000, 1.005, 1.010, 1.020, 1.025, 1.030, 1.035, 1.040, 1.045, 1.050, or greater than 1.050.
Blood: Report as negative (<0.03 mg/dl), trace (0.03 mg/dl), 1+ (0.06 & 0.10 mg/dl). 2+ (0.20 & 0.50 mg/dl), 3+ (1.00 & >1.0 mg/dl).
pH: Report to nearest 0.5.
Protein: Report as negative (<10 mg/dl), trace (10 & 20 mg/dl), 1+ (30, 50 & 70 mg/dl), 2+ (100 & 200 mg/dl), 3+ (300 & 600 mg/dl), or 4+ (>600 mg/dl).
Nitrite: Report as negative or positive.
Leukocytes: Report as negative (<25/uL), positive (25 or >25/uL).
Bilirubin: Report as negative (<0.5 mg/dL), 1+ (0.5, 1.0 mg/dL), 2+ (2.0, 4.0 mg/dL), 3+ (6, 10 mg/dL), 4+ (>10 mg/dL).
Urobilinogen: Report as negative (<2.0 mg/dL), 1+ (2, 3 mg/dL), 2+ (4, 6 mg/dL), 3+ (8, 12 mg/dL), 4+ (>12 mg/dL).
All negatives may be reported as 0 or negative.

MICROSCOPIC EXAMINATION

Microscopic examination must be performed if ordered or if any of the following parameters are positive:

- Blood
- Nitrite
- Leukocyte esterase
- Greater than a trace of protein.

Step	Action
1.	Centrifuge 10-12 ml of urine or the BD vacutainer UA preservative tube for 3 minutes at 1500 RPM.
2.	Decant the supernatant completely and shake sediment into suspension.
3.	Place a drop of urine sediment on a slide and cover slip.
4.	Three specimens may be placed on each slide if separated with a wax pencil or Kova Slides may be used.
5.	Scan for casts with low power and subdued light before switching to high dry to read. Report by selecting from the Cerner dropdown for each result. Cell and parasite identification can be difficult. If you have any doubt of the correct identification, you may consult your co-worker, supervisor, or pathologist for assistance. Note: Do not report presence of spermatozoa as it is considered an incidental finding and is not used for medical treatment. CLS should ensure that macroscopic dipstick results are not inconsistent with microscopic sediment findings.

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REAGENTS

Multistix 10 SG strips
qUAntify Advance Liquid Urine Controls Level 1 and 2

REFERENCES

Multistix 10 SG strips
qUAntify Advance Liquid Urine Controls Level 1 and 2

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Document History Page

Change type: New, Major, Minor etc.	Changes Made to SOP – describe	Name of responsible person/date	Med. Dir. Reviewed/ Date	Dir. Lab Ops reviewed/ date	Date change Implemented
Change type: New, Major, Minor etc.	Changes Made to SOP – describe	Signature responsible person/date	Med. Dir. Reviewed/ Date	Lab Manager reviewed/ date	Date change Imp.
Minor	Removed reference to Aution 10 TA reagent strips and replaced with Multistix 10 SG. Updated limitation of procedure for Multistix 10 SG.	Cindy Schwartz 1/19/11			
Minor	Changed centrifugation parameters to 3 minutes at 1500 RPM on pg. 3	Cindy Schwartz 5/17/11			
Minor	Removed performing Ictotest on positive Bilirubin, pg. 2	Cindy Schwartz 4/29/13			
Minor	Replaced AX-4280 with Velocity	Cindy Schwartz 11/9/15			
Minor	Replaced Trol II with Trol III U	Cindy Schwartz 1/8/19			
Minor	Replaced Count-10 control material with BioRad qUAntify Advance Control Level 1 and 2	Cindy Schwartz 1/30/19			