

Urinalysis – Clinitek Status Procedure	Attachments <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Urinalysis

Clinic Lab Procedure (Pages 1-8)

Troubleshooting (Page 7-8)

Computer Test (Page 9-14)

I. **PURPOSE/PRINCIPLE**

A routine urinalysis consists of testing for pH, specific gravity, color, clarity, leukocytes, nitrite, glucose, protein, ketones, bilirubin, urobilinogen, and blood. A microscopic examination of the urinary sediment can also be performed to detect the presence of RBCs, WBCs, casts and other formed elements. Multistix 10-SG is an inert plastic strip to which is attached 10 different reagent test pads. A brief discussion of each follows:

Glucose:

This test is based on a double sequential enzyme reaction. One enzyme, glucose oxidase, catalyzes the formation of gluconic acid and hydrogen peroxide from the oxidation of glucose. A second enzyme, peroxidase, catalyzes the reaction of hydrogen peroxide with a potassium iodide chromogen to oxidize the chromogen to colors ranging from green to brown.

Bilirubin:

This test is based on the coupling of bilirubin with diazotized dichloroaniline in a strongly acid medium. The color ranges through various shades of tan. Substances that can interfere with the test and produce a false positive include, but are not limited to urobilinogen, Indican (Indoxyl Sulfate) and metabolites of Iodine (Etodolac).

Ketone:

This test is based on the development of colors ranging from buff-pink, for a negative reading, to

purple when acetoacetic acid reacts with nitroprusside.

Specific Gravity:

This test is based on the apparent pKa change of certain pretreated polyelectrolytes in relation to ionic concentration. In the presence of an indicator, colors range from deep blue-green in urine of low ionic concentration through green and yellow-green in urine of increasing ionic concentration.

Blood:

This test is based on the peroxidase-like activity of hemoglobin, which catalyzes the reaction of diisopropylbenzene dihydroperoxide and 3, 3',5',5'-tetramethylbenzidine. The resulting color ranges from orange through green; very high levels of blood may cause the color development to continue to blue.

pH:

This test is based on the double indicator principle that gives a broad range of colors covering the entire urinary pH range. Colors range from orange through yellow and green to blue.

Protein:

This test is based on the protein-error-of-indicators principle. At a constant pH, the development of any green color is due to the presence of protein. Colors range from yellow for "Negative" through yellow-green and green to green-blue for "Positive" reactions.

Urobilinogen:

This test is based on a modified Ehrlich reaction, in which *p*-diethylaminobenzaldehyde in conjunction with a color enhancer reacts with urobilinogen in a strongly acid medium to produce a pink-red color.

Nitrite:

This test depends upon the conversion of nitrate (derived from the diet) to nitrite by the action of Gram negative bacteria in the urine. At the acid pH of the reagent area, nitrite in the urine reacts with *p*-arsanilic acid to form a diazonium compound. This diazonium compound in turns couples with 1, 2, 3, 4,-tetrahydrobenzo(h)quinolin-3-ol to produce a pink color.

Leukocytes:

Granulocytic leukocytes contain esterases that catalyze the hydrolysis of the derivatized pyrrole amino acid ester to liberate 3-hydroxy-5-phenyl pyrrole. This pyrrole then reacts with diazonium salt to produce a purple color.

II. POLICY

Laboratory Staff will follow the approved techniques outlined in this procedure.

Specimen: Midstream Urine Specimen

1. A fresh specimen is preferred, but urine held in the refrigerator for up to 24 hours can be used. Urine must be allowed to come to room temperature before testing.
2. No preservatives should be used.
3. Specimens should be run within one hour, or be refrigerated at 2-8° C.
3. A specimen collected at home in a clean container is acceptable if brought to the lab within one hour, or refrigerated until delivered to the lab within 24 hours.
4. Collect a sufficient volume for analysis (approximately 50 ml preferred).

Reagents/Materials:

Kova-Tubes

Kova-Petters

Glass Slides and Coverslips

Multistix 10-SG

- Test strips are good until the expiration date on the canister as long as the canister is closed after EVERY strip removal and the dessicant remains in the canister.

Clinitek Status Urine Chemistry Analyzer

BioRad Urine Controls Level 1 and Level 2:

Store in refrigerator at 2-8° C until expiration date on the bottles. Once opened, the product is stable for 31 days when tightly capped at (2°C to -25°C). Refrigerator storage is preferable. If it is at the end of the vial or close to the expiration date and there are problems with one or more parameters, try opening a new control vial.

Quality Control:

Multistix 10-SG strips should be checked with BioRad Urine Controls Level 1 and Level 2 of the urinalysis control each day **and with each change to lot # of the test strips**. Positive and negative controls should be performed and recorded. The lot number of the controls should be entered as the patient ID.

III. PROCEDURES

1. Instrument Preparation for Testing

- a. Turn on Clinitek Status, if not already on, by pressing the gray button on the front of the instrument. Once the instrument is on, the test table will extend out of the instrument.
- b. On the touch screen choose the “strip test” option.
- c. Touch the “enter new operator ID” window.
- d. Enter your tech ID number. Press enter.
- e. Touch “enter new patient” window.
- f. Enter the patient’s medical record number as the PT ID and press enter.
- g. **Press the “start” window. You now have 8 seconds to dip the urine test strip.**

2. Macroscopic

- a. Dip a Multistix 10-SG reagent strip into the urine. Be sure *all* the test pads are wet.
- b. Immediately remove the Multistix 10-SG from the urine dragging the edge of strip against the side of the container as you remove the strip. You now have 8 seconds to complete steps C, D and E.
- c. Blot the Multistix 10-SG reagent strip to remove excess urine by touching the edge to a paper towel or gauze. Do not drag the strip across the towel or gauze; touch the edge only.
- d. Place the Reagent Strip, with the test pads facing up, into the middle trough of the test strip table. Slide the strip along the table until it touches the end of the trough.
- e. The table is automatically pulled into the instrument for reading. While the strip is being analyzed, a “select appearance” screen will be displayed. If the urine sample is yellow and clear, touch the “yellow and clear” window. If the urine sample is not yellow and clear, touch the “other” window for more choices. If you touched the “other” window, select the appropriate color by touching the circle button that corresponds to the correct description. Press “Next” for clarity options. Select appropriate clarity. Then, touch “Next”. For color and clarity options, see table listed in H-1.
- f. Results are available in one minute. Be sure not to move or bump the table. Results will print automatically. Tape this printout on the urinalysis worksheet. **NOTE:** Thermal paper will fade with time. Do not place tape over test results printed on thermal paper.
- g. Remove the used Multistix 10-SG reagent strip and discard it in the proper container. Wipe the test strip table with gauze to prevent urine from building up.
- h. Report as follows:

1) Color and clarity

COLOR

<u>Misys</u>	<u>Clinitek Status</u>
Pale Yellow	Yellow (write pale)
Yellow	Yellow
Dark Yellow	Yellow (write dark)
Orange	Orange
Bloody	Red
Brown	Brown
Green	Green
Colorless	Other (write colorless)
Red	Red

CLARITY

<u>Misys</u>	<u>Clinitek Status</u>
Clear	Clear
Hazy	Slightly Cloudy
Cloudy	Cloudy
Do not use	Turbid or Other

2) Glucose: Read as mg/dl from Clinitek Status.

3) Bilirubin: Report as Neg, Small, Moderate, or Large.

- If the Clinitek Status gives a positive reading for bilirubin, do a visual check of the bilirubin pad on the Multistix 10.
- If the color is representative of a true positive, report the positive result, or if you are unable to read the bilirubin result it with UNIN, all positive results will have the ETC BILC automatically appended once you select OK on the keyboard prompt. In manual entry will also add this code (BILC) to any positive result (See Urinalysis procedure in the Computer Manual for result entry).

BILC means “False positive results may occur in the presence of Urobilinogen, Indican (Indoxyl Sulfate) and metabolites of Iodine (Etodolac). Interpret results in conjunction with clinical presentation.”

Bilirubin tests WILL NOT be confirmed due to a nation-wide shortage of the Ictotest tablet.

- If the color change is not representative of a true positive, report the bilirubin as negative. (See Urinalysis procedure in the Computer Manual for result entry.)

4) Ketone: Report out Neg, Trace, 15, 40, or >80 mg/dl.

5) Specific Gravity: Report from Clinitek Status. If the SG reading is ≤ 1.005 or ≥ 1.030 , report these results. No additional follow-up is needed.

6) Blood: Report as Neg, Trace, Small, Moderate, Large. This test pad reacts with hemoglobin, myoglobin, and intact red blood cells.

7) pH: Report the pH number to the nearest 0.5.

8) Protein: Report as Neg, Trace, 30, 100, or >300 mg/dl.

9) Nitrite: Report as Neg or Pos.

10) Leukocytes: Report at Neg, Trace, Small, Moderate, or Large.

11) Urobilinogen: Report as 0.2, 1.0, 2.0, 4.0 \geq 8.0 EU/dl.

3. Microscopic

When a UA “if” is ordered a microscopic analysis will automatically be ordered if the test strip shows: trace or more leukocyte, trace or more blood, positive nitrite, or trace or more protein. A microscopic

analysis will also be performed when ordered by the physician.

- a. Using a modified Kova system, centrifuge 12 ml of urine for 3 minutes at 2500 rpm.
- b. Pour off 11 ml of supernate using the Kova-Petter, and resuspend the sediment in the remaining 1 ml.
- c. Place one drop of the sample on a slide and coverslip.
- d. Scanning a minimum of 20 fields, report as follows:
 - 1) **RBCs:** # per hpf using a range (such as 0-3 or 10-20).
 - 2) **WBCs:** # per hpf using a range (such as 3-5 or 10-20).
 - 3) **Epithelial Cells:** 0, occasional (0-1/hpf) few (1-2/hpf), moderate (4-7/hpf), or many (≥ 8 /hpf).
 - 4) **Bacteria:** 0, occasional, few, moderate, or many.
 - 5) **Casts:** # per lpf using a range (such as 1-2). List type of casts seen (hyaline, finely or coarsely granular, RBC, WBC, waxy, broad or fatty).
 - 6) **Crystals:** Few (1-3/hpf), moderate (4-7/hpf), or many (≥ 8 /hpf). List type of crystal seen. Refer to section on page 6 for further information.
 - 7) **Others:** List if present:

Amorphous material (urates pH ≤ 6.5 , phosphates pH ≥ 7): Occasional, few, moderate, or many.

Mucus: Occasional, few, moderate or many.

Sperm

Yeast

Trichomonas

Renal or Transitional Epithelial

Clue Cells

8) Fat Bodies or Unknown Cells

- Fat bodies or unknown cells are confirmed by further testing. If you think you are seeing these, enter the ETC code **UA2RH** under the "Other" test on the keyboard:

"UA specimen sent to Regions for Identification of unknown cells".

- Print out a copy of the results and highlight the comment. Please note what you are looking for on the printout.
- Send the original urine specimen (unspun) and the result printout to Regions via the Regions ReRoute tote. Call Regions UA department (651-254-9612) and let them know a urine for unknown cell identification has been sent.

NOTE: Regions and HPMG do not report histiocytes in urine specimens.

e. Crystals:

- 1) Normal Crystals in Acid Urine (pH ≤ 6.5)

Amorphous Urates, Uric Acid and Calcium Oxalate

- 2) *Normal Crystals in Alkaline Urine (pH > 7)*

Amorphous Phosphates, Triple Phosphate, Calcium Carbonate, Calcium Oxalate, Ammonium Biurate and Calcium Phosphate

3) Abnormal Crystals

Cystine: Cystine crystals can be easily confused with uric acid crystals. The differentiation between them is critical, as cystine crystals are indicative of a rare inherited metabolic disease. Uric acid crystals have little, if any, clinical significance. Cystine crystals normally appear as hexagonal plates. Uric acid are pleomorphic in shape and color. Among other shapes, they can appear as rhombic plates, which can be a source of confusion with cystine. For further explanation, pictures, and chemical differentiation, refer to laboratory reference books. A polarizing microscope can be used in differentiating cystine from uric acid crystals: cystine will polarize blue/white while uric acid will polarize multicolored.

Tyrosine: Tyrosine crystals are very fine, highly refractile needles occurring in sheaves or clusters.

Leucine: Leucine crystals are oily, highly refractile, yellow or brown spheroids with radial and concentric striations.

Cholesterol: Cholesterol crystals are colorless, large, flat, rectangular plates with one or more corners notched out. They are usually seen in acidic or neutral pH urine.

Bilirubin: Bilirubin crystals are seen as reddish-brown needles that cluster in clumps, or as spheres.

Hemosiderin: Hemosiderin granules are coarse, yellow-brown granules that occur as free granules in the urine, in renal epithelial cells or macrophages, or in casts.

Reference Ranges:

Color:	Pale yellow, yellow
Clarity:	Varies with diet and age of specimen
S.G.:	1.005-1.030
Leukocytes:	0
Nitrite:	0
pH:	4.5-8.0 (varies with diet)
Protein:	0
Glucose:	0
Ketones:	0
Urobilinogen:	0.2-1
Bilirubin:	0
Blood:	0
RBCs:	0-3/hpf
WBCs:	0-5/hpf
Epithelials:	0-few
Casts:	0-1 hyaline/lpf:

REPORTING RESULTS

Clinic Labs: see the Computer Entry section of this procedure

PROCEDURE NOTES

1. If the Clinitek Status fails to perform, for any reason, the Multistix 10-SG strip may be read visually. Compare the color changes with those on the vial. Glucose and bilirubin are read at 30 seconds. Ketones are read at 40 seconds. Use a refractometer for specific gravity. Blood, pH, protein, urobilinogen, nitrite are read at 60 seconds. Leukocytes are read at 2 minutes.

2. A positive nitrite is a strong indicator of the presence of bacteria. When the leukocyte or nitrite is positive on a UC "if", a culture should be set-up.
3. Urines with strong color due to medication (pyridium) or elevated bilirubin should not be read on the Clinitek Status, due to the abnormal color changes on the reaction pads of the Multistix. If, when the Multistix is dipped in the urine, the reaction pads immediately change color, and the colors are not representative of a positive reaction, refer to the Computer Test Manual for entry. **Record only the color and clarity. The specific gravity must be performed on the refractometer.**
4. All cellular elements (RBCs, WBCs, and casts) are extremely labile in hypotonic solutions. Low specific gravities will cause them to lyse. Centrifugation and resuspension also places stress on cellular elements. The test strip is capable of measuring the esterases from lysed granulocytes and hemoglobin from lysed RBCs. Therefore, the microscopic analysis may not correlate with the dipstick results; the dipstick is a better indication of WBCs and RBCs.
5. If 12 ml of urine is not available to centrifuge for microscopic exam, use 3, 6, or 9 ml and multiply the microscopic findings by 12/3, 12/6 or 12/9 respectively. This gives consistency to the microscopic exam by making all results relative to a 12:1 concentration.
6. When a urine sample is grossly bloody and some of the parameters are unable to be read, it can be centrifuged for three minutes at 2500 RPM. Dip the Multistix 10-SG into the supernatant and read and report all parameters except leukocytes and blood. **Result the leukocyte and blood parameters with the code UNIN (Unable to interpret).**
7. Crystals: See Urine Crystals Clinic Lab Procedure.

Cleaning Procedure for the Clinitek Status:

1. Daily Cleaning (end of day):
 - a. Remove the test strip table by pulling it straight out of the instrument.
 - b. Wet a cotton-tip swab with water. Thoroughly scrub the trough and surrounding areas. Do not touch the white bar. Rinse the entire table with water.
 - c. Allow the table to air-dry, or dry with gauze or lint-free tissues.
2. Disinfecting the table (weekly):
 - a. Start with a clean table – see Daily Cleaning.
 - b. Fill a tall narrow container (an empty Multistix 10-SG container) with 5% bleach. Place the table into the solution, making sure the white bar remains above the liquid.
 - c. Soak the table for a minimum of 2 minutes to a maximum of 10 minutes.
 - d. Rinse the test table and insert thoroughly with water.
 - e. Allow to air-dry, or dry with lint-free tissues.

TROUBLESHOOTING

A. Urinalysis Control Troubleshooting:

BioRad Urine Controls Level 1 (negative) and Level 2 (positive) are used to test the Multisticks each day of use and when a new vial/pkg of Multisticks is opened. Document results on the Urinalysis Quality Control sheet.

1. If the Level 1 values are unacceptable, rerun using a fresh sample of distilled water. Check and make sure the strips have not become discolored by exposure to air. The strips should be negative before use.
2. If Level 2 values are unacceptable, verify expected values for the current lot number of BioRad Urine Dipstick Control with its package insert values. Make sure the Multistick control ranges have been correctly recorded. Check expiration date of strips and control, rerun strips with a fresh aliquot of control.

3. For testing of Multisticks, make sure the pads have been saturated with control. Let it sit 2-3 seconds then dab the edge of the strip on a paper towel to prevent run-off/bleeding reagents from pad to pad.
4. For testing of Multisticks, some possible explanations for controls that are out of range are:
 - The controls must be at room temperature. pH and Specific gravity are particularly affected if the controls are *not* at room temperature.
 - Make sure that the strip is correctly seated on the Clinitek Status. The strip must be placed with the top of the strip butted up against the back of the strip guide. The edge of the strip must be flat and not sticking-up even slightly.
 - The control bottle is almost empty or close to the expiration date. Controls expire 31 days after opening when controls are refrigerated, unless the expiration date on the bottle comes first. Open a new bottle.
5. If positive control values are still unacceptable, open a new vial of strips and run the current bottle of BioRad Level 2 Urine Control.
6. If positive control values are still not in range, use a different lot number of strips.
7. For backup, cross-reference with another lot number of strips, if applicable.
8. If available, run a new lot number of controls with first vial of strips.
9. Notify a TC. The manufacturer may be called for possible causes and recommendations.

B. Clinitek Troubleshooting:

1. Error messages will be displayed to help you when the Clinitek Status analyzer detects something which needs your attention.
2. See pages 7-4 through 7-7 in your Clinitek Status Manual for error code descriptions and follow-up actions.
3. If the problem is not resolved, contact a Laboratory Technical Consultant or Customer Service, phone 1-877-229-3711.

Reminder: According to the Internal Quality Control Policy, if expected QC Values are not attained, patient results will not be reported until troubleshooting is complete.

REFERENCES

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 Graff, L.: A Handbook of Routine Urinalysis
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IV. DEFINITIONS

V. COMPLIANCE

Failure to comply with this policy or the procedures may result in disciplinary action, up to and including termination.

VI. ATTACHMENTS

VII. OTHER RESOURCES

VIII. ENDORSEMENT

Laboratory Administration

Computer Order and Result Entry

URINALYSIS FUNCTION: UR

Order Codes: UA, UAIF, UAM, UCIF, PHUR
Order Code: SPGU (Riverside only)

QUICK REFERENCE:

Function UR and MEM resulting– overview	pages 9-11
Resulting UCIF	pages 9-10
Adding a microscopic (UAML - lab ordered)	page 9
Resulting a microscopic	page 11
Resulting & modifying keys with multiple answers	pages 11
Modifying results before filing	page 11
Resulting Comment & Other keys – calcs & options	pages 12-13
Resulting if meds/color interference	page 13
Resulting Low volume and unspun specimens	page 13
Placing results into Hold	page 13
Resulting Positive bilirubin	page 13-14
Modifying results after filing	page 14
Modifying/Correcting results after accepting	page 14
Ordering a sensitivity on a UC	pages 14

ORDERING

- UA: Test strip only.
- UAIF: Test strip. Microscopic is automatically ordered by computer if test strip is trace or positive for blood, leukocytes, nitrite, or protein.
- UAM: Dipstick and Microscopic.
- UAML: (Lab ordered) Microscopic: added to UA order if provider adds micro.
- UCIF: Culture to be ordered if test strip is positive for either nitrite and/or leukocytes.
- PHUR: Urine pH only
- SPGU: Urine specific gravity only (Riverside specific)

RESULTING

1. Mysis Gateway (GUI) – Keyboard For order codes: UA, UAIF, UAM, and UAML.

Select URI from the drop box as the keyboard for entering all HP urine results, see below:

<u>NAME</u>	<u>CODE NAME</u>		
On UA__ Worksheet		On UM__ Worksheet	
UAPPR	Appearance	URBC	RBCs
USG	Specific Gravity	UWBC	WBCs
UPH	pH	UEPI	Epithelials
ULEUK	Leukocytes	UBACT	Bacteria
UNITR	Nitrites	UCAST	Casts
UPRO	Protein	OTHER	Other
UGLUC	Glucose		
UKET	Ketones		
UURO	Urobilinogen		
UBIL	Bilirubin		
UBLD	Blood		

2. FUNCTION: MEM ONLY for order codes: UCIF, PHUR, SPGU

UCIF: Worksheet UA_ _ . Accept computer calculated result:

- a. If leuk and/or nitrite is pos→ Display: "Order Urine Culture"
Resulted with "Urine Cultured".
Accept.

Go into RE and order a UC on a separate access number.
Remember to enter DX code for UC.
Order using the same collect and receive times as UCIF.

- b. If leuk and nitrite are both neg→ "Urine Culture not Indicated."
Accept.

PHUR: Worksheet UA_ _ .

SPGU: Worksheet UARI (RI Only).

3. ADDITIONAL INFORMATION:

To Modify Results: Function MEM See pages 13-14, Modifying results

GUI FUNCTION UR - Urinalysis Result Entry.
Log into Misys Gateway GUI

Click on Urinalysis Result Entry keyboard folder.

Your tech number and name will display. Select UR1 from the keyboard lists. Current shift will display. Click OK.

Acc. No.: Enter the Access Number and <Enter>.

Urine keyboard and specific patient demographics data will display.

Note: Mandatory keys display in Yellow.

Color, Clarity, Specific Gravity & pH are mandatory for UA, UAM, UAIF.

RBC, WBC, Epithelial, Bacteria and Cast Keys are mandatory for UAM and qualifying (positive) UAIF.

A: Color key. Possible response keys will display.

Enter code for color. <Enter>.

(Example: Color (A) is 1=Yellow, 3=DYel, or 9=Red, & etc.)

W: Clarity key. Possible response keys will display.

Enter code for clarity <Enter>

(Example: Clarity (W) is 1=Clear, 2=Hazy, or 3=CLDY & etc)

G: Specific Gravity key, enter the whole number.

(Example: 25 or 5) and <Enter>.

Once you <Enter>, the result will default to 1.025 or 1.005.

The computer will automatically precede the number entered with 1.0 and will automatically enter any leading zeroes.

J: pH key, enter numerical result without decimal place (Example: 7 or 55) and <Enter>.

Once you <Enter> the computer will automatically enter the decimal place (Example: 7.0 or 5.5)

Note: If pH is unreadable, please see modifying results, page 3.

Test Strip Abnormal/Positive Results:

If any of the remaining parameters on the dipstick are positive, enter the test key and the corresponding result key and <Enter>.

(Example: S = Glucose. Result: 3 = 500).

Test Strip Normal/Negative Results:

Result all positives.

Click on <QA Review> Tab to result the remaining tests on the test strip that are negative or normal. This will default all the remaining macro parameters to NEG (Negative) or their normal value.

Resulting Microscopic Tests:

There are no defaults built into the system for the microscopic.

Enter the appropriate test key (Example: Z=RBCs) and then the appropriate result key (Example: 3=5-10) and <Return>.

You may also result the N (Other) key for crystals, various unusual cells, yeast, mucous, etc. Precede/quantify each "Other" observation using Occ, Few, Mod or Many.

Enter the ETC code **UA2RH** (UA Specimen Sent to Regions for Identification of Unknown Cells) under the "Other" test on the keyboard when a urine specimen is sent to Regions for identification of unknown cells.

Note: If a UAIF is ordered "waiting" and a UAML is reflexed due to dipstick results, the UAML will automatically also be ordered as "waiting".

Test Keys with Multiple Answers: CAST, Q OR "OTHER" TESTS,

More than 1 result may be entered for these tests. To modify or remove extra or incorrect results, see next page.

Modifying/Editing Results before Saving (before Filing/Accepting):

Edit results in the "Resulting" Tab, not the QA Review Tab.

1. If only one result is allowed for that parameter, reselect the key and reenter new results. <Enter>.
2. Click on / Highlight the test + results in the macro or micro results list and then click on the Remove key. All results will be removed. <Enter>. Then reselect that key and enter the correct results.
3. If multiple results have been entered for a test and you want to remove only some of the results, Highlight the test and then click on the Edit/Comments key. In the Edit Results box, click on the results you want to remove and then click/highlight the Remove key.

Keep other results, or remove all results for that parameter and start over.

Example: N (other), You may remove one, or remove all and start over.

4. If any of the keys are unreadable (except UCOL and UWRAP), you would select that key and enter the (U) key-UNIN = Unable to Interpret, then select the Q (comment) key and result with (S) key - SODIP =Unable to read other UA parameters due to color of urine, and the (P) key - UCULT = Urine Cultured. In Order Entry order a urine culture with same collect date and time on any SODIP urine results. QA Review results and Save.

Finishing Resulting

Once all the positive and mandatory parameters have been correctly resulted, Press <QA Review> Tab.

REVIEW all results. Return to “Resulting” Tab to edit any results. See below for Modifying before Saving.

Note: Special logic rules may display and direct you to review, record, order UC, enter DX code for reflexed micro, notify provider, etc. Review pop up boxes and click OK.

Saving/Accepting Results:

To save/accept/file results, you must have entered all mandatory results and completed QA review. Once results are saved, you cannot reject results or place them in Hold. To later modify/correct results, see page 4.

Click on SAVE: Results will file and a blank keyboard screen will display for next accession number entry

Rejecting Results:

If results have not been saved and you want to start over, click on Reject. No results will be saved or held.

Placing Results into Hold:

If, at any point prior to saving, you wish to place the results in a hold file, click on the HOLD key. <<Filing to the hold file>> will display.

When you reenter the Acc#, the HOLD results will display. Edit / continue, then save/ accept.

Calculations and Display Messages:

Q – Comments Key Entries:

See further information below – due to special logic rules display messages.

<u>Key</u>	<u>Code</u>	<u>Text</u>
P	UCULT	Urine Cultured
[LVM	Microscopic Corrected for Low Volume
Z	UMNI	Urine Micro Not Indicated.
S	SODIP	Unable to Read Other UA Parameters Due to Color of Urine

Please note: Other keys also display, but should not be used to result Q/Comments test.

Do not result Q with 1,2,3,4,5,6,0 (quantity keys), / (HIDE) key. If Q/Comment key is selected in error you highlight and remove.

Entering Multiple Results onto the Q (Comment) key:

Enter Q. Result with “P,S,[(string 3 codes). You can string them together by just selecting the key one after another and the computer will separate them with a | (broken vertical bar) after you hit <Enter>

This will translate to: Comment: Urine Cultured
 Unable to Read Other UA Parameters Due to Color of Urine
 Microscopic corrected for low volume

If you type in any U's (UNIN), the system will automatically order a microscopic and ask you to order a Urine Culture.

Remember to enter the DX code for the UAML if it is not added on and performed on the same day.

If you type in U's (HIDE) for Leukocytes and/or Nitrite, the system will automatically order a microscopic and ask you to order a Urine Culture. To do this, go into GUI Order Entry and order the UC on a different access number with the same date and time as urine AND add the DX code to the test. Inoculate and label the UC plate.

NOTE: A urine culture is to be set up even if a UCIF has not been ordered in these circumstances.

Resulting UAIF with Negative Results:

If test code UAIF has been ordered, once the test strip parameters have been result, if they are all negative or normal,

The computer will prompt with "Due to negative macro, result key Q (comment) with Key Z (UMNI)". Enter Q, then Z and <Enter>. Return to QA review.

Low Volume Microscopic:

If the microscopic was corrected for low volume.

Enter Q, Then Enter [The [key translates to "Microscopic corrected for low volume".

Resulting if Medication or Color Interference:

If a patient is on Pyridium or has an elevated bilirubin, you will only be able to result the Clarity and Color. The specific gravity must be performed on the refractometer.

Note: If you are unable to result the pH, you will need to enter "dummy" results originally and then Edit/Comment and enter ETC of UNIN (Unable to Interpret) and click Add or <Enter that will replace your number . For example, enter 5.0 for the pH and press Enter. Then click on those results in the Macro window to highlight the result, click the Edit/Comment button, enter UNIN in the Text Code box, click Add, and then finally click OK. Notice that the pH result now shows UNIN in the Macro window.

For all other parameters, enter the (U) key for UNIN for each parameter on the test strip. Once you have answered all parameters and you click on the QA Review tab, one or more popup boxes will display. **You must comply with each popup box instruction.** These popups are determined by the parameter that was result with UNIN.

Positive Bilirubin:

If the bilirubin is positive (Sm, Md, Lg), report the positive result, or if you are unable to read the bilirubin result it with UNIN, all positive results will have the ETC BILC automatically appended once you select OK on the keyboard prompt.

In manual entry will also add this code (BILC) to any positive result.

BILC means "False positive results may occur in the presence of Urobilinogen, Indican (Indoxyl Sulfate) and metabolites of Iodine (Etodolac). Interpret results in conjunction with clinical presentation."

Bilirubin tests WILL NOT be confirmed due to a nation-wide shortage of the Ictotest tablet.

This may be done:

If you have result the D (UBIL) with UNIN (Unable to Interpret):

- a. Result Key Q with Key S (SODIP), Enter Q and result with S.

Unspun Micro:

If you want to comment that the microscopic was done on unspun urine::

Enter N (Other) key. Result with an =. The (=) key translates to Unspun Micro.

Correcting results AFTER Saving/Accepting:

Reenter the Acc#. "Loading Previously Filed Data" will display.

Choose parameter to be corrected and enter new results. Review in QA review. Save.

NOTE: correction comment is automatically generated. Error documentation report will need to be completed.

To Order a Sensitivity on a UC:

Once an accession number has been assigned in Order Entry, you will be prompted for the following:

SDES (Specimen Description): This prompt will autoanswer with URINE (Urine). You may also choose UW (Weebag), UCB (Cath/Bladder) or USUP (Urine Suprapubic) to describe the specimen.

SREQ (Special Requests): This prompt will autoanswer NONE. If a sensitivity has been requested, enter SEN (Sensitivity Ordered) at this prompt.

Click the Save button to accept the new results.

DO NOT ENTER "SEN" AS AN ORDER MODIFIER IN ORDER ENTRY. This should only be entered in the Result Entry window after the accession number has been assigned.

If a Sensitivity gets ordered after the culture is already at the Central Lab, call the Central Lab to order it. DO NOT ENTER ANY INFORMATION into SREQ; Central Lab will never see the added order.

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