Beaumont Laboratory
Clinical Pathology
Royal Oak, MI 48073

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Related Documents:

DISPENSING, RECEIVING, PROCESSING 24-HR URINE CONTAINERS

RC.CH.UA.24U.PR.002r05

Principle

This procedure describes the process for dispensing the appropriate 24-hr urine container or P-Splitter ™ for the test(s) requested. 24-hr urine containers are dispensed from Stat Lab for Inpatient and Outpatient collection or from Core Lab for BRL collections. This procedure also describes the process for receiving urine container(s) back from the Nursing Units, and processing a P-Splitter™ set.

Specimen Collection and Handling

The Chemistry Lab assistant or Tech dispenses the appropriate 24-hr urine container(s), together with appropriate preservative, precautions sheet, safety and expiration labels as required. The 24-hr urine specimen is refrigerated or iced during collection. It is delivered promptly to the laboratory following collection.
NOTE: The P-Splitter™ is dispensed ONLY from the STAT Lab and is ONLY used for Inpatients.

Reagents/Supplies

The following supplies are needed for this procedure:

- 24-hr Urine Container w/ attached collection tag
  Safety Labels (Caution: Hydr.ochloric Acid, Boric Acid, Caution: Acid-Prevent Skin Contact)
  Family Birth Center Bright Green Labels
- Expiration labels for Containers dispensed with preservative
  Copies of *Precautions for 24-Hour Urine Collections With Preservatives* (RC.CH.UA.24U.RG.004)
- P-Splitter™ set w/ attached collection tags and usage instructions
- Boric Acid (10g, 5g, 1g and 0.5 g vials)
- Sodium Carbonate (5g and 2.5g vials)
- 6N HCl in automatic dispenser bottle (15 mL, 10mL and 7.5 mL dispense)
- Aliquot tubes/caps.
- Red Stat Bag

To prepare one liter 6N HCL from 12.1 N concentrated HCL:

1. Use safety goggles, face shield or work in the fume hood with the cover lowered.
2. Always add ACID to WATER as significant heat may be generated.
3. Place 500 mL of distilled or deionized water into a large 2-liter beaker.
4. Measure 500 mL of concentrated (12.1 N) HCL using a graduated cylinder.

5. ***Slowly*** add the ACID to the WATER, swirling after each addition.
6. Use a funnel to carefully transfer the diluted acid into a 1-liter automatic dispensing reagent bottle.
7. Label the bottle appropriately for content and safety precautions.

To prepare one liter 50% Acetic Acid from concentrated Acetic Acid:
Follow instructions described above for preparation of 6N HCL, instead using Acetic Acid, Glacial (100%) as the concentrated acid.

Procedure

Core Lab Dispensing for Reference Lab (BRL)

1. Dispense preservative and label container with safety label(s) as required.
2. Complete front of collection tag w/ test(s) requested, preservative (if dispensed) and your initials.
3. Affix "Expires____" sticker to top of collection tag and on container, if preservative was dispensed. Complete with expiration of 6 months from date dispensed. (e.g. if dispense 9/1/09, note EXPIRES 3/1/10)
4. Attach safety sheet *Precautions for 24-Hour Urine Collections With Preservatives* whenever preservative is dispensed. Highlight specific preservative/safety action and staple to back of collection tag.

Stat Lab Dispensing for Inpatients or Outpatient Lab:

Nursing

1. Order/Print all specimen label(s) at start of collection. (Note: 24-hr urine will display in Chart Review as "scheduled")

2. Bring label(s) to Stat Lab and request 24-hr Urine Container

Lab Assistant II or Tech

1. Review label(s) presented and select appropriate 24-hr Urine Container or P-Splitter™
2. Place barcode label(s) on backside of attached collection tag
3. Dispense preservative(s) and label container with safety labels as required
4. Complete front of collection tag w/ test(s) requested, preservative (if dispensed) and your initials.
5. Affix "Expires____" sticker to top of collection tag, if preservative was dispensed. Complete with expiration of 6 months from date dispensed. (e.g. if dispense 9/1/09, note EXPIRES 3/1/10)
6. For Outpatient Lab, attach safety sheet *Precautions for 24-Hour Urine Collections With Preservatives* whenever preservative is dispensed. Highlight specific preservative/safety action and staple to back of collection tag
7. Instruct Nursing to keep container iced during the collection and to complete all information on the collection tag at completion of collection

Family Birth Center

NOTE: These are processed STAT regardless if they are ordered STAT or Routine.

Dispensing

1. Family Birth Center will order a 24 hour protein urine (PRO24). This test requires a plain jug at beginning of collection.
2. Patient barcode label with PRO24 orders should be placed on the back of the urine tag.
3. Complete information on the front of Urine tag with the patient information, test requested, and your initials.
4. Label jug and the Urine tag with bright green "Family Birth Center STAT" stickers.

5. Instruct RN/NA to keep container on ice during the collection and to complete **all** information on the collection tag at completion of collection.

Receiving

1. RN/NA will return the 24 hour urine container(s) to the STAT Lab at the completion of the 24 hour collection period.
2. Do not let RN/NA leave until you have verified all the information on the urine tag. Example: Start Dates/Times and End Dates/Times.
3. Under the "Receiving" tab, scan the PRO24 label on the back of the urine tag. Before you can save, you will be prompted to enter Start/End Dates/Time.
4. Click Save. Additional labels will print out. Receive these labels as well.
5. Record the total volume of the urine jug on the urine card and how many jugs were received with the order. Initial Card.
6. Click "Order Entry" and under the "Order" column, scan your barcode to pull up patient chart. Open Edit Mode (F7)
7. Click on the "Results" tab. Answer how many jugs received and the total volume of urine. You may also input Start/End dates and Start/End times here as well.
8. Once all of the information is inputted, click "Verify All". If this option is not clicked, the process will not be complete and will stay on RCTV pending List.
9. Properly label aliquot tubes with the Total Volume of urine and your initials.
10. You will need 2 tubes. The first aliquot tube will end in -89. Fill this tube to the halfway mark. In UA, it will spin in the centrifuge and go to the Advia for testing.
11. The second tube is an extra tube. This tube can be filled all the way to the top. This tube is saved in case more tests are added.
12. Cap and parafilm urine tubes.
13. Place a "Family Birth Center STAT" Label on Red Bag. This will be a visual cue to everyone handling the urine, that the specimen needs to be processed/ran STAT.

14. Put the 24 hour urine tag in the pocket of the bag and place the 2 parafilmed, aliquot tubes in the zipper part of the bag.
15. Send to Core(Station 267,268, or 269).
16. Call UA (18064) to notify them that a FBC urine is on the way and is to be run STAT.

Use of P-Splitter™

The P-Splitter™ is a container set that is used when more than one assay is required on a single 24-hr urine, and the tests require different preservatives. Each set contains

- two 2-liter amber collection bottles, banded together, with screw caps
- one splitter funnel
- two red stoppers
- a disposal bag for the funnel

Lab will supply the following:

- aqua collection tags w/ fasteners
- printed instructions (stickered) for Nursing's use of P-Splitter™. (These are printed on 3 1/3" x 4" Avery white mailing labels, 6 labels/sheet, 100 sheets/box, Product # Avery 5164™. The Microsoft Word file for this is available on the share drive as a controlled document CH.MT.24U.TEC.001)

The Stat Lab Assistant/Tech will pre-assemble the P-Splitter™ set as follows:

1. Insert the splitter funnel securely into the two amber collection bottles
2. Affix a printed instruction sticker label to each container
3. Place the two red stoppers into the plastic disposal bag
4. Fold the bag and tape securely to one container, under its handle
5. Attach aqua collection tags to the handle of each container
6. Note **1A** on one collection tag and **1B** on the second tag on the bottom of the tags **in place of the container ___ of ____. This will identify the containers as belonging to the same P-Splitter™ set.**

The pre-printed sticker label instructions for using P-Splitter™:

1. Loosen caps of both containers
2. **Pour** each urine sample through the P-Splitter ™ funnel
3. Follow through with a quick, uninterrupted pouring motion. Do NOT dribble or pour slowly
4. Keep the urine level as high in the funnel as possible
5. Disassemble the P-Splitter™ after collection is complete
6. Tighten caps of both containers
7. Remove and dispose of P-splitter™ funnel
8. Insert two red plugs into container holes
9. Cover plugs completely with attached labels
10. Do NOT remove elastic band holding containers

Dispensing the P-Splitter™ from Stat Lab

When the Tech/Assistant determines that a P-Splitter™ set is appropriate for the labels presented, s/he will retrieve a pre-assembled set from the Storeroom. Follow the preceding instructions for preparing a 24-hr Urine container w/ the following differences.

1. ***Dispense one half*** of the required preservative(s) to each respective container.
2. Label ***each*** respective container tag w/ appropriate information required (ie. test(s) requested, preservative, expiration label dated 6-months from today's date - if preservative dispensed, appropriate safety labels and your initials).
3. Instruct Nursing that ***the containers must NOT be separated.***
4. Should Nursing require a second P-Splitter™ set during the 24-hr period to complete the 24-hr collection (i.e. volume of urine will exceed 4 liters), dispense the second set with preservatives, labeling etc. exactly as above. Label this set however as **2A** and **2B** to indicate that a second set is being collected ***for the same tests, same 24-hr period.*** Hold the 1st set in Stat Lab's refrigerator labeled ("IN PROGRESS") until the 2nd set is delivered at the end of the 24-hr period. Patient Transportation will deliver both P-Splitter™ sets to Core Lab for specimen processing.

Receiving Completed 24-hr Urine Inpatient Collection Containers in Stat Lab

1. Nursing will return the 24-hr urine container or P-splitter™ set to Stat Lab at the completion of the 24-hr collection period.
2. NOTE: Nursing is expected to document specimen *collection* in the computer at the end of the collection period, complete the attached collection tag(s) with beginning and end dates/times of collection, and deliver all containers to Stat Lab's reception window.
3. ***While the delivery person*** **waits**, the Stat Lab Tech/Assistant will review the tag(s) and label(s) for accuracy/completeness, confirm the specimen is *collected* in the computer and receive the specimen along with all additional labels that print. **IF collection problems are discovered, Nursing must resolve before Stat Lab can accept the specimen**.
4. The Stat Lab Assistant/Tech will refrigerate the specimen(s) in Stat Lab
5. Patient Transportation Services will pickup and deliver all 24-hr Urine collection containers to Core Lab for Front Desk processing

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Processing 24-hr Urine Containers at the Front Desk, Core Lab

The Front Desk Tech processes each 24-hr urine container received. (See procedure RC.CH.UA.24U.PR.001 titled *24-Hour Urine Processing*). There are notable exceptions for handling a P-Splitter™ set:

1. ***Never*** mix P-Splitter™ containers from the same set (i.e. 1A, 1B) together
2. Reject a specimen which has been separated from the container set
3. Add the two volumes ***on paper*** and report as total volume (TV) collected for the 24-hr period.
4. Prepare aliquots as needed from each container. Print all labels associated with urine order—labels will indicate aliquots for each testing area, pH, extra tube etc. Write the TV on all labels.
5. Record beginning/end dates and times of collection and TV in the LIS
6. Be certain all labels and order numbers are accounted for.

7. Should a 2nd P-Splitter™ set be required, (i.e. over 4 L per 24-hr period), do combine volumes of 1A, 2A together and 1B, 2B together before pouring over aliquots

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Calculations and Interpretations

Measure TV and record as described above.

Reportable Range

(AMR) Analytical Measurement Range = *See specific analyte procedure*
(CRR) Clinically Reportable Range = *See specific analyte procedure*

References

Package Insert for P-Splitter™

Authorized Reviewers

Section Medical or Technical Director

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Document Control

Location of Master: Master electronic file stored on the Beaumont Laboratory server under S:/AutoChemistry/DocumentControl/NEW/UA/24HrUrine/MasterDocuments
Master printed document stored in the Front Desk Procedure Manual, Urinalysis section.
Number of Controlled Copies posted for educational purposes: 0
Number of circulating Controlled Copies: 1
Location of circulating Controlled Copies:
STAT Lab Policies and Procedure Manual

Document History

Signature	Date	Revision #		Related Documents Reviewed/ Updated
Prepared by: V. Peterson MT(ASCP)SC	11/06/2006			
Approved by: Raymond E. Karcher PhD	11/06/2006			
Reviewed by: (Signature)	**Date**	**Revision #**	**Modification**	**Related Documents Reviewed/ Updated**
REK	12/20/2006	r00		
REK	12/13/2007			
Raymond E Karcher, PhD	01/25/2008	r01	New document control format	
Raymond E Karcher, PhD	12/04/2008			
Raymond E Karcher, PhD	07/20/2009	r02	EXP label for preservatives	
Raymond E Karcher, PhD	09/01/2009	r03	Steps to prepare 6N HCL, 50% Acetic Acid	
Dr. Elizabeth Sykes	01/04/2011			
Elizabeth Sykes, MD	04/26/2012		Elizabeth Sykes, MD	
Elizabeth Sykes, MD	05/28/2014	r04	Change Mysis terms to SOFT, remove charging for measuring	
Elizabeth Sykes, MD	10/22/2015			
Elizabeth Sykes, MD	10/24/2017			
Revised by: Jessica Thomas Reviewed by:		r05	Revisions under Reagent Supplies, adding section on Family Birth Center, changes to core lab dispensing, adding "stat lab assistant" to tech for processing	