**University of Washington Medical Center**

Clinical Microbiology Laboratory Document # 617.U.119.07

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| Setup Manual**PROCEDURE FOR PROCESSING URINE SPECIMENS** | Effective: 4/10/18 |
| Written by: Sarah Jensen, Anne Zipperer | Reviewed by: Sarah Jensen | Approved by: Lori Bourassa |
| Revises or supersedes: 2/27/13, 2/18/14, 4/1/15, 4/26/16 | Revised by: Jennifer Vong |

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| ANNUAL REVIEW |
| Reviewed by: | Date | Reviewed by: | Date |
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**I. PRINCIPLE**

To provide a guideline for processing urine specimens.

**II. SPECIMEN TYPES**

Primary descriptions: urine (URN), urine clean catch (URCC), urine catherized (UCATH), urine straight catheter including in & out cath (SCATH), urine VB1-VB3 (VB1, VB2, VB3), expressed prostatic secretions (EPS), ileal conduit urine.

Additional descriptions: foley (FOLE), suprapubic (SUPB), bladder tap (BTAP), nephrostomy or nephrostomy fluid (FNEPH), urine kidney fluid (URN-KID-FLUID).

Special: VB1 = urethral flora

VB2= bladder urine

EPS = expressed prostatic secretions

VB3 = urine after prostatic massage

**III. TRANSPORT AND STORAGE**

A. Transport at room temperature within 2 hours or refrigerate up to 24 hours.

B. After setting up specimen, keep in refrigerator for an additional 24 hours.

C. Grey top urine preservative tubes that do not have a culture ordered will be kept in a separate rack for 48 hours. Tube will be labeled with UA accession number. This will allow for specimen retrieval if there are orders for a culture after the UA is tested. (Log in XUG)

D. Midnight shift moves current day to second day and tosses old second day bucket.

**IV. REJECTION CRITERIA**

1. Reject if specimen is mislabeled/unlabeled (See mislabel policy).
2. Reject if specimen is older than 24 hours.
3. Reject if collected from bed pan or bag.
4. Reject if the majority of the specimen has leaked out of the container.
5. Reject if less than 40 mLs received for AFB culture.
6. Reject if less than 3 mLs received in preservative tube.
7. Reject for culture if specimen has been run on the UA analyzer.

\*Note: any rejection criteria may be overruled by a Laboratory Medicine Resident, Microbiology Fellow, Director, or Lead Technologist.

# V. COMMON DIAGNOSIS

Bacteruria, cystitis, dysuria, prostatitis, pyelonephritis, pyuria, urethritis, urosepsis, and UTI (uncomplicated, complicated, asymptomatic).

**VI. ORDERABLE TESTS**

 **For culture/NAAT testing:**

URNXC, URNC, URNANC, YSTF, URNF, AFBHC, AFBHSC, GUMPCR, OAP, RMICS, SPMSND, GCCTAD, GCCAD, and CHLAD

**For urinalysis:**

UAWK, UAC, UACRC, USPG, UKET, UOCULT, UBILQL, UPH, URED

**VII. PROCEDURES**

 **Note: If only one urine sample is received, perform cultures first. If sample is needed for additional testing in SPS, pour off UA tests and send original specimen container with copied requisition to SPS.**

 **If an extra tube or cup of urine is received, log in XUG (grey top), XUY (yellow top), XSP or XUR (urine received in cup).**

**URNXC**: Bacterial culture, urine (clean catch, cath, nephrostomy, foley)

BA 1:100 loop (10 μl) Incubate at 35° in ambient air

MAC 1:1000 loop (1 μl) Incubate at 35° in ambient air

**URNC**: Bacterial culture, urine, with gram stain (clean catch, cath, nephrostomy, foley)

GRAM

BA 1:100 loop (10 μl) Incubate at 35° in ambient air

MAC 1:1000 loop (1 μl) Incubate at 35° in ambient air

**URNPC**: Prostatic urine Bacterial culture, with gram stain (VB1, VB2, and VB3)

GRAM

BA 0.1 ml pipette (100 μl) Incubate at 35° in ambient air

MAC 0.1 ml pipette (100 μl) Incubate at 35° in ambient air

CHOC 0.1 ml pipette (100 μl) Incubate at 35° in CO2

\*Note: Label quantity used on plate with sticker.

**EPSPC**: Prostatic secretion bacterial culture, with gram stain (EPS)

GRAM

BA 1:1000 loop (1 μl) Incubate at 35° in ambient air

MAC 1:1000 loop (1 μl) Incubate at 35° in ambient air

CHOC 1:1000 loop (1 μl) Incubate at 35° in CO2

\*Note: Label quantity used on plate with sticker.

**URNANC**: Bacterial culture, urine (rule out anaerobes, suprapubic tap, urine kidney fluid acceptable)

\*Note: Call ordering location to verify specimen type if necessary, before ordering.

GRAM

BA 1:100 loop (10 μl) Incubate at 35° in ambient air

MAC 1:1000 loop (1 μl) Incubate at 35° in ambient air

CHOC 0.1 ml pipette (100 μl) Incubate at 35° in CO2

BRU 0.1 ml pipette (100 μl) Incubate at 35° in anaerobic jar

\*Note: Label quantity used on plate with sticker.

**YSTF**: Yeast culture, urine (unspun). Grey top tube is acceptable.

GRAM

IMA 1 drop Incubate at 30° in ambient air

**URNF**: Filamentous fungal culture, urine (spin 1 to15 mls and use sediment). Grey top tube is acceptable.

IMA 1 drop Seal plate. Incubate at 30° in ambient air

BHIA+Bld+CGC 1 drop Seal plate. Incubate at 30° in ambient air

**AFBHC or AFBHSC**: Mycobacterial culture, urine (requires 40 mLs)

Send to HMC AFB lab per AFB section.

**GUMPCR**: for *M. genitalium*, *M. hominis*, *U. urealyticum*, and *U. parvum*, from urine

Aliquot at least 0.5 mL specimen into sterile container. Process per Mycoplasma section.

**OAP**: Parasite exam, urine

See Parasitology section.

**SPMSND**: *Leptospira* culture

\*Logged by SPS, send out to Mayo.

Neutralize specimen to pH 7.0 within 1 hour of collection using 1 N HCl (to decrease) or 1 N NaOH (to increase). Acid/base solutions are in acid/flame cabinets. pH paper is in drawer or UA section.

**GCCTAD, GCCAD, CHLAD**: Amplified nucleic acid detection test for *Neisseria* *gonorrhea* or *Chlymdia trachomatis*

\* Logged by SPS, transfer to HMC.

**TRICAD:** Amplified nucleic acid detection test for *Trichomonas*

\* Logged by SPS, transfer to HMC.

**UAWK, UAC, UACRC, USPG, UKET, UBILQL, UPH, URED**: Urinalysis tests, requires unpreserved urine

Aliquot or send original containers with at least 3 mLs for automated analysis. Lesser volumes can be run manually.

\*If sample is needed for additional testing in SPS, pour off UA tests and send original specimen container with copied requisition to SPS.

**UACRC** requires preserved urine in a gray boric acid tube, in addition to unpreserved urine. Give both samples and requisition to UA bench.

If UA reflexes to culture, manually log URNXC (OK to log in all locations including NWH and UPN clinics. NO call is necessary.)

Order process the reflexive test in SmarTerm (ME). Enter comment ORDPRO under UACRCR test.

**VIII. TROUBLESHOOTING**

1. If automated plate streakers are out of service, please streak according to the plate streaking example located in this manual.
2. Kidney fluid should be ordered as a fluid unless the requisition states that it is urine (such as “urine from kidney”). If the requisition states that the kidney fluid is urine, order as URNANC.
3. For UACRC that come without preserved (gray top) urine: Notify location that reflexive culture cannot be done. Instead UAC and URNXC will both be set up. Cancel UACRC as YORDC (order change). Reorder UAC and URNXC. All locations can be re-logged by Micro, including NWH and UPN clinics.

**IX. REFERENCES**

1. Isenberg, H. 2004. Clinical Microbiology Procedure Handbook, 2nd Edition. American Society for Microbiology Press, Washington DC.
2. Murray, P and EJ Baron. 2007. Manual of Clinical Microbiology, 9th Edition. American Society for Microbiology Press, Washington DC.
3. Clarridge, JE and J Johnson. 1998. Cumitech 2B, Laboratory Diagnosis of Urinary Tract Infections. American Society for Microbiology Press, Washington DC.
4. **REVISION RECORD**
	1. 5/26/10: Section VI Orderable Tests Remove bacterial antigens (UBSAG, UPNEAG, UFLUAG, UMENAG) from the list of orderable tests.
	2. 9/24/12: Reject if less than 3 mLs received in preservative tube.
	3. 9/24/12: URNOF removed. We no longer do this test at UWMC.
	4. 9/24/12: Due to CPOE, the AFB cultures on urine can now be received as AFBHSC. If ordering under Order Entry in Misys, continue to order AFBHC.
	5. 9/24/12: Kidney fluid should be ordered as a fluid unless the requisition states that it is urine (such as “urine from kidney”). If the req states that the kidney fluid is urine, order as URNANC.
	6. 2/27/13: EPS specimens should be setup using a 1:1000 loop (1 μl).
	7. 2/18/14: Section III; Grey top urines should be kept for 48 hours in rack.
	8. 4/14/16: Section III: Added log in XUG for extra grey top; Section VI: Added UA orderable tests; Section VII: Added instructions for handling 1 urine specimen with culture/UA and additional tests in SPS; log in codes for extra tubes/cups; added TRICAD and Urinalysis info; Section VIII: Added instructions for when UACRC ordered but no gray top tube received.

9. 4/3/18: Revised section VII: Prostatic urine and Prostatic secretion specimens now have separate culture codes, URNPC and EPSPC respectively. Removed references to Microsporidia test.