

Wj q^!•æ Å -Öca[ ] æUa[ Å]æ &æ & Å/Ö^] æq ^) ö -Sca[ ]æ[ Å ^âæa ^  
Z' & ^!â^! Åa[ Å]æ &æ & Å/Ö^] ^!æP[ •] æa[æ] âV!æ { æÖ^} ö!ææFAU[ d^! ÅÖ^} ^ ^Ua[ Å]æ &æ & EÖÖZU| FF€  
Öj âæSca[ ]æ[ Å ÖcaâææP æ^! EY ÖEU@ÖÖa^&q !  
Vai^KVâ ^Å æ[ •&] æÖca[ æ æa[ EÖ] & { ^) ö!æ[ Eä ] ] ] Eä JÅ^!•q } Å EEE  
Öj ]! [ ç^âæ æ& ]! ^) öÖ-^&q^ Åææq \* Å Eä EÖGFE

# Urine Microscopic Examination

## PURPOSE

Identify presence of and distinguish between formed elements in urine sediment such as cells, casts, crystals and other structures.

## PRINCIPLE

Microscopic examination of a concentrated urine sample by clinical providers certified to perform PPMP (Provider Performed Microscopy Procedures).

## TESTING PERSONNEL

- Qualified physicians, nurse practitioners, physician assistants, and midwives may qualify to enroll in the PPMP program. NOTE: residents and fellows with 2 years or more of residency training and a current California medical license may qualify to enroll in the PPMP program.
- Interns, residents and fellows enrolled in an ACGME approved training program may perform the test when supervised by a qualified, licensed provider.
- Testing personnel are required to take the initial training and competency assessment. Competency assessment (using 6 methods) must be completed after initial training and before technical duties are performed, six months after completion of initial training and annually thereafter.

## EQUIPMENT AND SUPPLIES

- A. Centrifuge calibrated to 360 to 400 RCFs.
- B. Disposable plastic centrifuge tubes.
- C. Microscope slides and coverslips.
- D. Pasteur pipettes.

## SPECIMEN

- Random urine specimen, preferably “clean catch.” In females, collect “midstream urine” to avoid contamination from vaginal elements. Collections from foley catheters are acceptable.
- Collect sample in a clean container; recommended volume is 15 mL.
- Specimen containers must be labeled with the patient’s full name and date of birth or medical record number.
- Specimen should be examined “fresh”, i.e., within 2 hours of collection.

## QUALITY CONTROL CHECK

- A. On each day of microscope use, perform a microscope check or check a positive QC slide.

- B. An acceptable microscope check is when the image is clear and the view is free of debris caused by dirty lenses. If the lenses are dirty, clean them with lens paper and lens cleaner.
- C. Preventive cleaning and maintenance of the microscope is performed annually by Biomed Services.

## PROCEDURE:

- A. Pour the recommended volume of approximately 10 mL of urine into centrifuge tube. Centrifuge for 5 minutes at 400 RCF.
- B. Pour off approximately 9.5 mL of the remaining liquid and re-suspend the sediment in the remaining 0.5 mL. Examine the urine within 30 minutes.
- C. Place approximately 0.1 ml of this concentrated sediment on a slide, apply a coverslip and examine microscopically.
- D. The first examination should be done under low power (10X objective). Adjust illumination to lowest possible level for optimal contrast. It is only under these conditions that hyaline casts can be detected. Quantify per low power field, LPF: Casts, and epithelial cells. High power (40X objective) may be used to assist with identification.
- E. The second examination is done under high power (40X). Quantify per high power field, HPF: leukocytes (WBCs), red blood cells (RBCs), and crystals.

## REPORTING RESULTS

Record results either in an electronic medical record system (EMR) or on a Urinalysis Results form.

## REFERENCES

1. Behring Diagnostics, Rapignost Total Screen L Pamphlet # OUOPg4600420 (C03640/2/0803). March 1988.
2. McPherson RA and Pincus MR (eds.). Henry's Clinical Diagnosis and Management by Laboratory Methods. 21st ed., pp. 409-419. 2007.

## DISTRIBUTION

1. Point of Care Master Procedure Book, (2M14)
2. Approved PPMP Testing Locations