# SUMMARY PROCEDURE

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| **PURPOSE** | For the enhanced visualization of fungal elements in clinical material by dissolving the cellular elements with alkali. |
| **STEP** | **ACTION** |
| 1. | Using pencil, label slide on frosted end with patient name and SSN. |
| 2. | Place the material to be examined onto the clean labeled glass microscope slide. |
| 3. | Add a drop of the 10% KOH solution to the material and mix. |
| 4. | Place a cover slip over the preparation. |
| 5. | Allow the preparation to sit at room temperature until the material has been cleared (approximately 5 to 30 minutes, depending on the specimen type). The slide may be gently warmed to speed up the clearing process. |
| 6. | Observe the preparation with the light microscope using the 10X and 40X objectives. Reduce the light by closing the iris diaphragm. |
| 7. | Record the result in the patient’s medical record as “Fungal elements seen” or “No fungal elements seen”. |
| 8. | Discard slides into a puncture proof container. |

# PROCEDURE ATTRIBUTES

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| --- | --- |
| *METHOD TITLE* | |
| **Atribute** | **Description** |
| PRINCIPLE | This procedure is used for enhancing the visualization of fungal elements in clinical meterial by dissolving the cellular elements with alkali. The cellular elements (e.g. hair, skin, nails, or vaginal epithelial cells) will dissolve at a faster rate than the fungi, which have polysaccharide-containing cell walls. The clearing effect can be accelerated by gently heating the KOH preparation. |
| CLINICAL UTILITY | Used to detect fungal elements in patient clinical samples. |
| SAMPLE TYPE | Any type of clinical material such as hair, skin, nails, and vaginal swabs. |
| * Stability | The clinical specimen clears as it dissolves. However the fungi will eventually be destroyed also, so this procedure does not result in permanent preparations. |
| REAGENTS | 1. 10% KOH from REMEL:  BactiDrop Potassium Hydroxide 10%.  REF R21524.  * Store droppers at room temperature. * Each dropper is stable for one day after the ampule has been opened. * Observe the expiration date on the dropper. Do not use expired reagents.  1. Microscope slides. 2. Cover slips. |
| QUALITY CONTROL | Check the expiration date of reagent in use. DO NOT use any expired reagents. |

# PROCEDURE DETAILS

# Physicians and other credentialed clinicians may perform the procedure.

# The Chief of Pathology and Laboratory Medicine Service/designee, the Laboratory Ancillary Testing Coordinator (ATC), and all Testing Personnel will review policies and procedures pertaining to KOH testing every two years. This review will be documented.

# Any changes to the text as they appear to methodology, instrumentation, or testing policy are signed by the Chief, Pathology and Laboratory Medicine Service/designee, dated and inserted in the policy and procedure manuals.

# Obsolete or superseded procedures are replaced in the policies and procedure manual but retained for filing and legal purposes for two years.

# Medical Center infection control policies and procedures are adhered to when working with the KOH test.

# Medical Center Memorandum 00‑30 "Patient Identification" is adhered to for patient identification practices.

## REAGENTS

10% KOH in reagent dropper from REMEL BactiDrop Potassium Hydroxide 10% REF R21524. NOTE: 10% KOH is caustic and has a potential for injury. Instructions for the use of personal protective equipment and post exposure care may be found in the material safety data sheets (MSDS). Store at room temperature.

## EQUIPMENT

1. Bright field microscope with 10x or 15x oculars, and 10x, 40x objective lenses.
2. Maintenance:

* Daily clean objective lenses, eyepieces and condenser with high quality lens paper moistened with an approved lens cleaner. DO NOT USE organic solvents, Kimwipes, paper towels, or gauze to clean lenses or eyepieces.
* Annually the microscope should have preventive maintenance by a qualified service agent.

## SUPPLIES

# Microscope slides.

# Cover slips.

## SPECIAL SAFETY PRECAUTIONS

# Only a certified or credentialed provider may perform a KOH test.

# Tests are performed by the provider at Point of Care only in response to appointment with the provider or electronic requests from an authorized person.

# Because of the hazards of handling body products, wear disposable gloves when collecting specimens and performing test procedures.

# Observe and use universal precautions for all specimens. Handle at Biosafety Level 2 as recommended for any potentially infectious material in the Centers for Disease Control/National Institutes of Health manual, Biosafety in Microbiological and Biomedical Laboratories, 1999.

# Refer to the following MCM for infection control procedures in compliance with OSHA & CDC regulations for universal precautions. (MCM 00-30, MCM 00-70, MCM 11-51, MCM 111-13, MCM 113-02, MCM 181-40.)

## QUALITY CONTROL

1. Check expiration date of reagent in use. DO NOT use any expired reagents.
2. Proficiency Testing
3. VAMC P&LMS is enrolled in the College of American Pathologists (CAP) approved

Clinical Microscopy Survey (CM) which includes photograph samples for KOH.

1. 1 CM kit containing 1 CMMP sample is received 2 times a year.
2. Proficiency samples will be handled to the greatest extent possible in the same manner

as samples collected from a patient.

1. POCT site personnel are randomly selected to view survey samples and their

performance is documented by the ATC.

1. Inter-laboratory communication about proficiency test samples is prohibited until after

the deadline for submission of data to the proficiency testing provider.

1. Referral of proficiency test specimens to another laboratory is prohibited.
2. Providers may participate in the MTS Competency Program each year. Competency in this program is maintained by the Ancillary Testing Coordinator.

# REFERENCES

### Murray, PR, et.al. (editors), Manual of Clinical Microbiology, 7th Edition, Pg. 1675, ASM Press, Washington, DC, 1999.

### Package Insert, BactiDrop Potassium Hydroxide 10%, REMEL.