

	<p style="text-align: center;"><i>New Mexico VA Healthcare System Pathology &amp; Laboratory Medicine Service</i></p>	<p>Issue Date: <b>01/08/11</b></p>	<p>Document Identifier <b>SOP POC.0024</b></p>
<p>Authorized by: <b>Larry Massie</b></p>		<p>Version: <b>2</b></p>	<p>Page 1 of 2</p>
<p>Owner/DM: <b>Maria Montañó</b></p>			
<p><b>Title: KOH Wet Mount</b></p>			
<p><i>Hard copies are not official– paper copies are not document controlled</i></p>			
<p><i>Document Status:</i> <b>APPROVED - For Operational Use-</b></p>			

I. Principle:

- A. Potassium Hydroxide (KOH) is used for the microscopic examination of skin, nail scrapings and hair to detect the presence of fungi. The solution acts as a clearing agent to eliminate debris and makes fungal elements more prominent. Proteinaceous components are partially digested by the alkali, leaving intact polysaccharide-containing fungal cell walls.
- B. This procedure is performed by Physicians, PAs, and CNPs only.

II. Sample Collection/Handling:

- A. Specimens should be obtained by following established Clinic Guidelines.
- B. Prior to collecting the sample, confirm the patient's identity using at least two patient identifiers.
- C. All specimens should be treated as potentially infectious.
- D. Personnel should observe Standard Precautions during all phases of collection and testing.

III. Materials/Equipment:

- A. Microscope with a 10X and 40X objective
- B. 10% Potassium Hydroxide Solution: Supplied by the Microbiology Lab.
- C. Microscope coverslips
- D. Microscope slides

IV. Quality Control:

- A. Individuals performing KOH preps should be experienced in the morphological characteristics of fungal elements, since background artifacts are often confusing. Adequate reference material must be available in order to compare and correctly identify microscopic elements.

V. Procedure:

1.	Place material to be examined on a slide and add one or two drops of KOH.
2.	Cover with a coverslip and press gently.
3.	Allow the specimen to stand for 15 minutes at room temperature prior to examination. This clears the specimen to make fungi more readily visible. Keratinous specimens may be left for 20-30 minutes to allow for digestion and "Clearing" of the keratin.
4.	Examine the preparation under low and then high magnification for the presence of mycelium and anthrospores/conidia.
5.	Specimens must be examined for the presence of budding yeast or pseudohyphae.
6.	Record patient name, last four of SS#, date, results and initials of person performing the test on the log sheet. Enter results into the patient's electronic medical record.
7.	Discard the slide and sample according to NMVAHCS policy.
Notes:	Dermatophytes in skin or nails are seen as branching hyphae with parallel sides and a width of approximately 2 mm. Infections caused by dematiaceous fungi will have brown or dark hyphae.

VI. Results:

- A. If the specimen contains fungal elements and features, the morphologic features should be reported. (i.e. hyphae vs. yeast)
- B. Record results on the patient log form and in the patient's electronic medical record.

VI. Expected Results: No fungal elements observed.

IX. Limitations: Dried smears or swabs are unsatisfactory for examination.

X. References:

- A. Cooper, B.H. and Silva-Hunter, M. 1985, Yeasts of Medical Importance, pp 526-541. In E. H. Lennette (ed.), Manual of Clinical Microbiology, 4th ed., American Society for Microbiology, Washington, DC.
- B. Melvin, D.M. and Healy, G.R. 1985, Intestinal and Urogenital Protozoa, pp 631-650. In E.H. Lennette (ed.), Manual of Clinical Microbiology, 4th ed., American Society for Microbiology, Washington, DC.