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<p style="text-align: center;"><b>Title: KOH Prep - Derm Clinic</b></p>			
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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 only by Physicians, PAs, and CNPs with documented training and competency assessment.

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. External quality control is not available. Staff competency assessment will be utilized to verify reliability of patient test results. Individuals performing KOH preps should be experienced in the morphological characteristics of fungal elements, since background artifacts are often confusing.
- B. Adequate reference materials are available in order to compare and correctly identify microscopic elements.

V. Procedure:

1.	Prior to testing, visually examine KOH reagent for signs of deterioration such as discoloration or precipitated KOH crystals. Replace with a fresh reagent vial if indicated. Do not continue with exam of patient sample until visual examination is satisfactory.
2.	Place material to be examined on a slide and add one or two drops of KOH.
3.	Cover with a coverslip and press gently.
4.	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.
5.	Examine the preparation under low and then high magnification for the presence of mycelium and anthrospores/conidia.
6.	Specimens must be examined for the presence of budding yeast or pseudohyphae.
7.	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.
8.	Discard the slide and sample according to NMVAHCS infection control 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 result worksheet 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.
- C. Provider Performed Microscopy Testing; Approved Guidelines, NCCLS, HS2-A, Volume 20 No. 3, 2008.

