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Colposcopy: Equipment and Supplies

INTRODUCTION:

The basic equipment and supplies necessary for the colposcopic examination have been developed over time to yield the most consistent and reliable results for a wide range of clinicians who practice this procedure. This discussion will highlight the essential equipment and supplies used by great majority of contemporary colposcopists. It is recognized that there are multiple variations and choices when it comes to choosing equipment to accomplish a basic colposcopy examination. The items presented in this view take advantage of many “tried and true” items which should serve as a reliable and reproducible starting point for the beginning colposcopist.

I. THE THEORY

- a. Why do we need a colposcope?
 - i. Excellent light
 - ii. Magnification
 - iii. 3 dimensional image
 - iv. random biopsies poorly reflect true disease.

II. COMMON INDICATIONS FOR COLPOSCOPY

- a. Pap smear indicating dysplasia
- b. Abnormal appearing cervix
- c. Unexplained persistent atypical cytology
- d. Prior DES exposure
- e. HIV positive status with abnormal cytology

III. GOALS OF COLPOSCOPY

- a. Identify the transformation zone
- b. Define the extent and location of abnormal areas
- c. Identify the area of most advanced changes
- d. Direct a biopsy of abnormal areas
- e. Rule out invasive cancer

IV. THE COLPOSCOPE

- a. Basically a mounted operating, low magnification stereo microscope
- b. Magnification ranges best between 4 to 30 power
- c. Single magnification scopes less desirable, but adequate

- d. Many scopes are either multiple powers, such as 5X, 10X, 20X or “ZOOM” (continuously variable) between 5-20X (or greater power)
- e. Light source can be fiber optic-nice “cool” white light or “bulb in head” can get warm or hot to patient if examination prolonged
- f. Mounting methods vary form pedestal, boom, wall mounted
- g. Most have “green-blue” light option
 - i. Helps highlight vascular (reds become black appering)
- h. Focusing methods vary between manufacturers
 - i. “twist the handle”, “turn the knob”, move the whole scope
- i. Cover “handle/knob” areas of scope to prevent fomite contamination
- j. Bases of colposcope can be multiple styles
 - i. Carpet vs. tile casters
 - ii. Heavy for photo
- k. Optional video screen for patient observationt (as desired) very helpful for patients to view portions of this procedure.

V. SATISFACTORY COLPOSCOPY

- a. Identify and visualize the active transformation zone
- b. Identify the abnormal areas
- c. Limits of all lesions seen
- d. Abnormal areas biopsied
- e. Canal free of disease

VI. COLPOSCOPY DOCUMENTATION

- a. Develop and use an informed consent form
- b. Develop and use a procedure documentation and findings form
- c. Photo/video colposcopy nice for teaching but written diagrams are the standard for documentation

VII. LOTIONS AND POTIONS OF COLPOSCOPY

- a. Saline solution
 - i. Good dilute and blot off mucus
 - ii. Highlights fine vessel patterns without vasoconstriction
 - iii. Use prior to vinegar to avoid small vessel vasoconstriction
- b. Acetic acid
 - i. Fresh white vinegar, 3-5 % acidity
 - ii. Grocery store grade is fine
 - iii. Areas of concern turn white
- c. Lugol’s solution
 - i. Iodine solution
 - ii. Turn glycogen containing tissue black
 - 1. mature squamous epithelium turns black
 - 2. dysplasia turns less black or no change
 - 3. apply just prior to biopsies after saline and acetic acid

- d. Monsel's Solution
 - i. Ferrous subsulphate
 - ii. Stops bleeding
 - iii. Allow to dehydrate and become thick like paste
 - iv. Apply only after biopsies done, ruins histology
- e. "Hurricane" syrup
 - i. 20% topical benzocaine
 - ii. applied topical for pain control on mucous membranes
 - iii. helps control discomfort with ECC
 - iv. optional

VIII. THE HAND TOOLS

- a. Speculums
 - i. Metal Graves are fine
 - 1. have various sizes
 - 2. use rubber glove or condom stint as necessary
 - 3. Warm up!
 - 4. lubrication fine for colposcopy
 - 5. plastic nice for thorough inspection of vagina
- b. Vaginal side-wall retractors
 - i. Helpful in some patients, especially with LEEP or Cryotherapy
 - ii. Often heavy and uncomfortable
- c. Kogan endocervical speculum
 - i. Helps view the cervical canal
 - ii. Takes practice to use
 - iii. "Is there disease in the canal??"
- d. Cervical Biopsy forceps
 - i. Many different types
 - ii. I recommend "single tooth Tischler"
 - iii. 8-9 inch length best
 - iv. "Baby" or smaller Tischler nice for pregnant biopsy
- e. Endocervical curette
 - i. Many types
 - ii. I recommend simple Kervorkian endocervical curette
 - iii. Keep sharp!
- f. Simple ring or sponge clamp
 - i. Good for gentle manipulation of cervical fornices or vaginal side walls
 - ii. Can hold 4X4 gauze to apply plenty of acetic acid
- g. Swabs and Q tips
 - i. Keep dozens handy
 - ii. Great for blotting blood and mucous
 - iii. Applying Lugol's or Monsel's, Hurricane solutions
 - iv. Moving the cervix into position

IX. EXAMINATION TABLE

- a. Motorized very nice
- b. Leg “knee braces” better than stirrups

X. ROOM HEATER

XI. MISC. ITEMS

- a. Paper towels specimen squares
- b. Specimen bottles with fixative
- c. Toothpicks to retrieve samples
- d. Cytobrush for ECC sample retrieval after curetting
- e. Pap and cervical culture items
 - i. Lab submittal forms
- f. Rapid urine pregnancy screen
- g. K-Y jelly lubrication
- h. Plastic anoscope good for inspecting anal canal
- i. Dental mirror for vaginal inspection
- j. Key punch biopsy device for vulvar biopsy
- k. Handtool sterilization equipment
- l. Skin hook or tenaculum rarely necessary, but have just in case
- m. Examination gloves for examiner, sterile not necessary
- n. Disinfectant wipes
- o. Juice, coffe, cookies for recovery nice!
- p. Occasionally an oral anxiolytic can be used as deemed necessary
 - i. Get informed consent prior to administration
 - ii. Patient needs a ride home

- q. Sometimes a “nanny” to baby-sit an infant while the mother is examined is very helpful. Many patients are young mothers with limited child care resources. (Our nurses fight over this duty!)

XII. GENERAL COMMENTS

- 1. The colposcope examination includes the inspection of the vagina, vulva and peri-anal areas.
- 2. Have at least two complete sets of colposcopy instruments available
 - a. biopsy forceps, Kogan’s, ECC curette
 - b. one can be sterilized while one is beging used
- 3. Arrange, ahead of time, a resource for instrument sharpening
- 4. Don’t rush this exam! Having enough time to do a thorough and relaxed examination is essential equipment too!

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