SPECULUM SIMULATION SCRIPT

1. Welcome to our virtual 3D simulation space. Hope you are comfortable and ready to begin. In this simulation, you will learn how to use the C-Spec smart speculum, developed by GIC Space, and used for various gynaecological examinations such as cervical cancer screening. You are excited to start, aren't you! Let's get to it right away!
    a. During this intro, there will be a camera display and movement in the examination room which will have a woman lying on the examination bed, a doctor standing or sitting in front, and an instrument table which will have all equipment displayed.
2. Remember that you can consult the notice section at any point during this simulation to learn more about how to use this equipment, as well as some high yield tips.
    a. Notice section icon blinks
3. Before starting, you need to make sure your client is lying comfortably on the examination bed and reassured about the examination procedure.
    a. Camera focusing on woman lying on the bed during the voice play over, and up to about 2 seconds after.
4. First, attach the phone to the wrist band. The wrist band serves as a tool to enable easy attachment of the smartphone to your wrist, so you can easily view images captured through the smart device without having to move the phone or touch it every time.
    a. User clicks on smartphone and one hand picks it up
    b. then user clicks on wrist band and the other hand picks it up
    c. then the hand with phone fits the phone in the wrist band, then one hand keeps holding both.
5. Now, Attach the wrist band to your wrist
    a. User clicks on both assembly then hand holding the assembly fits it on the wrist of the other hand.
6. At this point you can turn on the GICMED app to enter the client's details and create her patient profile if you have not already done so.
    a. User clicks in smartphone, the GICMED app image appears on screen of the phone, and other hand simulates typing in smartphone with finger.
7. You can now put on your gloves.
    a. User clicks on gloves; hand picks them up and wears them.
8. Pick up the required C-Spec smart speculum needed for your procedure, then grab a speculum sheath and fit it in. Note that the flaps of the speculum should be in a closed position to facilitate insertion of the sheath.
    a. User clicks on speculum and one hand picks it up and holds
    b. User clicks on sheath and the other hand picks it up, then fits it in speculum. Hand keeps holding the whole assembly.
9. Attach the endoscope camera into the phone, and then insert it through its channel in the C-Spec smart speculum device. Ensure that you have the corresponding endoscope camera adapted for the smart speculum you will be using. You may insert the camera until the mark found on the cable is just at the entrance of the channel.
    a. User clicks on the endoscope camera then the free hand picks up its insertion end and inserts into the smartphone, which is strapped to the wrist,
    b. then user clicks again on the endoscope and hand picks its front end and inserts through its channel found in the speculum.
    c. Hand keeps holding whole assembly
10. The assembly is ready, and we can start the procedure. Now lubricate the speculum sheath using a water-based lubricant.

    a. User clicks on the lubricant, free hand picks it up and pours some lubricant on the speculum (gel like fluid seen pouring out), specifically the part covered by the sheath, while the speculum is rotated by the hand holding it so the lubricant tries to touch all round.
11. It's time to insert. Inform the client that you are about to insert the speculum, then insert. It is ideal to have the flaps in a closed position, and aligned in the vertical axis to enable a smooth insertion. (This part starts playing when insertion has started) You can stop inserting once you feel the speculum cannot advance anymore with gentle pushing force or when the external mark of the speculum is just visible enough.
    a. Hand holding speculum puts flaps of speculum in vertical position, then moves and inserts through the vaginal opening and moves inwards, stopping with only part of the speculum visible outside. VID
    b. At this time, Thumbnail image of cross section appears to show how the speculum moves progressively up to the front of the cervix.
12. Now rotate the speculum such that the links and handles are on your right side. At this position, it is easier for you to manipulate the nuts and handles, and this position has the flaps aligned in a horizontal position.
    a. Posterior view of speculum is shown, with hand rotating so the handles are to the right. VID.
    b. At same time the cross-section image is showing same movement that is occurring internally, particularly how the flaps move from a vertical position to a horizontal position. VID
13. Turn on the app, then click on the section that enables you to view through the endoscope camera. You will be able to clearly see the image of the cervix in the smartphone application, as you manipulate the device to open the flaps.
    a. User clicks on smartphone, free hand touches it, then image of the front of the speculum appears in smartphone.
    b. So at this point we will have the main image, then cross section image and now image of smartphone + content
14. Now open the upper flap by gently screwing the upper nut outwards. Note that screwing the nuts outwards automatically opens the flaps.
    a. Thumbnail image and smartphone image still visible
    b. Camera zooms close to nuts, user clicks o upper nut, left hand holds the back of the speculum, while index and thumb of right hand screw the nut outwards.
    c. As nut is being screwed the cross-section image shows the upper flap progressively moving upward, while the smartphone image shows the upper flap opening gradually and exposing part of the cervix.
15. In case of any resistance or high pressure encountered during this process, place your thumb on the upper part of the tube, use your middle finger to pull the handle backward, then use your index finger to screw the nut outwards as you pull on the handle. This will enable you to overcome the resistance and open the flap.
    a. User clicks on any part of the speculum, thumb presses in upper tube, then middle finger pulls back the handle, and now index finger screws the nut outwards.
16. This is brilliant so far. Next, open the lower flap using the same technique you just mastered in the previous step, that is screwing the lower nut outwards. Remember that if you encounter any resistance while screwing the nut, place your thumb on the upper part of the tube, use your middle finger to pull the handle backward, then use your index finger to screw the nut outwards as you pull on the handle.

    a. Camera zooms close to nuts, user clicks on the lower nut, index finger and thumb of right hand screw the lower nut outwards.
    b. As nut is being screwed the cross-section image shows the lower flap progressively moving downward, while the smartphone image shows the lower flap opening gradually and exposing the entire cervix this time.
17. At this point, you should be able to see the cervix already protruding at the entrance of the speculum and entirely visible. You can clearly see the cervix in the smartphone. You are good to continue with the procedure.
    a. Image of the smartphone on the screen highlighted
18. In the case where you have the vaginal wall or only part of the cervix visible, you will need to rotate the speculum either clockwise or anti clockwise depending on the situation, to have the cervix fully bulge into the opening of the speculum and be clearly visible.
    a. Hand rotates speculum gently to the left then to the right, and seen from the back.
    b. in cross section image we will have the speculum rotate as well to the left then to right.
    c. In the smartphone image, we will have a partially visible cervix first, then when speculum flaps rotate, the cervix will bulge in and be clearly visible.
19. In the visual inspection screening method for cervical cancer, you will insert an acetic acid or Lugol's iodine-soaked swab through the other empty channel of the speculum up to the cervix, to apply the reagent unto the cervix.
    a. The user clicks on the swab, hand picks up the swab, dips the swab in solution container, then inserts it through the other channel of the speculum.
    b. After this insertion, the smartphone image will show the swab reaching the cervix and applying the reagent on the cervix by touching the cervix.
20. In case you are using a reagent spray bottle, you will insert the long nozzle of the bottle through the empty channel of the smart speculum, then when the tip is visible through the endoscope image and about 1cm close to the cervix, you then spray the reagent unto the cervix.
    a. Camera focuses on table from a distance, User clicks on reagent bottle, free hand picks it up, then inserts the nozzle through the speculum tube.
    b. When tip of nozzle is seen in smartphone image, a liquid will ooze out of nozzle head unto the cervix, while the hand squeezes the spraying mechanism of the bottle.
21. For Pap smear sample collection or sampling for HPV-DNA detection, pick up the required swab, insert through the empty channel up to the cervix, then collect the required sample by rotating the swab according to guidelines, when in contact with the cervix.
    a. Camera focuses on table from a distance, User clicks on cervical brush, free hand picks it up, then inserts it through the speculum tube.
    a. When tip of brush is seen in smartphone image, the tip moves up to getting in contact with the cervix, then a rotational movement of the brush on the cervix is seen, at the same time the hand outside is rotating the brush.
22. Also, if you will require to do a biopsy on the cervix, pick up your biopsy forceps, insert it through the empty channel of the smart speculum up to the target spot on the cervix, then carryout your biopsy procedure.
    a. Camera focuses on table from a distance, User clicks on the biopsy forceps, free hand picks it up, then inserts it through the speculum tube.
    b. When tip of the forceps is seen in smartphone image, the tip moves up to getting in contact with the cervix, then its blades move to cut a small portion of the cervix, while hand outside is performing the movement.

23. At the end of the procedure, loosen both nuts by screwing them inwards, which will cause the flaps to close. You can remove the endoscope camera at this stage.
    a. User clicks on endoscope camera and free hand takes it off, disconnects from phone and places it on table.
    b. Camera focuses on the nuts, user clicks on nuts, index and thumb loosen both nuts. At this same time, the cross-section image shows how the flaps are closing inside.
24. Now, Remove the speculum by pulling it outward gently.
    a. User clicks on speculum and hand pulls it out gently. Then holds it outside.
25. Remove the sheath and discard appropriately according to your waste disposal guidelines. Wash, then disinfect sterilise your speculum according to your medical device disinfection and sterilisation guidelines.
    a. User clicks on sheath, free hand drags it out of speculum, then throughs in a dustbin.
    b. User clicks on speculum and hand drops it in container labelled disinfecting solution.
26. Note that no matter the size of the C-Spec smart speculum, the principle of usage is the same.
27. Well done my dear. You have successfully completed this simulation on how to use the C-Spec Smart speculum. It was quite an exciting experience right. You may need to do it again and again a few more times to master all the steps and start creating real impact for your clients and patients.
    a. Camera moving gradually to initial view of patient lying in bed and doctor beside.