UNIVERSITY OF NAIROBI

COLLEGE OF HEALTH SCIENCES

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

+ SEMINARS.

BASIC GYNECOLOGY SKILLS FOR MBCHB V

By

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GYNECOLOGY SKILLS

Six Gynecology skills:

I. Pap smear collection
II. VIA/VILI & Counseling for abnormal cervical screen result
III. High vagina swab & endocervical swab
IV. Implant insertion/removal
V. IUCD insertion/removal
VI. Bimanual examination for pelvic mass/adnexal mass

I) PAP SMEAR COLLECTION

Definition and description: Pap smear is one of the screening methods for cervical intra-epithelial lesions. It involves collection of cells from the squamo-columnar junction of the cervix, followed by cytology.

Environment: This is a clean procedure ,a Chaperon is required.

Requirements and preparation for procedure:

Requirements

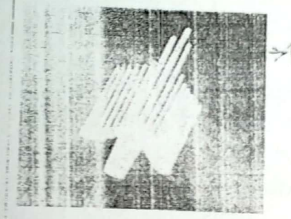
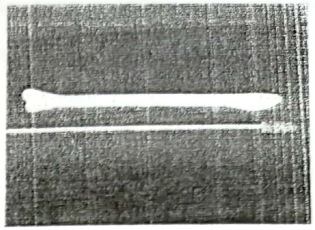
- ✓ Examining light
- ✓ Bivalve speculum
- ✓ Endocervical broom or Ayre spatula/ endocervical brush
- ✓ Glass slide
- ✓ Fixation solution
- ✓ Pathology request form
- ✓ Gloves
- ✓ Cytology request form

Prepare patient

- ✓ Counsel for procedure
- ✓ LMP
- ✓ Empty bladder

Procedure Steps:

1) Ask patient to lie on couch in lithotomy position
2) Introduce the bivalve speculum and expose the cervical os
3) Obtain cells from the squamo-columnar junction of the cervical os
   - ✓ For endocervical broom, the central bristles are inserted into the endocervix while the outer bristles will be in contact with the ectocervix. Rotate the broom in the same direction five times
   - ✓ For Ayre spatula and endocervical brush, start with the spatula to scrape the ectocervix, rotate the spatula 360^0 once. Then insert the endocervical brush into the endocervix so that the bristles nearest the examiner are inserted to the level of the external cervical os, rotate the brush 180 degrees
     - Start with spatula followed by brush to minimizes blood in the sample
4) Quickly spread the scrapings evenly on the glass slide and fix by dropping, a drop of the fixative solution or spray evenly and allow to air dry
   - ✓ Speed is key to prevent drying of cells
5) Discard endocervical broom or spatula/brush in waste bin
6) Remove speculum and reposition patient
7) Complete pathology form for Pap smear cytology
8) Counsel and offer contraception
9) Thank client
10) Give return date for cytology result

Endocervical broom	Ayre spatula and endocervical brush
	

POSSIBLE PAP SMEAR CYTOLOGY RESULT AND ACTION

The bethesda system-result	Action
✓ Normal	✓ Repeat every 3 years, or 5 yearly if HPV DNA test done ✓ For HIV- Every 6 months
✓ Low grade squamous intraepithelial lesion (LSIL) ✓ Atypical squamous cells of undetermined significance (ASC-US)	✓ Repeat Pap smear in 6 months
✓ High grade squamous intraepithelial lesion (HSIL) ✓ Recurrent LSIL ✓ Atypical squamous cells – cannot exclude HSIL (ASC-H) ✓ Atypical glandular cells of undetermined significance (AGUS) ✓ Carcinoma in situ	✓ Colposcopy biopsy followed by possible cervical excision procedure by LEEP or cold knife cone
✓ Invasive cancer	✓ Investigations to confirm diagnosis

Please Note: CIN classification is for cervical histology NOT cytology

ii) VISUAL INSPECTION WITH ACETIC ACID AND LUGOLS IODINE (VIA/VILI)

Indication for procedure: Screening of cancer of the cervix

Requirements

Supplies

i. 2 gallipots
ii. 3-5% acetic acid
iii. Lugols iodine in tightly stoppered brown bottle, within 30 days of preparation – light destroys lugols
iv. Different sizes of cotton swabs mounted in an applicator sticks
v. Bivalve speculum
vi. K-Y gel
vii. Clean gloves
viii. Infection prevention supplies
ix. Documentation form

Equipment

i. Gynecology couch that can offer adequate lithotomy
ii. Examining light: white light that can be easily manipulated
iii. Instrument and supplies tray/surface

Arrange the instrument and supplies tray/surface

i. Arrange all the required instruments and supplies on the tray
ii. Do not pour the acetic acid and lugols iodine to the gallipot until the patient is positioned in the lithotomy position
   - This is especially for lugols iodine because it gets destroyed by light and it easily evaporates

Preparation for procedure:

i. Greet the client
ii. Reestablish why she wants the test to be done
iii. Describe the VIA/VILI and cryotherapy procedure
iv. Tell the woman what the findings might be and what follow-up treatment might be necessary
v. Take a reproductive health history: age, parity, LMP, menstrual pattern, if pregnant, contraceptive use
vi. Ask about breast exam
vii. Check eligibility for VIA/VILI:
   - Menopausal women are not eligible for VIA/VILI because the transformation zone is in the endocervix: Do Pap smear or refer
   - LMP: If pregnant, screening can be done up to 20 weeks gestation
   - Postnatal women: screening is done from the 6th postnatal visit
viii. Ask the client to empty bladder
ix. Put on an examination apron
x. Ask the woman to undress from the waist down, to remove her underwear, and to pull her dress up
xi. Assist to the examination couch and position her to the lithotomy position gently
xii. Chaperon needed

Procedure Steps:

i. Clean hands with a hand sanitizer or water and soap
ii. Put on gloves
iii. Pour enough for one client of acetic acid and lugols iodine to the gallipots
iv. Inform the woman that you are commencing the procedure
v. Start by inspecting the external genitalia for: papules, vesicles, ulceration, warts, discharge, masses and swelling in the inguinal/femoral area
vi. Apply K-y gel to the speculum

vii. Tell the woman she will feel some pressure
viii. Slowly and carefully insert speculum without scraping the cervix; adjust so that the whole cervix is centralized and in view
ix. Adjust light to ensure a clear view of the cervix
x. Before applying the acetic acid, look for signs of infection
- ✓ Inflamed cervix or vaginal wall
- ✓ Greenish-yellow or mucopurulent discharge from the cervical os
- ✓ Thick, white, curdy vaginal discharge
- ✓ Milky-grey, foul-smelling discharge

xi. Start by doing the VIA procedure
- ✓ Use a dry cotton swab to wipe away any discharge, blood, or mucus from the cervix very gently to avoid causing bleeing
- ✓ Apply 3-5% acetic acid liberally using a cotton mounted swab, ensure the swab covers the entire transformation zone completely
- ✓ Tell the woman she might feel a slight burning sensation
- ✓ Wait one full minute for the acetic acid to be absorbed (use a watch)
- ✓ Check the TZ carefully, close to the squaomocolumnar junction, for any dense, well moveable acetowhite areas in the epithelium or areas suspicious for cancer
- ✓ Interpret the result, which can be VIA negative or VIA positive or suspicious for cancer
- ✓ Remove any remaining acetic acid using a dry cotton ball

xii. Followed by the VILI procedures
- ✓ Use a fresh lugols iodine for each patient-light destroys lugols
- ✓ Apply lugols iodine liberally using a cotton mounted swab, ensure the swab covers the entire transformation zone completely
- ✓ Check the TZ carefully, close to the squaomocolumnar junction, for any banana yellow lesions in the epithelium or areas suspicious for cancer
- ✓ Interpret the result, which can be VILI negative or VILI positive or suspicious for cancer
- ✓ Remove any remaining lugols iodine using a dry cotton ball

xiii. Digital examination
- ✓ If there are signs of infection
- ✓ Remove the speculum gently while inspecting the vaginal walls for any abnormalities or lesions
- ✓ Perform a digital examination, explain to the women before starting the procedure
  - Perform a bimanual examination –check for cervical motion tenderness, size shape and position of uterus, any uterine abnormality or adnexal mass or tenderness

xiv. Explain to the patient that the procedure is complete
xv. Remove the speculum gently while inspecting the vaginal walls for any abnormalities or lesions
xvi. Wipe off any remaining k-gel or discharge
xvii. Reposition patient make her comfortable
xviii. Dispose waste and decontaminate equipment as per the infection prevention principals
xix. Counsel the client on the result
- ✓ VIA/VILI
  - If normal, repeat screen yearly for 2 years then every 3 years, but if HIV positive every year
  - Positive: if cryotherapy done see net bullet, if not refer
  - Suspicious for cancer: refer for diagnosis and management in a tertiary facility
  - Infection: treat infection and the partners

xx. Counsel and offer contraception or breast examination
xxi. Thank client and give a return date

III) COUNSELING FOR ABNORMAL CERVICAL SCREEN RESULT

Procedure Steps:

1) Greet patient, introduce self, sit squarely, open posture, leans forward, eye contact, relax and explain the following to the patient in lay language
2) Cancer of the cervix is caused by HPV
3) Cancer of the cervix is presided by a pre-cancer stage, with cell abnormalities. Counselling depends on test
5) Pap smear results is reported as normal, mild cell abnormalities (LSIL), severe cell abnormalities (HSIL, ASCUS, ASC-H, AGUS) or suspicion for invasive cancer
   - ✓ Normal results means there were no abnormal cells seen
   - ✓ Mild and severe cell abnormalities are precancerous stages and not cancer
   - ✓ Suspicious for invasive cancer means cancer of the cervix is likely
   - ✓ If normal another Pap smear test will be done after 1 year for 3 years, if all 3 will be normal then Pap smear will be done after 5 years (yearly in HIV +)
   - ✓ If mild cell abnormalities, a repeat Pap smear will be done after 6 months
   - ✓ If severe cell abnormalities colposcopy then treatment will be offered: i) excision of abnormal cells (LEEP or Cold knife cone) or ii) simple hysterectomy. Counselling on the two options will be done to enable you make a choice
   - ✓ If suspicious for invasive cancer more diagnostic test will be performed to confirm diagnosis
   - ✓ Allow patient to ask questions
   - ✓ Thank patient for their time
6) VIA/VILI results is reported as negative, positive and suspicious for invasive cancer
   - ✓ Normal means there are no abnormal cells
   - ✓ A positive result is a precancerous stage and not cancer
   - ✓ Suspicious for cancer means cancer of the cervix is likely
   - ✓ If normal a repeat VIA/VILI will be done in 3 years (yearly in HIV +)
   - ✓ For positive result treatment can be done by freezing the abnormal cell (cryotherapy) or doing colposcopy biopsy (using a microscope to visualize abnormal cells and take small tissue for investigations), if biopsy shows abnormal cells treatment will be offered depending on result
   - ✓ If suspicious for cancer more diagnostic test will be performed to confirm diagnosis
   - ✓ Allow patient to ask questions
   - ✓ Thank patient for their time

IV :) IMPLANT INSERTION- JADELLE LEVONORGESTREL SUBDERMAL IMPLANT

Requirements and preparation for procedure:

1) **Prepare requirements:**
   - ✓ Table for the patient to lie on and rest for her arm
   - ✓ Sterile drape with fenestration
   - ✓ Sterile tray for the equipment
   - ✓ Sterile gloves
   - ✓ Sterile Gauze
   - ✓ Antiseptic solution for the skin
   - ✓ Local anaesthetic -1% lidocaine 2mls
   - ✓ Needle gauge 21 and 5 ml syringe
   - ✓ Jadelle, diposable trocar and cannula
   - ✓ Elastoplast
2) Prepare patient:
   - ✓ Counsel client for the method
   - ✓ Explain the procedure
   - ✓ Explain that the implant will be inserted in the less dominant arm
   - Ask client to lie on her back so that implant arm is turned outwards and bent at the elbow and is well supported, insertion area is in the inner aspect of the upper arm, between the muscles, about 6–8 cm above the fold in the elbow (measure using your four palm fingers- to be demonstrated)

Procedure Steps:

1) Prepare clean instrument tray, open sterile instrument pack, open jadelle pouch and drop the rods
2) Wear sterile gloves, clean the insertion area and drape aseptically (inside to out) 3 to 5 times
3) Infiltrate the local anesthetic under the skin slowly withdrawing to avoid intravascular infiltration. Start by infiltrating the needle entry point to form a small wheal
1) Introduce the trocar under the skin up to the 1st mark with bevel facing up

2) Advance the trocar horizontally under the skin (subdermally) until the 2nd mark
3) Remove cannula
4) Insert 1st rod into the trocar and load it with the cannula by holding the cannula steady and pulling the trocar out up to the level of the 1st mark on the cannula
5) Repeat above and insert 2nd rod in a narrow V shape
6) Remove trocar and cannula
7) Press edges of insertion together and dress with Elastoplast and compress with wrap gauze
8) Check the two rods by cautious palpation, ask the patient to palpate too
9) Answer any questions the client may have, give a return date and thank them

IVb) IMPLANT REMOVAL- JADELLE

Requirements and preparation for procedure:

1) **Prepare requirements:**
   - ✓ Table for the patient to lie on and rest for her arm
   - ✓ Sterile drape with fenestration and sterile tray for the equipment
   - ✓ Sterile gloves
   - ✓ Sterile Gauze
   - ✓ Antiseptic solution for the skin
   - ✓ Local anaesthetic -1% lidocaine
   - ✓ Needle and 5 ml syringe
   - ✓ 2 mosquito forceps-curved and straight
   - ✓ Scalpel 22 mm
   - ✓ Elastoplast
2) **Prepare patient:** counsel on removal, find out if needs the same method or another method or desires to get pregnant, ask client to lie on her back so that implant arm is turned outwards and bent at the elbow and locate the implants
3) Prepare clean instrument tray, open sterile instrument pack

Procedure Steps:

1) Wear sterile gloves, clean the insertion area and drape aseptically
2) Infiltrate the local anesthetic under the implants
3) Make a 4-mm incision with the scalpel close to the ends of the implants. Keep the incision small
4) Push each implant with your fingers gently towards the incision. When the tip is visible in the incision, grasp it with the curved mosquito forceps. Use a scalpel to very gently open the tissue capsule around the implant
5) Grasp the end of the implant with the second straight forceps
6) Remove the implant gently
7) Repeat the procedure for the second implant
8) Measure the length of the removed implants- the length should be 43 mm
9) After the procedure is completed, close the incision and bandage it as after insertion
10) Show the patient the implants
11) Offer another contraceptive if needed, if jadell reinsert into the same location
12) The arm should be kept dry for about 3 days
13) Answer any questions the client may have, give a return date and thank them

- cousins speculum or } You would use this.
- Bivalve speculum

V a: IUCD INSERTION

Requirements and preparation for procedure:

Prepare requirements: Examining light, Copper T IUCD, Bivalve speculum, Tenaculum, Uterine sound, Sponge holding forceps, Scissors, Sterile gauze, Ster gloves, Sterile drapes, K-Y gel , Antiseptic solution

2) Prepare patient: counsel for the procedure, LMP, empty bladder, lithotomy positio chaperon needed

Procedure Steps:

1) Conduct bimanual and speculum pelvic examination to: Screen for eligibility an determine the position of the uterus, rule out infection

Uterine Sound

2) Sound the uterus:
   - ✓ Clean the cervix with an antiseptic solution
   - ✓ Apply a tenaculum to the cervix at 12 o'clock
   - ✓ Gently pull the tenaculum to align the uterus and cervical opening
   - ✓ Insert the uterine sound into the cervical opening
   - ✓ Advance the sound into the uterine cavity until a slight resistance is fe mark length with sponge holding forceps
   - ✓ Slowly withdraw the sound and assess the uterine length

5) Load the IUCD:
   - ✓ Load the IUCD by folding its arms and placing them inside the insertion tub
   - ✓ Set the depth-gauge to reflect the uterine length as measured by the uterin sound
   - ✓ Align the depth-gauge and the folded arms of the T so that they are both in horizontal plane

6) Remove the loaded IUCD from the package, keeping it level

7) Insert IUD to the uterine cavity:
   - ✓ Gently grasp the tenaculum (still in place from sounding the uterus) an apply gentle traction
   - ✓ Insert the loaded IUCD, without touching vaginal walls or speculum blades keeping the horizontal plane
   - ✓ Gently advance the loaded IUCD into the uterine cavity
   - ✓ STOP when the depth-gauge comes in contact with the cervix or ligh resistance is felt
   - ✓ Hold the tenaculum and white plunger rod stationary, while partiall withdrawing the insertion tube - this releases the arms of the IUCD
   - ✓ Gently push the insertion tube until you feel a slight resistance - this ste ensures placement high in the uterus
   - ✓ Remove the white plunger rod, while holding the insertion tube stationary
   - ✓ Gently and slowly withdraw the inserter tube from the cervical canal until strings can be seen protruding from the cervical opening
   - ✓ Use sharp Mayo scissors to cut the IUCD strings at 3–4 cm from the cervical opening
   - ✓ Completely withdraw insertion tube with cut ends of strings inside

8) Gently remove the tenaculum

9) Observe the cervix for bleeding and remove speculum

10) Reposition patient and make her comfortable
11) Counsel woman on checking of strings, complications and give return date
12) Thank her for her time

V b: IUCD Removal

Requirements and preparation for procedure:

1) **Prepare requirements:**
   - ✓ Examining light
   - ✓ Bivalve speculum
   - ✓ Sponge holding forceps
   - ✓ Sterile gauze
   - ✓ Sterile gloves
   - ✓ Sterile drapes
   - ✓ K-Y gel
   - ✓ Antiseptic solution
2) **Prepare patient:** counsel for the procedure, LMP, empty bladder, lithotomy position, chaperon needed

Procedure Steps:

1) Conduct bimanual pelvic exam
2) Insert the speculum : Look for the length and position of strings
3) Swab cervix and vagina with antiseptic
4) Grasp strings close to the cervix and pull gently but firmly to remove IUCD
7) Refer difficult removals
8) Insert a new IUD immediately following removal (if desired) or offer another method
9) Remove speculum
10) Reposition patient
11) Thank the patient

VI: BIMANUAL PELVIC EXAMINATION

Requirements and preparation for procedure:

1) **Prepare Requirements**
   - ✓ Gloves
   - ✓ K-Y gel
   - ✓ Gauze or tissue paper
2) **Prepare patient:**
   - ✓ Great and introduce self to patient
   - ✓ Explain the procedure
   - ✓ Ask her to empty bladder
   - ✓ Chaperon required
   - ✓ Position the patient in lithotomy position and expose from waist downwards

Procedure Steps:

1) Put on gloves
2) If right handed: lubricate index finger and middle fingers of right hand, and explain to the patient that you are about to start the procedure
3) Using the thumb and index finger of the left hand, separate the labia majora then insert the index finger followed by the middle finger into the introitus and advance to the cervix
4) Palpate the vaginal walls as you advance the fingers for obvious abnormalities
5) Using finger tips palpate the cervix: feel for size, shape, mobility and observe for tenderness
6) Bimanually palpate the uterus by pressing it between the right and middle index fingers on the cervix and with your left hand placed on the lower abdomen. At this point feel for any masses
7) Bimanually Palpate the left and right adnexa: note masses and tenderness
8) Note: uterine masses will move the cervix during bimanual exam while adnexal masses wont
9) Remove fingers, check glove for discharge/blood
10) Wipe the patient's perineum
11) Remove gloves and dispose gloves
12) Reposition patient and make her comfortable
13) Thank the patient

VII: High Vaginal Swab (HVS)

Requirements and preparation for procedure:

3) **Prepare Requirements**
   - ✓ Gloves
   - ✓ K-Y gel
   - ✓ Sterile speculum bi-valve or cusco
   - ✓ HVS swab kit (looks like a cotton bud

4) **Prepare patient:**
   - ✓ Great and introduce self to patient
   - ✓ Explain the procedure
   - ✓ Ask her to empty bladder (obstruction - to avoid)
   - ✓ Chaperon required
   - ✓ Position the patient in lithotomy position and expose from waist downwards (Position the buttocks at the edge of the bed)

Procedure Steps:

4) Put on gloves
5) lubricate the speculum with lubricating jelly and explain to the patient that you are about to start the procedure
6) Using the thumb and index finger of the left hand, separate the labia majora then insert the speculum at an angle into the introitus and advance to the cervix
11) Once 2-3 cm into the vagina rotate the speculum slowly into vertical position. Push the speculum gently up to the area of resistance (to check for discharge)
12) Open the speculum to identify the cervix. You can ask the patient to cough if the cervix is not properly identified. This helps bring the cervix into view
13) Open the hvs swab and take a sample from the posterior fornix
14) Place the collected swab into the properly labeled specimen container
15) Remove speculum
16) Wipe the patient's perineum
17) Remove gloves and dispose gloves
18) Reposition patient and make her comfortable
19) Thank the patient

- Do not clean the labia*

GYNECOLOGY SKILLS		
1)	Manual Vacuum aspiration	i. MVA kit + cannula ii. Sponge holding forceps iii. Tenaculum iv. Speculum v. Dilators vi. 10 ml syringe vii. Needle gauge 21-green viii. Kidney dish ix. Gyn pelvic model with open cervix x. Drapes
2)	Pap smear collection	i. Bivalve speculum ii. Spatula/Pap smear brush iii. Glass slide iv. Fixation solution v. Pathology request form vi. Gyn Pelvic model with closed cervix
3)	VIA/VILI	i. Bivalve speculum ii. 2 gallipots iii. 3-5% acetic acid iv. Lugols iodine v. Cotton swabs vi. K-Y gel vii. Clean gloves viii. cervicograms ix. Documentation form x. Gyn Pelvic model with closed cervix
4)	Counselling for abnormal cervical screen result	None they will roll play
5)	Implant insertion/removal	**Insertion** ✓ Arm model ✓ Trocar and cannula ✓ Sterile gauze ✓ 5cc syringe ✓ Lidocaine 1% ✓ Two needles gauge 21 ✓ Elastoplast ✓ Sterile drapes ✓ Gloves ✓ Earbuds with ends cut off **Removal** ✓ Arm model ✓ 2 Mosquito artery forceps ✓ Sterile scalpel ✓ Sterile gauze ✓ 5cc syringe

		✓ Lidocaine 1% ✓ Two needles ✓ Elestoplast ✓ Sterile drapes ✓ Gloves ✓ Earbuds with ends cut off
6)	IUCD insertion/removal	**Insertion** ✓ Copper T ✓ Sponge holding forceps ✓ Bivalve speculum ✓ Sterile drapes ✓ Tenaculum ✓ Uterine sounds ✓ Sharp Mayo scissor ✓ Antiseptic solution ✓ Sterile gauze ✓ K-Y gel ✓ Sterile gloves ✓ Pelvic model for IUCD **Removal** ✓ Sponge holding forceps ✓ Bivalve speculum ✓ Sterile drapes ✓ Antiseptic solution ✓ Sterile gauze ✓ K-Y gel ✓ Sterile gloves ✓ Pelvic model for IUCD
7)	Scrubbing/Gowning/Gloving, Abdominal draping and incisions	**Scrubbing** ✓ Demo **Gowning** ✓ Gown ✓ Gloves **Abdominal draping** ✓ Drapes ✓ Abdominal model
8)	Ectopic Pregnancy- salpingectomy, catheterization & IV access	**Ectopic Pregnancy-clamping of ovarian pedicle** ✓ Uterine model with fallopian tube ✓ Giving set -tube ✓ Vicryl 2-0 or 3-0 ✓ Needle holder ✓ None tooth forceps **Female urethral Catheterization** ✓ Catheterization pack: kidney dish, gallipot, sterile towel, cotton balls

		✓ Foleys catheter size 12-14 ✓ Urine bag ✓ Saline ✓ Sterile gloves ✓ K-Y gel ✓ 10ml saline filled syringe **IV access** ✓ Alcohol swab ✓ Gloves ✓ Disposable tourniquet ✓ IV cannula ✓ Plaster ✓ Syringe ✓ Normal saline ✓ Sharps disposal ✓ Alcohol sanitizer for hand washing ✓ Arm model for cannula insertion
9)	High vagina swab & endocervical swab	✓ Sterile gloves ✓ K-Y gel ✓ Sterile bivalve speculum ✓ Swabs for HVS ✓ Examining light ✓ Pelvic model
10)	Bimanual examination for pelvic mass/adnexal mass	✓ Gloves ✓ K-Y gel ✓ Gauze or tissue paper ✓ Pelvic model for bimanual exam

-indications :- when you need to start labor
- Pregnant a mother who has been in labor

STATION 3: CTG

HOW TO READ CTG?

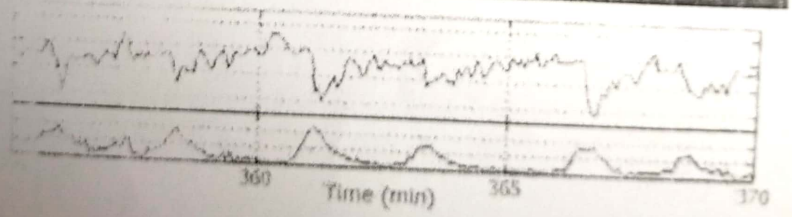
To interpret a CTG you need a structured method of assessing it's various characteristics.
The most popular structure can be remembered using the acronym DR C BRAVADO

DR – Define Risk - Why you putting her on CTG.
C – Contractions In a 10 minute window (3-5 contractions / 10 minutes)
BRa – Baseline Rate Baseline heart rate of: - where it is mostly
V – Variability → 5-15 bpm How far does the HR move from the baseline
A – Accelerations deviation above baseline atleast 15 seconds → compensation.
D – Decelerations " downwards - early/late/variable
O – Overall impression

- 5 → 25 bpm with 10 sec

Normal intrapartum CTG trace:

e FHR is between [illegible] bpm
ity of FHR is between 5–25 bpm
ations are absent or early
nificance of the presence or absence of
ations is unclear therefore, exclude accelerations
nterpretation.



Abnormal CTG

Baseline <100 or >180 bpm

Variability <5 bpm for >90 min

Decelerations with >50% of contractions

Variable decelerations for >30 min

Late decelerations for >30 min

Prolonged deceleration >3min or recurs

Sinusoidal for >10 min

Fetal heart rate tracing interpretation – Normal and abnormal tracings

Fetal heart rate (FHR) interpretation system

Category I

All of the following criteria must be present.

- Baseline rate: 110-160 beats per minute
- Moderate baseline FHR variability
- No late or variable decelerations
- Early decelerations may be present or absent
- Accelerations may be present or absent

Category III

Criteria for (1) or (2) should be present.

Category III tracings are predictive of abnormal fetal acid-base status at the time of observation.

(1) Absent baseline FHR variability and any of the following:

- Recurrent late decelerations
- Recurrent variable decelerations
- Bradycardia

(2) Sinusoidal pattern

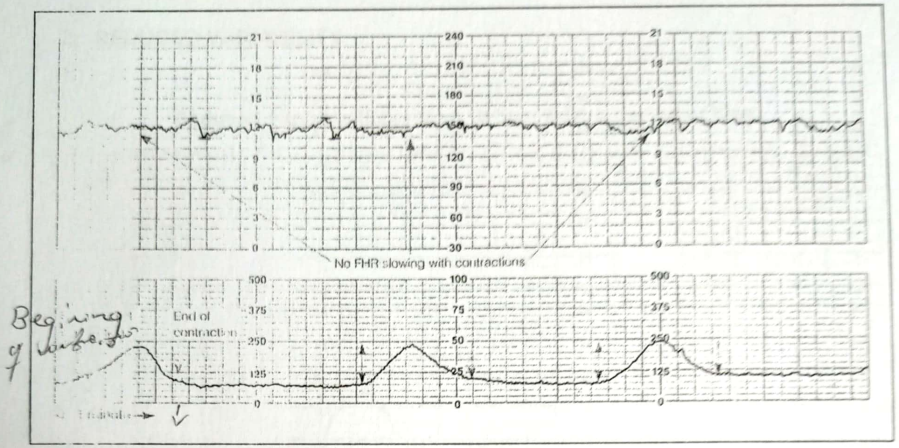
Category II

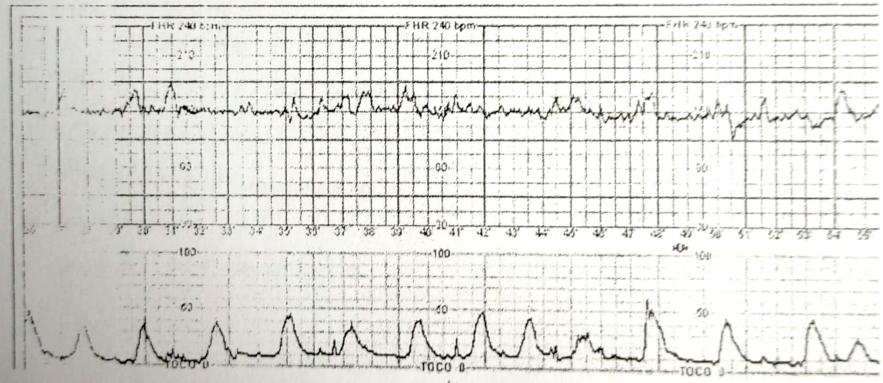
FHR tracing does not meet criteria for either category I or III and is considered indeterminate.

Management of II and III

- provision of supplemental oxygen,
- change in position,
- treatment of hypotension, and
- discontinuation of any uterotonic drugs being administered.

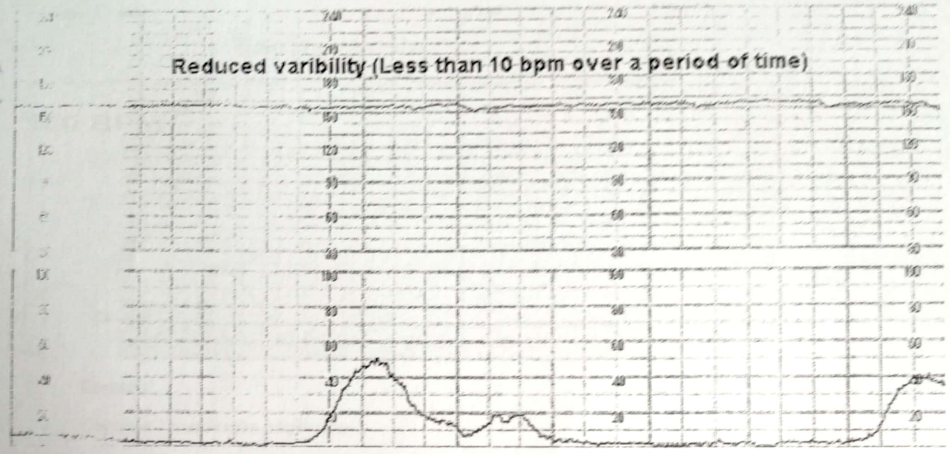
1. NORMAL CTG





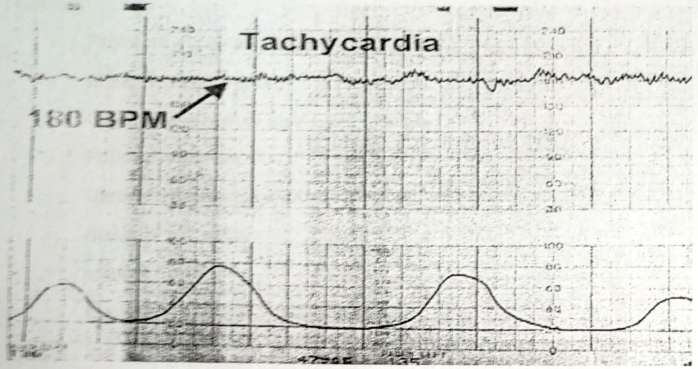
x-axis - time - 1 box = 1 min
1 small - 10 secs
y-axis - beats per min - 1 small box = 10 bpm

2. REDUCED VARIABILITY



- fetal sleeping
  not >40 mins
- fetal acidosis - due to pain + late decelerations
- tachycardia fetal
- Drugs - opiates / benzodiazepines / methyldopa / mg SO4
- prematurity
- Congenital heart abnormalities

3. BASELINE TACHYCARDIA



Causes:

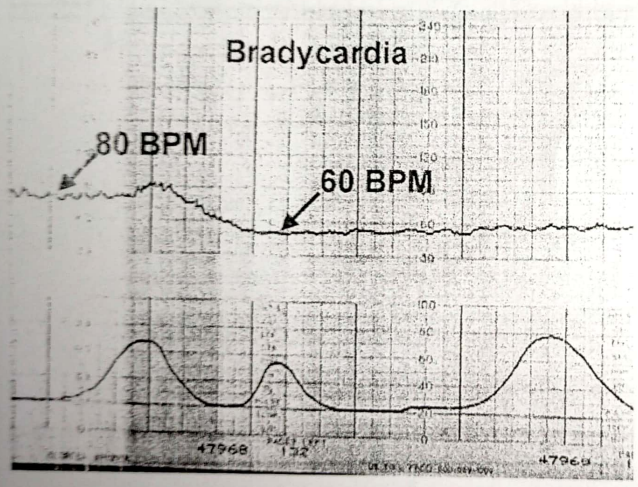
- Chronic / moderate asphyxia
- Drugs
- Prematurity
- Maternal fever
- Maternal thyrotoxicosis
- Maternal Anxiety
- Idiopathic

4. BASELINE BRADYCARDIA

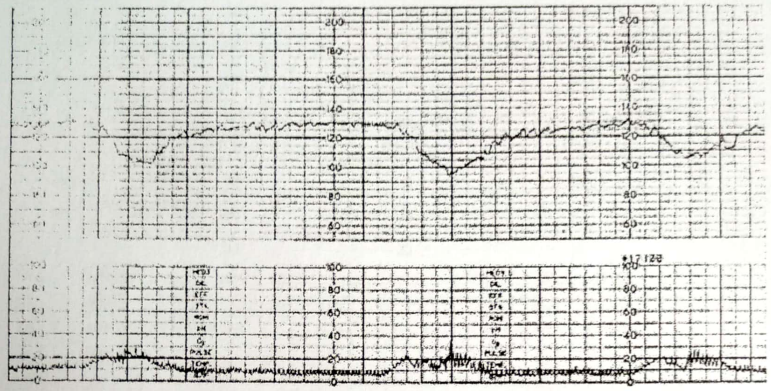
Def: less than **110 bpm** during a 10-minute period or longer

Causes

- Profound hypoxia in fetus
- Maternal hypotension
- Prolonged umbilical cord compression
- Fetal arrhythmias
- Uterine hyperstimulation
- Abruptio placentae
- Uterine rupture
- Vaginal stimulation in second stage of labor

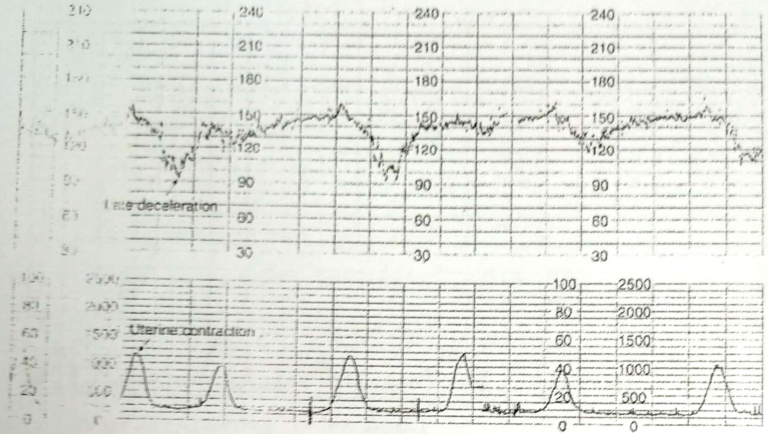


5. EARLY DECELERATIONS



Consequential
Deceleration coincide with uterine contraction
associated with head compression which causes
vagal stimulation

6. LATE DECELARATIONS – At peak of contraction → goes lower



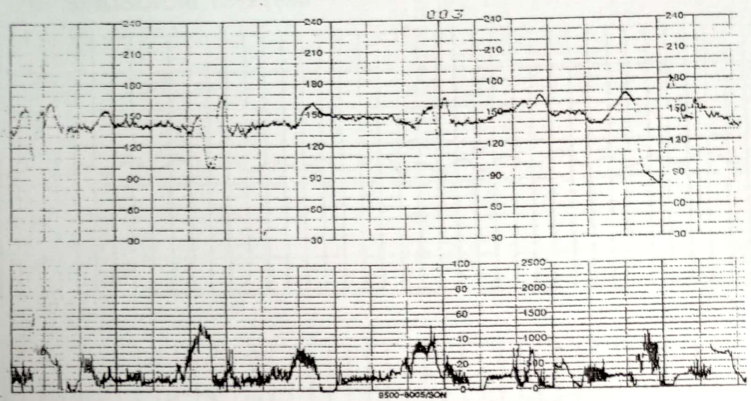
Due to acute and chronic utero-placental insufficiency ⇒ maternal hypertension & pre-eclampsia

- Occurs after the peak and past the length of uterine contraction, often with slow return to the baseline
- Is precipitated by hypoxemia
- Associated with respiratory and metabolic acidosis

uterine hypersensitivity

blood sample
pH ⇒ acidosis ⇒ C-section

7. VARIABLE DECELERATIONS Not associated w Contractions



Non-recurring when severe

Decelerations variable in relation to contraction, abrupt onset in HR

associated with

⇒ cord compression - mild (drop 15-40 bpm)
of moderate (40-60 bpm)

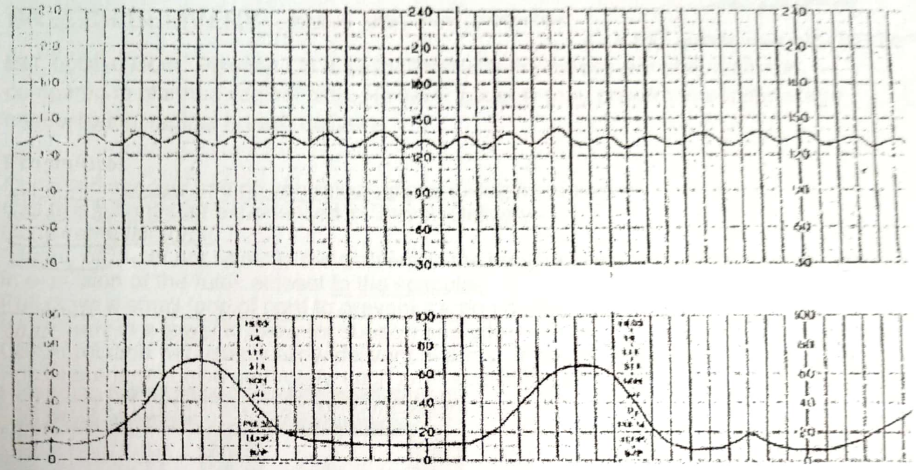
⇒ acidosis - severe decels (Δ 60 bpm or down below 70 bpm)

-labor & Amniotic fluid volume reduction

-accelerations after & before deceleration are called shoulders of deceleration

↓
indicates not yet hypoxia + comms

8. SINUSOIDAL RHYTHM



Sinusoidal pattern - distinctive smooth undulating Sine-wave baseline rate

Causes:

- Cord compression
- Hypovolemia
- Ascites
- Idiopathic (fetal thumb sucking)
- Analgesics
- Anemia
- Abruption

Management depends on clinical situation

Severe fetal hypoxia
fetal/maternal haemorrhage
↓
C-Section

overall impression
reassuring
suspicious
abnormal

Manoeuvre 1 – hard globular mass – at the fundus
Manoeuvre 2 – Fetal lie – where is the back, one regular continuous
Manoeuvre 3 – Orientation, Presenting part – hard globular mass
Manoeuvre 4 – in breech you not be able to tell
Types – Complete / Incomplete – talk about hip & knee. – flexion of the knee. (Frank)

SKILLS STATION 2:

Types of breech presentations
Footling → preterm,

BREECH DELIVERY – preterm, Xple gestation, preterm labor.

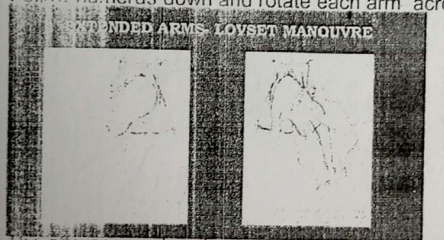
dx → P/E Leopold's manoeuvres / Fetal heartbeat

INTRODUCTION: Planned CS is associated with improved neonatal outcomes compared to planned vaginal birth. However patients may present in second stage necessitating vaginal breech delivery

Procedure:

1) Confirm diagnosis and no contraindications to vaginal delivery
2) Call Consultant/staff experienced in Breech Delivery
3) Consider episiotomy
4) "Hands off" – do not assist in the delivery of the baby until maternal efforts have resulted in expulsion of the fetus at least to the scapulae
5) Pull down a small loop of cord to prevent traction on the cord
6) Wrap body in a towel to allow for support and grip
7) Gentle rotation will usually allow delivery of arms. If not use the *Lovsett's maneuver.* Follow humerus down and rotate each arm across the chest and out.

(1) → Rotation 90° R/L to bring shoulder anteriorly
→ Then rotate 180° to bring posterior shoulder anteriorly after delivery of anterior sh...
(2) Suzor's maneuvre → Rotation only once. Delivery of both shoulders anterior and post.



8) The aftercoming head may deliver spontaneously. If not, use the *Mariceau-smellie-veit maneuver.* The trunk of the baby lies on the operator's right forearm. The head is flexed by applying pressure to the cheek bones and upper lip while gentle traction is applied on the shoulders with the left hand. → 2 fingers on cheek bone, below occiput you put other hand
9) If the head is entrapped, uterine relaxation in theatre with GA (halothane) may allow delivery.

Complications

- ✓ Cord prolapse
- ✓ Birth trauma as a result of extended arm or head, incomplete dilatation of the cervix or CPD cephalopelvic disproportion
- ✓ Asphyxia from cord prolapse, cord compression, placental detachment or arrested head
- ✓ Damage to abdominal organs
- ✓ Broken neck

Documentation:

Detailed, clear and comprehensive including details of counseling and the identity of all those involved in the procedures.

Other maneuvres:

(1) Kristellar- uterine fundal pressure
(2) Bracht maneuvre – same as Mariceau-Smellie-Veit except presence of assistance.

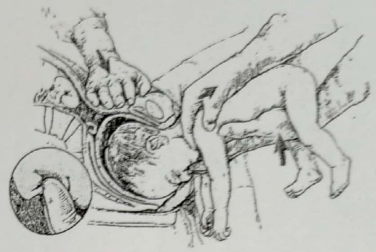
* Mechanics of labour in breech.

When you do a VE – feel for ischial tuberosity. bony prominences & orifice are in a straight line.
In face – bony prominences & orifices are in a triangle.

Maneuvres:

6 **A) Pinard Maneuver**
in frank breech:
• used to deliver a foot into the vagina
• Two fingers are carried up along one extremity to the knee to push it away from the midline. Spontaneous flexion follows.

B)Mauriceau Maneuver
(back anterior)
• Delivery of the after coming head
• index & middle finger applied over the maxillae to flex the head

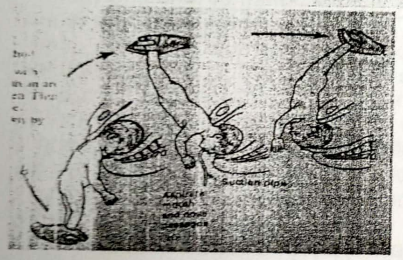


7 **C)Prague Maneuver**
(occipito-posterior)
If the baby fails to rotate to back anterior
• 2 fingers grasping shoulders of the backdown fetus

D)Pipers forceps
• For the aftercoming
8 Head

9 **F) Burns-Marshall**

Burns Marshall Method



Symphysiotomy.

Indications:- - Delayed 2nd labour
- Full Dilatation or No
- Cardiac Dx - Advanced

"ABCDEFGHIJ" - Mnemonic?
"Osce" - Remember

4. ASSISTED VAGINAL DELIVERY

(Vacuum delivery)

→ Pt ε cardiac disease
→ pt ε prolonged stage 2 labour

Prerequisites:

≥ 36 weeks, Cephalic, Vertex, Full cervical dilation, Fetal head at station 0, Descent not more than 1/5, Mother conscious & cooperative

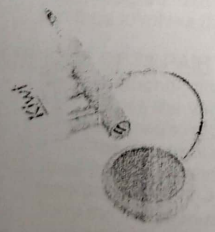
Procedure:

- Obtain verbal informed consent, Put on sterile gown and sterile gloves
- Confirm equipment is working
- Position the mother in semi-lithotomy, Empty bladder, Confirm full cervical dilation, Identify posterior fontanel, Identify sagittal suture
- Assess for episiotomy
- Place center of cup 2 cm anterior to the posterior fontanel/flexion point on the sagittal suture
  - ↳ Flexion point → 2cm anterior to post fontanelle
- Stabilize the suction cup with two fingers
- Check and free maternal tissues
- Create vacuum of 0.2kg/sq.cm (yellow)
- To pull increase vacuum pressure to 0.8kg/sq.cm (green)
- Apply traction during uterine contraction only perpendicular to the cup
- When to abandon procedure
  - Fetal head does not advance with each pull
  - No descend to pelvic floor after 3 contractions/pulls
  - Cup slips off the head 3 times at proper direction of pull with maximum negative pressure

Complications

- **Fetal** –Cephalo-haematoma, localized scalp oedema scalp abrasions and lacerations Neonatal jaundice, Intracranial haemorrhage
- **Maternal** – lower genital tract injuries

Documentation Perineal tear, cervical tears; PPH.



2 methods - Vacuum
- Forceps.

- Kiwi vacuum obstructor

→ Put two 2cm or 3cm from posterior fontanelle. Called fetal Point from 6 cm - Posterior fontanell

– layers you go through in episiotomy

STATION 9:

PERINEAL TEAR & EPISIOTOMY REPAIR

Episiotomy: is a surgical incision of the perineum performed to widen the vaginal opening to facilitate the delivery of an infant
Types: Midline and mediolateral

- Indications
  1. There is a serious risk to the mother of second or third degree tearing
  2. In cases where a natural delivery is adversely affected, but a Caesarean section is not indicated
  3. 'Natural' tearing will cause an increased risk of maternal disease being vertically transmitted
  4. The baby is very large
  5. When perineal muscles are excessively rigid
  6. When instrumental delivery is indicated
  7. When a woman has undergone FGM (female genital mutilation), indicating the need for an anterior and or mediolateral episiotomy
  8. Prolonged late decelerations or fetal bradecardia during active pushing
  9. The baby's shoulders are stuck (shoulder dystocia), or a bony association.

Tears: Are spontaneous perineal lacerations arising from perineal trauma at delivery.
Degrees 1-4
Types/degrees

- First-degree: involve the fourchette, perineal skin, and vaginal mucous membrane but not the underlying fascia and muscle.
- Second-degree: in addition, the fascia and muscles of the perineal body but not the anal sphincter.
- Third-degree: extend farther to involve the external anal sphincter.
- Fourth-degree: extend completely through the rectal mucosa to expose its lumen and thus involves disruption of both the external and internal anal sphincter

TECHNIQUE OF REPAIR (1)

- Place an anchor stitch above the wound apex
  - Close the vaginal mucosa and submucosa with continuous interlocking stitches to close the vaginal incision and reapproximate the cut margins of the hymenal ring using an absorbable 2–0 or 3–0 suture (2)
- Close the fascia and muscles to restore the perineal body using a continuous absorbable 2–0 or 3–0 suture (3)
- Carry the continuous suture upward as a subcuticular stitch (4)
- Tie the final knot proximal to the hymenal ring. (5)
- Postoperative care
  - pain control, perineal hygiene, sitz baths (6)

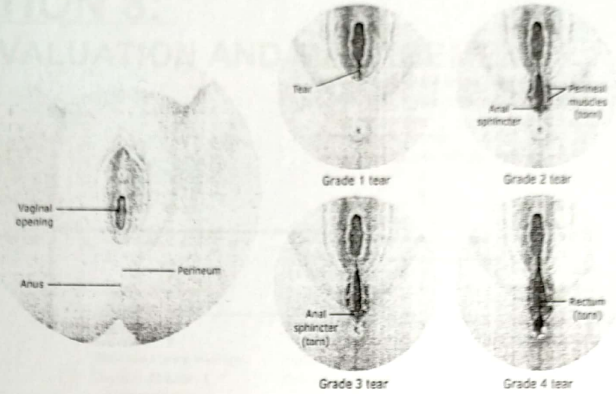


TABLE 17-5. Midline Versus Mediolateral Episiotomy

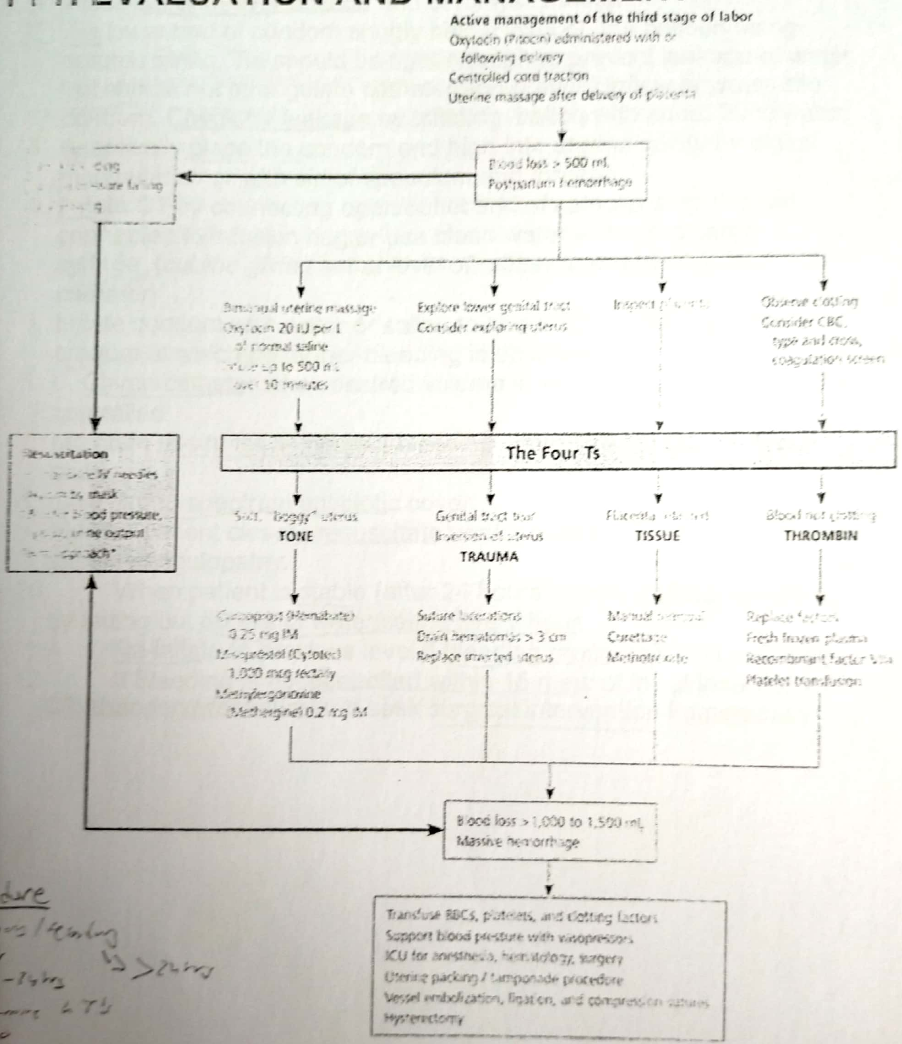
	Type of Episiotomy	
Characteristic	Midline	Mediolateral
Surgical repair	Easy	More difficult
Faulty healing	Rare	More common
Postoperative pain	Minimal	Common
Anatomical results	Excellent	Occasionally faulty
Blood loss	Less	More
Dyspareunia	Rare	Occasional
Extensions	Common	Uncommon

Indications of episiotomy
- Delay 2nd stage
- foetal distress 2nd stage
- women with rigid perineum
- primigravidae with breech
- premature to prevent fetal head
- nulliparity.
- Instrumental vaginal delivery
- previous pelvic floor repair
- shoulder dystocia
- vacuum or forceps delivery

c/I of Episiotomy
- bleeds abnormally
- HIV infection
- Rh -ve woman with Rh +ve child

STATION 8:

PPH EVALUATION AND MANAGEMENT



<u>Procedure</u>

- Help
  - O_2
  - vitals
  - samples CBC,
- empty bladder

- misoprostol 800mcg PO,
- aortic compression, bimanual uterine compression
- observe 15 min
- balloon tamponade

BALLOON TAMPONADE

1. Place condom over balloon end of foleys catheter
2. Tie lower end of condom snugly below level of the balloon using suture / string. Tie should be tight enough to prevent leakage of water but should not strangulate catheter and prevent inflow of water into condom. Check for leakage by inflating ballon with about 20cc water.
3. Aseptically place the condom end high into uterine cavity by digital manipulation or with aid of speculum and forceps
4. Inflate CT by connecting open/outlet end of catheter to giving set connected to infusion bag or use clean water with aid of large syringe. (*cut the giving set at level of rubber to enable it fit into catheter*)
5. Inflate condom with water or saline to about 300- 500 mls (or to amount at which no further bleeding is observed).
6. Clamp catheter when desired volume is achieved and bleeding is controlled.
7. Maintain In-situ for 24 hours if bleeding controlled and patient is stable.
8. Give Broad spectrum antibiotic cover
9. Monitor patient closely, resuscitate and/or treat complications e.g. shock, coagulopathy.
10. When patient is stable (after 24 hours) slowly deflate condom by letting out 50 mls of water/saline every hour.
11. Re-inflate to previous level if bleeding reoccurs whilst deflating.
12. If Bleeding is not controlled within 15 mins of initial insertion of CT abandon procedure and seek surgical intervention immediately.

SKILLS STATION 1:

NORMAL VAGINAL DELIVERY

Objectives

- Describe the three stages of labor
- Describe the cardinal movements of labor
- Describe the various types of fetal position
- Describe the steps of a normal vaginal delivery
- Properly assess fetal station and position
- Deliver the fetal head utilizing appropriate attention to the pelvic curve
- Assess for nuchal cord
- Deliver the remainder of the body
- Deliver the placenta
- Identify cervical and/or perineal lacerations
- Properly document the delivery procedure

Apgar Scoring System

		0	1	2
A	Activity (muscle tone)	Absent	Flexed arms and legs	Active
P	Pulse	Absent	Below 100 bpm	Over 100 bpm
G	Grimace (reflex irritability)	Floppy	Minimal response to stimulation	Prompt response to stimulation
A	Appearance (skin color)	Blue; pale	Pink body; Blue extremities	Pink
R	Respiration	Absent	Slow and irregular	Vigorous cry

0-3 SEVERELY DEPRESSED

4-6: MODERATELY DEPRESSED

>7-10: EXCELLENT CONDITION

STATION 7: SHOULDER DYSTOCIA

Pathophysiology: impaction of anterior fetal shoulder on maternal pubic bone causing delay in delivery of the shoulder after head has been delivered

Risk Factors: Mainly due to increased fetal birth weight: Maternal: High BMI, Multiparity, Advanced Maternal Age, Diabetes, Postterm Pregnancy, Previous macrosomic infant, excessive weight gain in pregnancy, Maternal birth weight over 4000 g. Cephalopelvic disproportion (CPD) LGA

Warning Signs: -prolonged second stage, "turtle sign" (head retracts into perineum after delivery) After contraction, identy should remain

Management goal → release anterior shoulder from entrapment, Prevent fetal asphyxia and permanent Erb's palsy, Avoid physical injury (eg, bone fractures, maternal trauma).

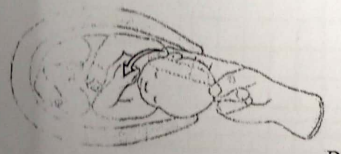
HELPERR (pneumonic):

H • Call for HELP-team
E • Evaluate for EPISOTOMY
L • LEGS – McRoberts Manuver –knee chest position - (legs wide apart)
P • External PRESSURE (suprapubic) (Rubins 1)-to dislodge the anterior shoulder
E • ENTER – Rotational manuvers,
R
- Rubin's 2 maneuver: Push 2 fingers on the posterior aspect of the anterior shoulder.
- Wood's Screw: push on posterior aspect of anterior shoulder and on anterior aspect of posterior shoulder and try to rotate shoulders to oblique,
- Reverse Wood's Screw: remove the 2nd hand, leave one hand and push on posterior aspect of posterior shoulder and try to rotate shoulders to oblique

R • REMOVE Posterior arm - grasp foetal elbow, not shoulder
• ROLL the patient to her hands and knee(All fours/ Gaskin Maneuvre),
• Others: Replacement of fetal head, Abdominal Rescue, Intentional fracture of the clavicle

Complications:

- ✓ Maternal: PPH, cervical/vaginal lacerations , bleeding, prolonged labor, trauma.
- ✓ Fetal:clavicle/humerus fractures, brachial plexus injuries, birth asphyxia, death
  - ↳ Erb's palsy



Rubin 2

Woodscrew Maneuvre

Pressure - ↓ angles between shoulder.
- tilts widely to the greatest diameter to orient to oblique presentation

The WHO Partograph

Name Gravida Para Hospital number

Date of admission Time of admission Ruptured membranes hours