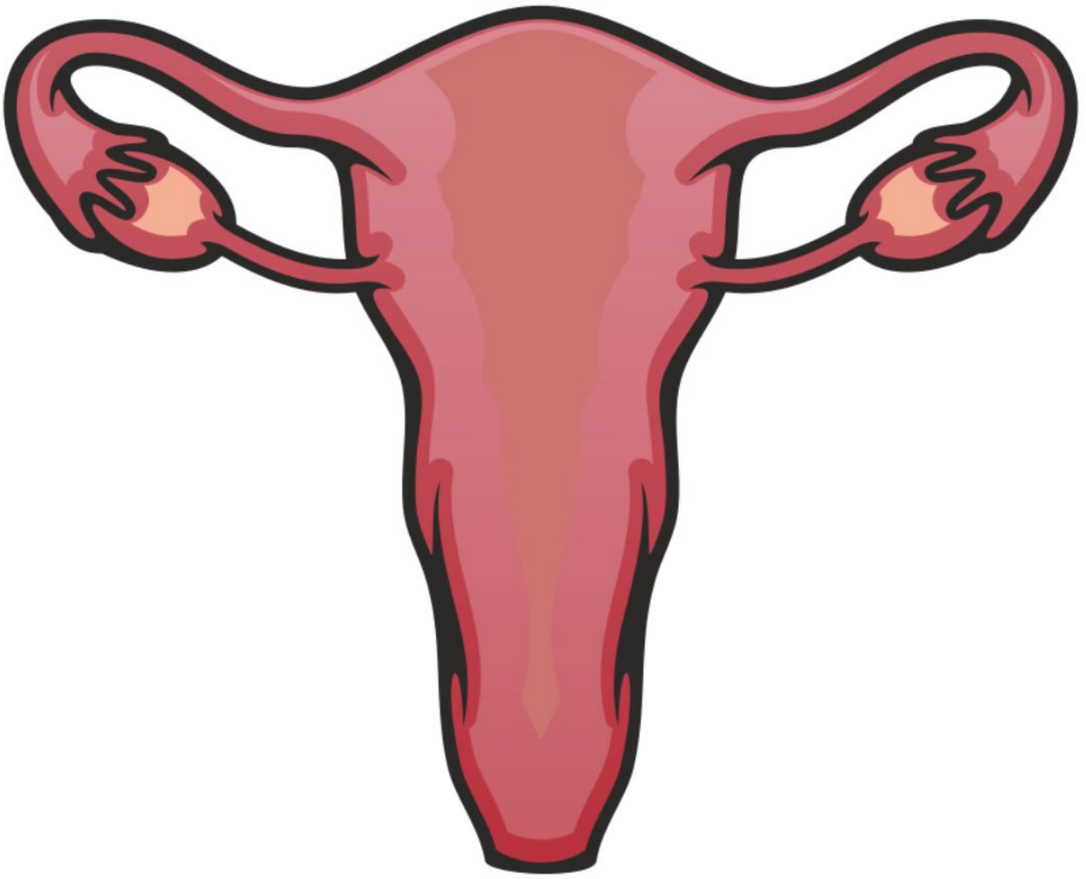
PLABABLE

GEMS

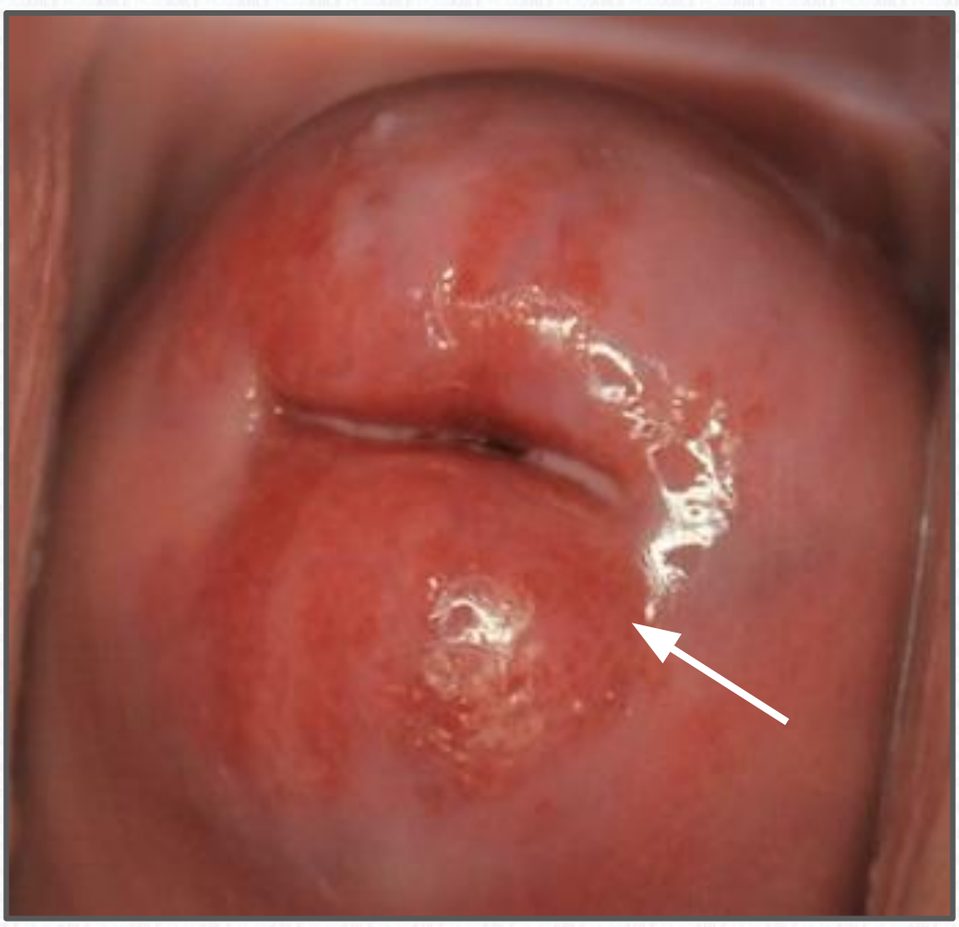
VERSION 1.4

OBSTETRICS & GYNECOLOGY



Cervical Ectropion

Condition where the **columnar epithelium** of endocervix is present beyond the cervical os



Cervical Ectropion

Presentation

- Intermenstrual bleeding
- Post-coital bleeding
- Excessive non-purulent discharge

Causes

- Pregnancy
- OCP usage
- Ovulatory phase in young women

Investigation:

- **Colposcopy** shows red ring around the cervical os

Management:

- Discontinue OCPs
- Cryotherapy
- Ablation using silver nitrate or diathermy
- No treatment is needed if there is no bleeding

Hormone Replacement Therapy

Indications

- Vasomotor symptoms following **menopause**:
  - Night sweats and hot flushes
  - Mood and sleep disturbances
  - Headaches
- **Early menopause** (HRT till 51 yrs of age)
  - Prevents osteoporosis
  - Cardio protective

Risks associated with HRT

- Thromboembolism
- Stroke
- Breast and endometrial cancer
- Gallbladder diseases

Pelvic Inflammatory Disease

Presentation

- Lower abdominal pain
- Dyspareunia
- Abnormal vaginal bleeding
- Purulent vaginal or cervical discharge
- Fever
- Cervical motion tenderness

Causative organisms

- *Chlamydia trachomatis*
- *Neisseria gonorrhoeae*

Treatment

- **Outpatient treatment:**
  - IM **ceftriaxone** 1 gm single dose

    +
  - Oral **doxycycline** 100 mg BD for 14 days and oral **metronidazole** 400 mg BD for 14 days

- **Inpatient treatment:**

IV ceftriaxone + IV doxycycline + IV metronidazole

Switch to oral regimen once patient is symptomatically better

Tubo-ovarian Abscess

Brain trainer:

A woman with pelvic inflammatory disease presents with nausea, vomiting, high fever, tachycardia and abdominal tenderness. Pelvic examination reveals severe pain. What diagnosis is on top of your differential and how will you confirm?

- ➔ **Tubo-ovarian abscess**
- ➔ **Ultrasound**

Ovarian Torsion

Brain trainer:

A woman presents with sudden severe pain at her right iliac fossa. A tender, mobile mass is felt at this same area. Pregnancy test is negative. What is the most likely diagnosis?

➔ **Ovarian torsion**

Cervicitis

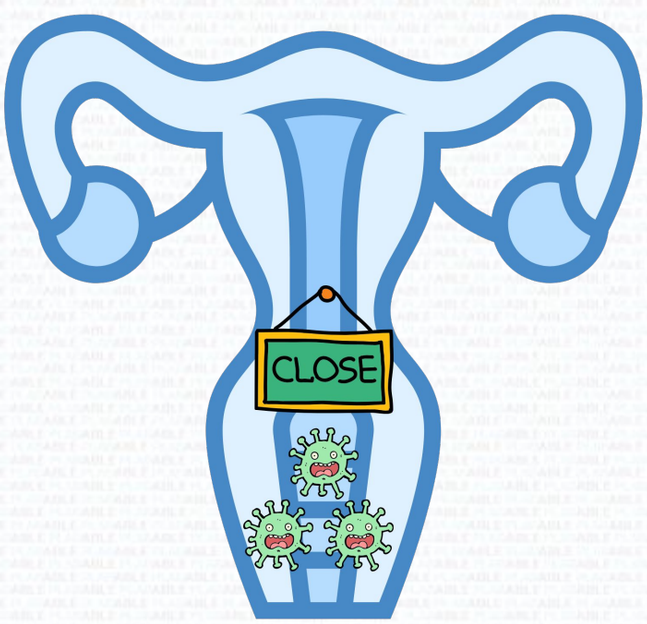
Cervicitis presents vaginal discharge, does not ascent upwards to pelvis, hence no pelvic pain

Treatment

- ***N. gonorrhoeae*** - IM ceftriaxone 1g single dose or oral ciprofloxacin 500mg single dose

- **C. trachomatis** - oral doxycycline 100 mg BD for 7 days (contraindicated in pregnancy) or

  Day 1: Oral azithromycin 1g OD
  Day 2&3: Oral azithromycin 500mg OD



Antiphospholipid Syndrome

Presentation

- Vascular thrombosis (arterial or venous)
- 3 or more unexplained consecutive miscarriages before 10 weeks of gestation
- One or more second-trimester miscarriage

Investigation

- Lupus anticoagulant +
- Anticardiolipin antibody +
- Anti-b2-glycoprotein I antibody +

Management

- Heparin AND
- Low-dose aspirin

This should be continued throughout the pregnancy

Female Infertility

Causes

- **Disorders of ovulation**
  - PCOS (most common)
  - Hyperprolactinemia
  - Sheehan syndrome
  - Turner syndrome
  - Premature ovarian failure
- **Disorders of tubes, uterus and cervix**
  - PID (Damage to tubes)
  - Asherman syndrome (uterine adhesions)
  - Fibroids
  - Endometriosis

Investigation

- Mid-luteal progesterone level (assess ovulation) - measured 7 days prior to the next period (21st day in a 28 day cycle)
- FSH and LH
- Hysterosalpingogram (tubal patency)

Female Infertility

	FSH	LH	Oestradiol	Prolactin
PCOS	Normal	↑	Normal to mild ↑	Normal to mild ↑
Premature ovarian failure	↑	↑	↓	Normal
Prolacti -noma	↓	↓	↓	↑↑↑
Sheehan's syndrome	↓	↓	↓	↓
Turner syndrome	↑	↑	↓↓	Normal

Rh Incompatibility

- **Primary sensitization** occurs when Rh -ve mother gives birth to Rh +ve infant
- The antibodies formed causes haemolysis in the subsequent pregnancies

Prevention of Rh sensitization

- Test for anti-D antibody in all Rh -ve mothers at booking
- If not previously sensitised and baby is Rh +ve give anti-D prophylaxis within 72 hrs after delivery

Anti-D prophylaxis (for Rh -ve mother)

- After delivery of an infant
- Abortion
- Miscarriage after 12 weeks
- Ectopic pregnancy
- Antepartum haemorrhage
- Amniocentesis and chorionic villus sampling

Rh Incompatibility

Brain trainer:

If we suspect that the fetus may have rhesus haemolytic disease, what investigation should we perform on the pregnant patient?

➔ **Assess fetal middle cerebral artery on ultrasound**

This investigation allows estimation of fetal haemoglobin concentrations and therefore the severity of fetal anaemia.

Pelvic Congestion Syndrome

Brain trainer:

A woman with pelvic pain, dyspareunia, dysmenorrhoea and increasingly heavy periods for the the last 9 months.The pain is worse when standing for long periods of time. Laparoscopy and ultrasound are unremarkable. What is the most likely diagnosis?

➔ **Pelvic congestion syndrome**

Contraception

Contraception clinchers

- Menorrhagia, dysmenorrhoea and fibroids not distorting the cavity - Mirena (first line)
- Women <20 yrs of age COCP, POP or implant are first line and not IUD

Emergency contraception

- Within 72 hrs - Levonelle pill
- Within 120 hrs - IUD or Ellaone pill

	Pearl index
Condoms	2
COCP	0.3
Tubal ligation	0.5
Intrauterine system - Mirena	0.2
Mirena has the lowest risk of failure among all	

COCP Contraindication

Brain trainer:

What condition absolutely precludes the prescription of combined hormonal contraception?

➔ **Migraine with aura**

Menorrhagia

Pick in this order

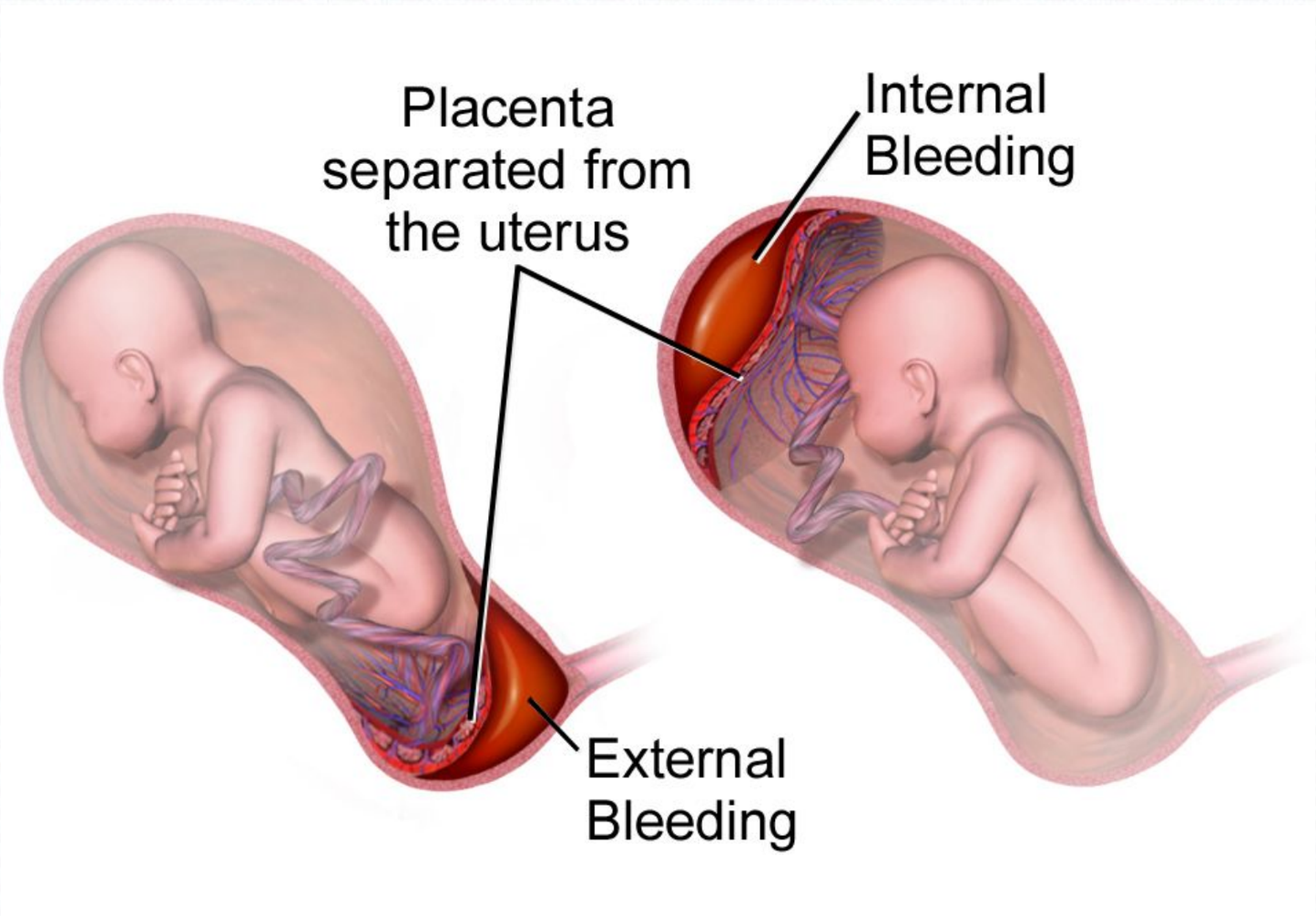
1. **Levonorgestrel-releasing intrauterine system**
2. **Tranexamic acid or non-steroidal anti-inflammatory drugs (NSAIDs) or combined oral contraceptives**
3. **Norethisterone or injected long-acting progestogens**

If medical management above is not ideal (not UKMEC 1) and there are combinations of these factors:

1. Endometrial ablation in the options
2. Low haemoglobin
3. Completed family
→ PICK ENDOMETRIAL ABLATION

Placenta Abruption

Premature separation of the placenta before the delivery of the fetus causing antepartum haemorrhage



Placenta Abruption

Presentation

- Vaginal bleeding
- Abdominal pain
- Uterine contractions and tenderness
- Fetal distress
- DIC

Risk factors

- Multiple pregnancy
- Trauma
- Pre-eclampsia
- Hypertension
- Smoking

Management

In severe bleeding:

  - Fluid resuscitation
  - Blood transfusion
  - Caesarean section and delivery

Placenta Praevia

Placenta lies in the lower segment of the uterus

Presentation

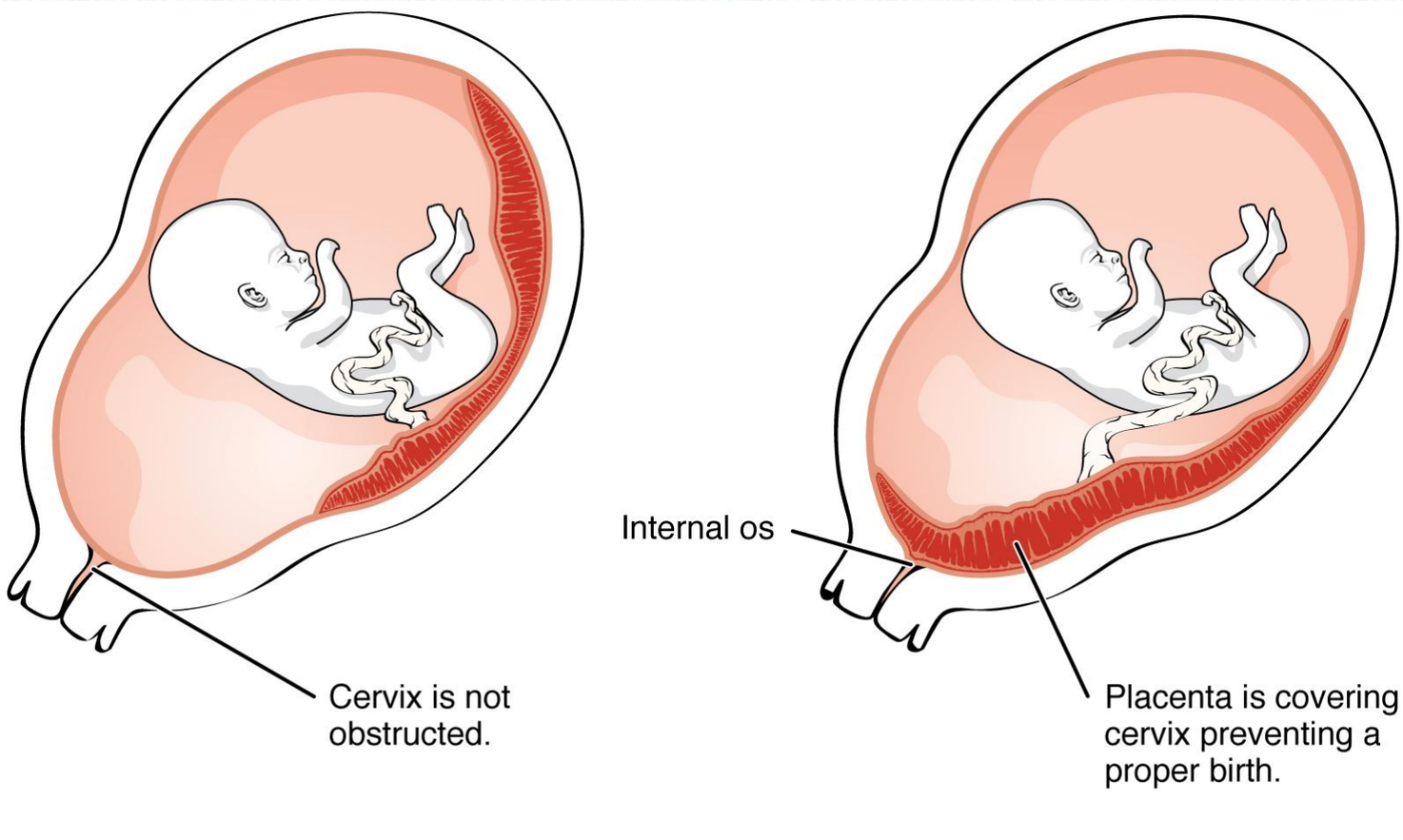
- Painless vaginal bleeding
- Abnormal fetal lie

Investigation

- Transvaginal scan (TVS)

Management

- Continuous monitoring
- Delivery by caesarean section



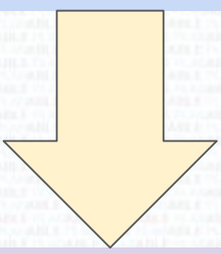
Normal location of placenta

Placenta previa

Stages of Labour

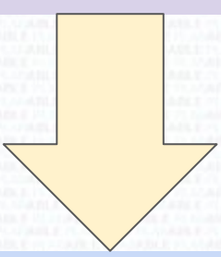
Stage 1

- From the onset of labour to full dilation of the cervix
- Latent phase → cervical dilation < 3 cm
- Active phase → 3 cm - 10 cm



Stage 2

- Delivery of the fetus



Stage 3

- Delivery of the placenta and membranes

Folic Acid in Pregnancy

400 micrograms daily for:

- Uncomplicated pregnancy

5 mg daily for:

- BMI > 30
- Diabetes mellitus
- Taking antiepileptics
- Previous pregnancy with neural tube defect
- Family history of neural tube defect

5mg for the entire pregnancy for:

- Sickle cell disease
- Thalassemia or thalassemia trait

PCOS

Presentation

- Oligomenorrhea
- Infertility
- Acne
- Hirsutism
- Obesity
- Hyperglycemia
- Alopecia
- Acanthosis nigrigans

Investigation

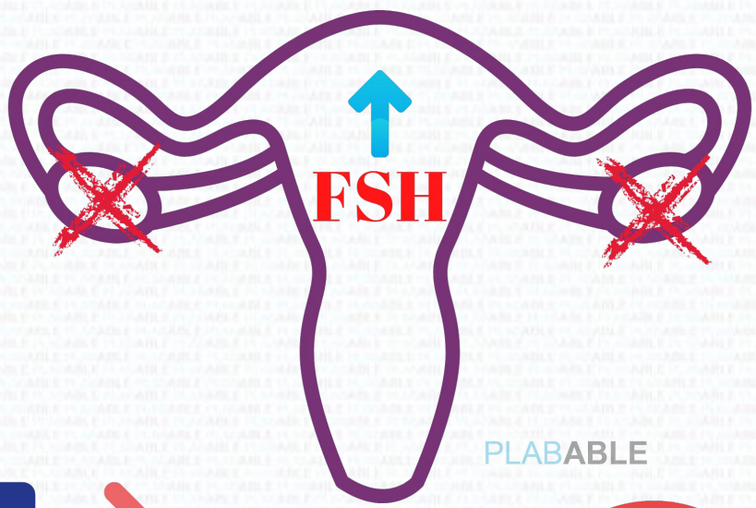
- ↑ LH:FSH ratio
- USG: Multiple cysts in the ovaries
- FBS and OGTT

Management

- Weight loss (first line - Increases fertility rate)
- Combined oral contraceptive pills (regularise periods)
- Clomifen (to treat infertility)
- Metformin (improves fertility)
- Laparoscopic ovarian drilling (last line)

Premature Ovarian Failure

Onset of menopausal symptoms with
↑ gonadotropin levels before the age of 40



Oestradiol

Rx - HRT

Premature Ovarian Failure

Presentation:

- Amenorrhoea or oligomenorrhea
- Infertility
- Hot flushes
- Night sweats
- Decreased sex drive
- Irritability
- Dyspareunia
- Vaginal dryness

Investigation

- Two raised FSH samples 4 weeks apart is diagnostic
- Low estradiol

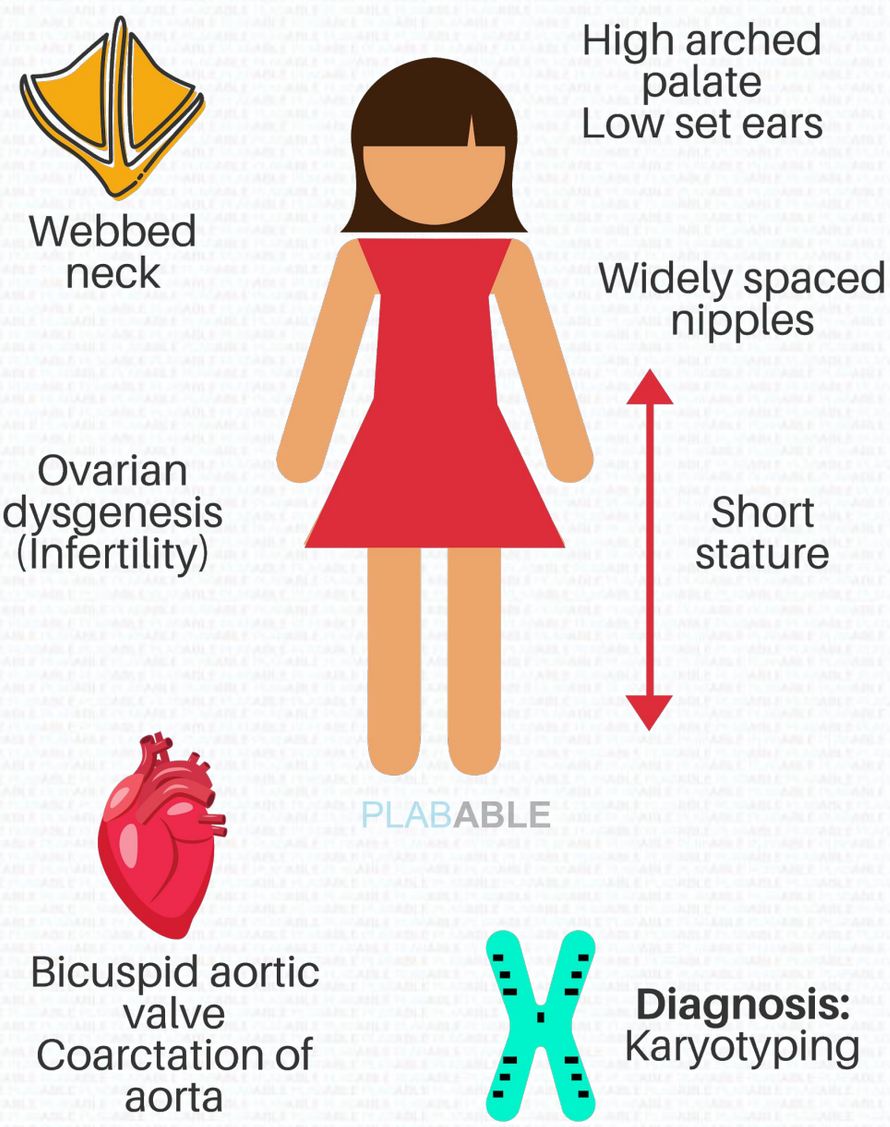
Management

- Hormone replacement therapy till the age of 51

Turner Syndrome

Features

- **Loss of one X chromosome in a female (45 X)**
- Short stature
- Low set ears
- Webbed neck
- Lymphoedema
- Broad chest and widely spaced nipples
- Coarctation of aorta
- Bicuspid aortic valve
- Ovarian dysgenesis (infertility)



Atrophic Vaginitis

Brain trainer:

What is the most common cause of postmenopausal bleeding?

➔ **Atrophic vaginitis (vulvovaginal atrophy)**

Chorioamnionitis

Infection of the foetal amnion and chorion commonly following preterm premature rupture of membranes

Presentation

- Fever and tachycardia
- Abdominal pain
- Uterine tenderness
- Fetal distress
- Foul smelling amniotic fluid

Management

- IV antibiotics: Ampicillin and gentamicin

Uterine Rupture

Brain trainer:

A woman in labour presents with severe abdominal pain and vaginal bleeding. She is hypotensive. Her history is positive for a previous cesarean section. What is the most likely diagnosis?

➔ **Uterine rupture**

Miscarriage

Loss of pregnancy before 24 weeks of gestation

Threatened miscarriage

- Mild bleeding
- Little or no pain
- Cervical os closed

Inevitable miscarriage

- Heavy bleeding and clots
- Cervical os is open

Incomplete miscarriage

- Products of conception are partially expelled

Complete miscarriage

- Heavy bleeding and clots
- Complete expulsion of the products of conception
- USG shows empty uterine cavity

Missed miscarriage

- Fetus is dead but retained

Postpartum Haemorrhage (PPH)

Primary PPH is defined as >500 ml of blood loss from the genital tract within 24 hours of birth (includes both vaginal & caesarean deliveries)

- **Minor** (500 - 1000ml)
- **Major** (>1000 ml)
  - **Moderate** (1000 - 2000 ml)
  - **Severe** (>2000 ml)

Secondary PPH is defined as excessive vaginal bleeding from 24 hrs after delivery up to 12 weeks postpartum

Causes:

- **T**one: Uterine atony
- **T**issue: Retained placenta or clots
- **T**rauma: Laceration of uterus, cervix or vagina
- **T**hrombin: Coagulopathy (DIC)

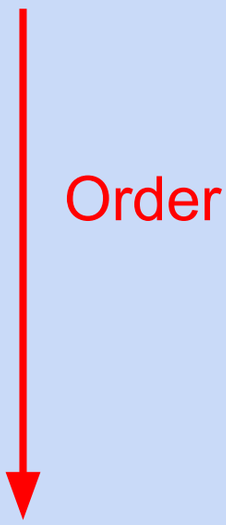
Risk factors

- Multiple pregnancy
- Multiparity
- Uterine anomalies
- Bleeding disorders

Postpartum Haemorrhage

Management

- Blood transfusion
- Uterine atony (most common cause):
  - Bimanual compression of uterus
  - Oxytocin IV infusion
  - Ergometrine IV or IM
  - Carboprost IM
  - Balloon tamponade
  - B-lynch sutures
  - Bilateral ligation of uterine arteries
  - Hysterectomy



Other causes:

- Removal of retained tissues
- Surgical suturing of laceration
- Correction of clotting factors

Endometrial Cancer

Presentation

- Postmenopausal bleeding

Risk factors

- Nulliparity
- Early menarche
- Late menopause
- Obesity
- PCOS
- Tamoxifen

Investigation

- Transvaginal USG
- Endometrial biopsy (hysteroscopy)

Postmenstrual bleeding

Brain trainer:

A 58 year old woman presents with brownish vaginal discharge for about 4 weeks. A transvaginal ultrasound demonstrates a normal sized uterus with an endometrial thickness of 7mm. What's the SINGLE best diagnostic investigation?

➔ **Hysteroscopy and biopsy**

You need to think of endometrial cancer

Paget's Disease of the Breast

Brain trainer:

A woman presents with a left nipple which is itchy, dry, cracked and has a scaly erythematous area surrounding the nipple. What is the most likely diagnosis?

➔ **Paget's disease of the breast**

Prophylactic Mastectomy

Brain trainer:

Under what circumstance may we offer a prophylactic mastectomy?

- ➔ **Strong family history of breast cancer**
- ➔ **Presence of inherited mutations in one of two breast cancer susceptibility genes (BRCA1 and BRCA2)**
- ➔ **Previous cancer in one breast**
- ➔ **Biopsies showing lobular carcinoma in situ and/or atypical hyperplasia of the breast**

Bisphosphonates

Brain trainer:

A woman is being treated for breast cancer with tamoxifen. What medication should be added?

➔ **Bisphosphonates**

Some studies show that bisphosphonates may reduce the risk of bone metastasis in breast cancers

Hyperemesis Gravidarum

Presentation

- Persistent vomiting during early pregnancy
- Severe nausea
- Dehydration
- Weight loss
- Nutritional deficiency

Investigations

- Ketonuria
- Electrolyte disturbance

Management

- Fluid, electrolyte and vitamin replacement
- **First line:** promethazine or cyclizine
- Second line**:** metoclopramide, prochlorperazine or ondansetron
- Third line: corticosteroids

Pre-eclampsia

Pregnancy induced hypertension with significant proteinuria with or without oedema

Features of severe pre-eclampsia

- Severe headache
- Vomiting
- Increased swelling of face, hands and feet
- Visual disturbance
- Liver tenderness
- Epigastric pain
- HELLP syndrome

Management

- Control BP:
  - Labetalol (first line)
  - Methyldopa or nifedipine (second line)
- MgSO4 (If chance of eclampsia is high)
- Delivery at the earliest (only cure)

Acute Fatty Liver of Pregnancy

Brain trainer:

A woman presents with severe epigastric pain, nausea and vomiting at 35 weeks of gestation. Lab results show liver function, low platelets, low serum glucose, raised serum ammonia. What is the most likely diagnosis?

➔ **Acute fatty liver of pregnancy (AFLP)**

AFLP = HELLP+ ↑ ammonia + hypoglycaemia

Gestational Hypertension

Brain trainer:

What are the conditions for the diagnosis of gestational hypertension?How is it managed?

➔ **New hypertension after 20 weeks without proteinuria**

➔ **If BP > 150/100 → oral labetalol**

Meigs’ Syndrome

Brain trainer:

A patient with Meigs' syndrome will present with ascites, pleural effusion and pelvic pain. What is the cause of the pelvic pain?

- **Benign ovarian tumour**

Eclampsia

Occurence of one or more seizures in a women with pre-eclampsia

Management

- Loading dose of 4g of IV $MgSO_4$ in 100 ml 0.9% NS over 5 -15 min
- Followed by continuous infusion of 1g $MgSO_4$ per hour for the next 24 hrs
- Recurrent fits - bolus of 2 to 4g of $MgSO_4$
- Delivery at the earliest (only cure)

$MgSO_4$ toxicity

- Confusion
- Loss of deep tendon reflexes
- Respiratory depression
- Decreased urinary output

Management of $MgSO_4$ toxicity

- Stop $MgSO_4$ infusion
- IV calcium gluconate 1g over 10 min

Postpartum Endometritis

Presentation

- Fever
- Abdominal pain
- Offensive-smelling lochia
- Abnormal vaginal bleeding
- Dyspareunia
- Dysuria

Risk factors

- Caesarean section (highest risk)
- Prolonged rupture of membranes
- Retained products of conception
- Manual removal of placenta
- Severe meconium stained liquor

Management

- IV clindamycin and gentamicin (first-line)

Ectopic Pregnancy

Implantation of the fertilized ovum outside the uterus

Features

- Most common area is the fallopian tubes
- Lower abdominal pain
- Vaginal bleeding
- Amenorrhoea

Risk factors

- Assisted reproductive treatments
- Pelvic inflammatory disease
- Endometriosis
- Previous tubal surgery

Ectopic Pregnancy

Management

Medical management with **methotrexate** for patients:

- Haemodynamically stable
- No significant pain
- Unruptured ectopic

Surgical management for patients:

- **Haemodynamically unstable (Laparotomy)**
- Significant pain
- Ruptured ectopic
- Cannot come for follow up
- Visible heartbeat

Laparoscopic salpingectomy is preferred if the patient is haemodynamically stable but with other signs mentioned above

Vaginal Infections

Bacterial vaginosis	Trichomoniasis	Candidiasis
Thin and profuse discharge	Frothy yellowish-green discharge	White cottage cheese like consistency discharge
Fishy odour	Offensive odour	Odourless
Itching uncommon	Itching common	Itching common
Positive whiff test Clue cells +ve	Strawberry cervix Motile organisms	
Rx - Metronidazole	Metronidazole	Clotrimazole

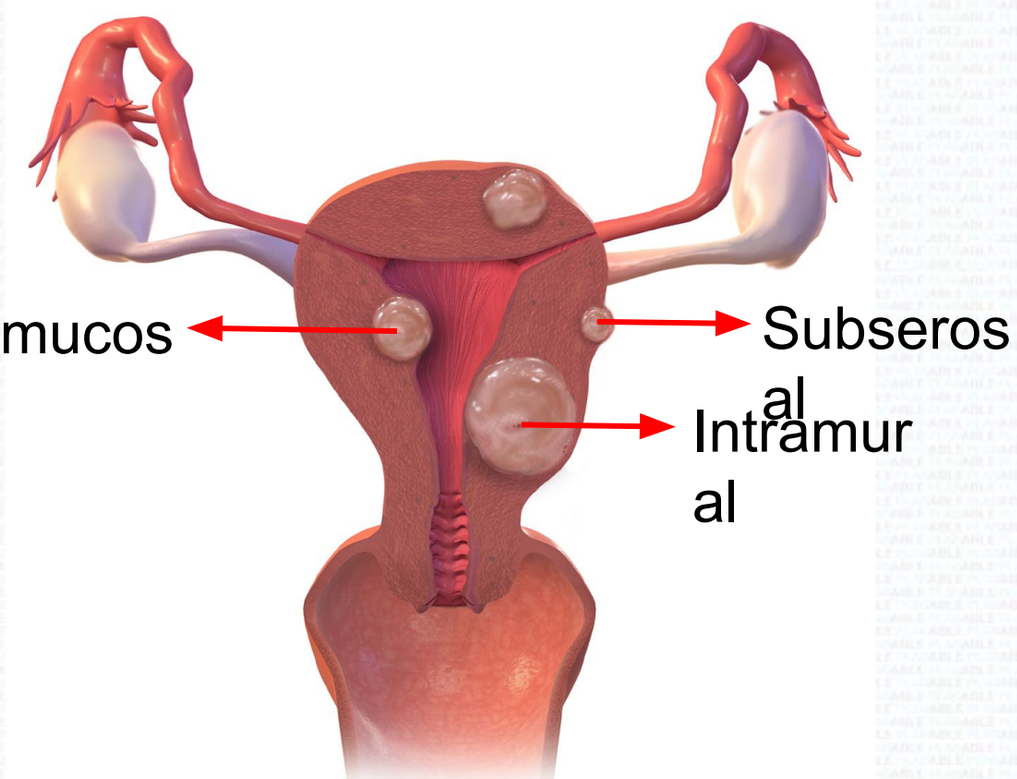
Fibroids

Presentation

- Menorrhagia
- Abdominal discomfort
- Recurrent miscarriage or infertility
- Constipation/urinary symptoms due to pressure

Management

- **Mild:** NSAIDs, tranexamic acid
- **Severe:**
  - Mirena (Patients without uterine distortion)
  - Myomectomy (Improves fertility)
  - GnRH agonist
  - Hysterectomy



Molar Pregnancy

Types

- Complete hydatidiform mole (can transform into choriocarcinoma)
- Partial hydatidiform mole

Presentation

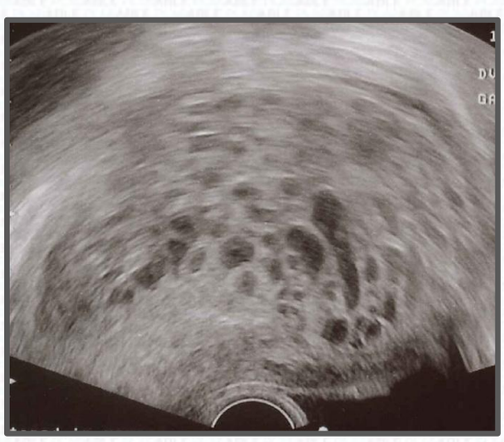
- Hyperemesis
- Painless vaginal bleeding (1st trimester)
- Uterus large for dates

Investigation

- ↑↑ serum βhCG
- USG: Snowstorm appearance
- Large theca lutein cysts

Management

- Suction curettage
- Two-weekly screening of serum and urine βhCG till it becomes normal
- Chemotherapy in case of choriocarcinoma or high βhCG even after uterine evacuation



TVS: Snowstorm or bunch of grapes appearance

Molar Pregnancy

Brain trainer:

After a diagnosis of molar pregnancy, when is a woman advised to try to conceive again?

➔ **Six months after hCG levels have been normal**

or

➔ **If on chemotherapy, 12 months after completing treatment**

Endometriosis

Endometrial glands present outside the uterine cavity

Adenomyosis if present within the myometrium

Presentation

- Chronic pelvic pain
- Dysmenorrhoea
- Deep dyspareunia
- Infertility

Investigations

- Laparoscopy (gold standard) - red haemorrhagic spots or chocolate cyst (in ovaries)

Management

- Ovarian suppression:
  - COCP
  - GnRH agonists (eg. leuprolide, goserelin)
- Mirena
- Surgical removal using laparoscopy for severe cases

Endometriosis 5D's

- ➔ Dysmenorrhoea
- ➔ Disorders of menstruation
- ➔ Dyspareunia
- ➔ Dyschezia
- ➔ Dull ache of the abdomen

Cervical & Breast Screening

Cervical screening

- Age 25 to 64 years
- Every 3 years once from age 25 to 49 years
- Every 5 years once from age 50 to 64 years
- Testing for cytology and HPV infection

Breast screening

- Every 3 years for women aged 50 to 70 years old
- Mammogram

Cervical Screening

Brain trainer:

What is the management of the result from a cervical smear test?

➔ Normal → Repeat in 3 years

➔ Inflammatory → repeat in 6 months

➔ Mild dyskaryosis → HPV test

➔ Moderate/severe dyskaryosis → colposcopy

➔ Suspected invasion → Urgent colposcopy

➔ Abnormal glandular cells → Urgent colposcopy

Cervical Screening

Brain trainer:

Which contraceptive method is most likely to reduce the risk of cervical cancer?

➔ **Condoms**

Anaemia in Pregnancy

- < 11 gm/dL in first trimester
- < 10.5 gm/dL in second and third trimester
- < 10 gm/dL in the postpartum period

Management

- Ferrous sulphate

Routine Testing in Pregnancy

- Blood group and Rh status
- Rh antibodies (If O negative)
- Syphilis
- Hepatitis B status
- HIV
- Full blood count
- Haemoglobinopathies

Two ultrasound scans are usually offered during the course of an uncomplicated pregnancy:

- **Dating scan** (10–13 weeks)
- **Fetal anomaly scan** (18–20 weeks)

Nutritional supplements

- **Folic acid** (400 micrograms per day for uncomplicated pregnancies for the first 12 weeks)
- **Vitamin D** (10 micrograms per day throughout pregnancy)

Chickenpox in Pregnancy

Management

- **Exposed to chickenpox virus:** check immunity
  If not immunised
  → VZIG (if less than 20 weeks gestation)
  → Aciclovir (if more than 20 weeks gestation)

- **Already developed chickenpox:** administer aciclovir

- Infection during pregnancy can cause fetal varicella syndrome
  - Limb defects
  - Eye defects
  - Microcephaly

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