

Key Points Revision

Gynaecology

1 The history and examination in gynaecology

- Take the history and perform the examination with sensitivity, recognizing the intimate nature of the consultation.
- Specific gynaecological questions to ask include:
 - Menstrual questions: menstrual frequency and duration, heaviness, pain, and intermenstrual, postcoital or postmenopausal bleeding?
 - Sexual questions: sexually active, problems, contraception?
 - Cervical smear questions: last smear, abnormalities, treatments?
 - Urinary/ prolapse questions: urinary symptoms, dragging sensation or vaginal mass?
 - Gynaecological examination:
 - Always offer a chaperone, whether you are male or female.
 - General examination.
 - Breast examination: if the patient has noted an abnormality, or if a potentially malignant pelvic mass is being investigated.
 - Abdominal examination: inspect, palpate (can you get below the mass?), percuss, auscultate.
 - Vaginal examination: inspection, bimanual digital examination, speculum examination (usually with a Cusco's bivalve speculum). For prolapse use a Sims' speculum with the patient in the left lateral position.
 - Rectal examination: occasionally if investigating posterior vaginal wall prolapse, rectovaginal endometriosis, or cervical cancer.

2 The menstrual cycle and its disorders

- Oestrogen dominates the first half (proliferative) of the menstrual cycle, and progesterone the second (luteal).
- The Mirena IUS is the first-line treatment for heavy menstrual bleeding.
- Always exclude pregnancy as a cause of amenorrhoea.
- Polycystic ovary syndrome is the commonest cause of oligoamenorrhoea.
- Premenstrual syndrome can be severe and disabling. SSRIs and/or the COCP may help.

3 The uterus and its abnormalities

- Fibroids are common in women approaching the menopause. They are subserosal, intramural or submucosal.
- Fibroids may cause heavy menstrual bleeding, pain, pressure symptoms and infertility.
- Fibroids are removed hysteroscopically (for submucosal) or by laparoscopy or laparotomy (for intramural and subserosal).
- Uterine artery embolization (UAE) shrinks fibroids but should only be used for women who have completed their family.
- Endometrial cancer presents with postmenopausal bleeding. It is the commonest genital tract cancer.

4 The cervix and its disorders

- Cervical ectropion is a common cause of postcoital bleeding; cancer must always be excluded.
- HPV types 16, 18, 31 and 33 are most frequently associated with cervical cancer. Girls in the UK are vaccinated against HPV types 16 and 18.
- Cervical brush smears are taken every 3 years from age 25–49 and every 5 years from 50–64. If abnormal, the sample is tested for HPV. If high-risk HPV is present or the cytology shows moderate or severe dyskaryosis then colposcopy is performed to diagnose and treat CIN.
- Most cervical cancer is squamous cell; staging is mainly clinical; treatment involves surgery or chemo-radiotherapy.

5 The ovary and its disorders

- The outer ovarian cortex layer contains the oocytes.
- Ovarian benign or malignant neoplasms are of epithelial, germ cell or sex cord types.
- The commonest type of ovarian malignancy is epithelial cancer (90%), though in women <30 years germ cell tumours predominate. The lifetime risk is 1 : 48.
- Risk factors for epithelial ovarian cancer relate to the numbers of ovulations, though 5% are familial (BRCA1, BRCA2, HNPCC gene mutations). There is no UK national screening programme.
- Investigations include CA 125 (plus AFP and hCG if under 40 years) and ultrasound, calculation of the risk of malignancy index (RMI), and CT.
- Staging is surgical and histological. Treatment involves surgery (TAH + BSO, partial omentectomy, lymph node assessment) and chemotherapy.

6 Disorders of the vulva and vagina

- Vulval intraepithelial neoplasia (VIN), a premalignant condition, is divided on histopathology into two types—usual type and differentiated type VIN.
- Vulval cancer is usually of the squamous cell type, and is most common after the age of 60. It is associated with VIN, lichen sclerosis, immunosuppression and smoking.
- Vulval cancer is treated with wide local excision and lymph node removal (with radiotherapy if nodes positive).

7 Prolapse of the uterus and vagina

- Prolapse is descent of the uterus and/or vagina beyond the normal anatomical confines.
- Types of prolapse include urethrocoele, cystocele, apical prolapse, enterocele and rectocele.
- Pregnancy with vaginal delivery is the commonest cause of uterovaginal prolapse.
- Vaginal examination involves use of a Sims' speculum, with the patient lying in the left lateral position with her legs partly curled up.
- Treatments include physiotherapy, ring or shelf pessaries, or surgery. Vaginal hysterectomy or hysteropexy is used for uterine prolapse; sacrocolpopexy or sacrospinous fixation for vault prolapse; and anterior and/or posterior repair for vaginal wall prolapse.

8 Disorders of the urinary tract

- Parasympathetic nerves aid urine voiding; sympathetic nerves prevent it.
- There are two main causes of incontinence: overactive bladder, due to increases in detrusor and therefore bladder pressure beyond that of the normal urethra, and urinary

stress incontinence, due to increased intra-abdominal pressure (e.g. due to coughing) transmitted to the bladder but not the abnormally placed urethra.

- Investigations include urine dipstick, a urinary diary and urodynamics.
- Urodynamic stress incontinence is treated with physiotherapy, duloxetine and surgery, either TVT or TOT.
- Overactive bladder is treated with bladder training, anticholinergics, botulinum toxin, or, after the menopause, with oestrogen.

9 Endometriosis and chronic pelvic pain

- Endometriosis is the presence and growth of tissue similar to endometrium outside the uterus. Pelvic endometriosis is most often due to retrograde menstruation.
- Endometriosis can cause no symptoms, pelvic pain or infertility.
- Investigations involve transvaginal ultrasound and laparoscopy, sometimes MRI.
- Treatments for endometriosis and pain include analgesia, ovarian suppression (the COCP, progestogens, GnRH analogues) or surgical removal.
- Treatments for endometriosis and infertility include surgical removal of disease and adhesions, or IVF.

10 Genital tract infections

- Candidiasis (thrush) and bacterial vaginosis are the commonest non-sexually transmitted infections.
- Chlamydia is the commonest STI; others include HIV, gonorrhoea, genital warts, genital herpes, syphilis and trichomoniasis.
- Acute PID is investigated with endocervical swabs, WBC and CRP, and pelvic ultrasound, and treated with a parenteral cephalosporin followed by doxycycline and metronidazole. Tubal disease and/or chronic pelvic pain can result.

11 Fertility and subfertility

- A couple are 'subfertile' if conception has not occurred after a year of regular unprotected intercourse. The main causes are ovulatory problems, male factor, tubal disease and unexplained.
- Investigate with a semen analysis, test of tubal patency (HSG or laparoscopy and dye) and mid-luteal progesterone to confirm ovulation.
- IVF involves gonadotropin stimulation of the ovaries, transvaginal oocyte retrieval, fertilization in vitro, embryo culture for 2–5 days, then transcervical embryo transfer. Risks include ovarian hyperstimulation syndrome (OHSS) and multiple pregnancy.
- PCOS is defined by at least two out of: anovulation, hirsutism, ovaries of polycystic morphology on scan.
- PCOS causing subfertility is treated with weight loss, ovulation induction (clomifene, gonadotropins), metformin, laparoscopic ovarian diathermy and IVF.
- PCOS causing anovulation and/or hirsutism is treated with weight loss, the COCP, antiandrogens and metformin.

12 Contraception

- The ideal contraceptive does not exist. Long-acting reversible contraceptives (LARC) may come closest.
- The Pearl Index (PI) measures the efficacy of contraception and is the risk of pregnancy per 100 woman years of using the given method.

- Hormonal contraception methods include progestogen alone as a tablet or depot (injection, implant or intrauterine system), or oestrogen and progestogen combined as a tablet, transdermal patch or vaginal ring.
- In appropriate women, combined hormonal contraception (CHC) can be used from menarche to menopause.
- Female sterilization involves clipping the fallopian tubes via a laparoscope, or placing microinserts into the tubal ostia using a hysteroscope. Lifetime failure rates are 1 : 200.

13 Menopause and postreproductive health

- Menopause, the permanent cessation of menstruation resulting from loss of ovarian follicular activity, occurs at a median age of 51 years, and is diagnosed after 12 consecutive months of amenorrhoea.
- Postmenopausal bleeding is defined as vaginal bleeding occurring at least 12 months after the last menstrual period. Cancer of the endometrium or cervix, and premalignant endometrial hyperplasia must be excluded.
- Consequences of the menopause include cardiovascular disease, vasomotor symptoms, osteoporosis, and urogenital and sexual problems.
- HRT consists of oestrogen alone in women who have had a hysterectomy, but is combined with a progestogen, to protect the endometrium, in those who have not.
- HRT reduces menopausal symptoms (e.g. flushes, sweats, urogenital problems), osteoporosis and colorectal cancer.
- HRT increases the risk of breast cancer (if combined HRT), venous thromboembolism, gallbladder disease and endometrial cancer (if unopposed oestrogen and the uterus is present).

14 Disorders of early pregnancy

- Miscarriage occurs when the fetus dies or delivers dead before 24 completed weeks of pregnancy.
- Non-viable intrauterine pregnancy is treated with expectant, medical or surgical management. Infection rates are similar.
- Recurrent miscarriage is when three or more miscarriages occur in succession. Investigations for recurrent miscarriage include parental karyotypes, maternal antiphospholipid antibodies and exclusion of uterine anomaly.
- Pregnancy termination is performed surgically (suction curettage 7–13 weeks' gestation; sometimes dilatation and evacuation >13 weeks) or medically (mifepristone and prostaglandin 5–9 weeks, and 13–24 weeks' gestation).
- An ectopic pregnancy, when the embryo implants outside the uterine cavity, occurs in 1 in 60–100 pregnancies and is potentially fatal. Investigations include a urine pregnancy test, ultrasound, (serial) serum hCG and laparoscopy. Treatment options for subacute presentation include surgery (salpingectomy or salpingostomy), medical management using methotrexate or, occasionally, conservative management.

15 Gynaecological operations

- Hysterectomy can be total or subtotal (cervix conserved) and performed abdominally, vaginally or laparoscopically. The ovaries can also be removed (bilateral salpingo-oophorectomy).

- Using an operating hysteroscope, monopolar diathermy and glycine irrigation the endometrium (transcervical resection of endometrium [TCRE]) or intracavity fibroids (transcervical resection of fibroid [TCRF]) can be removed.
- Uterovaginal prolapse is treated with vaginal repairs, hysterectomy, hysteropexy, sacrocolpopexy or sacrospinous fixation.
- Urinary stress incontinence is treated with a tension-free vaginal tape (TVT), a trans-obturator tape (TOT) or sometimes a Burch colposuspension.

Obstetrics

16 The history and examination in obstetrics

- Basic antenatal examination includes appearance, blood pressure and urinalysis, in addition to the abdomen.
- The sick woman should be obvious from her appearance and observation chart.
- In exams, being nice to the woman is as important as being right about the facts.
- Talk to her, make sure she is comfortable and ask her consent to examine her.

17 Antenatal care

- Most perinatal mortality occurs before labour.
- Antenatal care of well and low-risk women should screen for pregnancy abnormality and prepare for birth.
- Women with pre-existing disease or risk factors require specialist care.
- However, history is a poor screening test for pregnancy risk.

18 Congenital abnormalities and their identification

- Screening for Down's syndrome uses a combination of maternal age, ultrasound at 11–14 weeks and blood tests.
- Ultrasound is used to identify fetal abnormalities and is routine at 12 and 20 weeks.
- Screening tests identify pregnancies at higher risk of a problem; diagnostic tests refute or confirm this.
- CVS and amniocentesis are the diagnostic tests for chromosomal abnormalities.
- Most anatomical abnormalities could be diagnosed prenatally, but many are missed.

19 Infections in pregnancy

- Vertical transmission of HIV is preventable by antiretroviral drugs, Caesarean section and avoidance of breastfeeding.
- CMV is the most common serious congenital infection in the West.
- Group B streptococcus occasionally causes serious neonatal infection and can be prevented by treating at-risk or screen-positive women in labour.
- In the UK, sepsis is currently the leading direct cause of maternal death. Group A streptococcus accounts for about half.
- Genital herpes is only dangerous for the neonate if the infection is primary and less than 6 weeks prior to delivery.

20 Hypertensive disorders in pregnancy

- Pre-eclampsia is common, unique to pregnancy, results from placental ischaemia and cured only by delivery.

- It is characterized by new hypertension and proteinuria, often associated with fetal growth restriction.
- Pre-eclampsia varies in severity but is a major cause of maternal and perinatal morbidity and mortality.
- Risk factors include nulliparity, previous pre-eclampsia, extremes of maternal age, pre-existing disease such as hypertension and diabetes, obesity and twins.
- Low-dose aspirin prevents some cases and is given to those at risk from early pregnancy.
- Treatment of hypertension reduces the risk of stroke although it does not alter the course of the disease.
- Other complications include eclampsia (seizures) and HELLP syndrome.
- In severe disease, magnesium sulphate reduces maternal morbidity and mortality.

21 Other medical disorders in pregnancy

- Pre-existing diabetes affects 1% of women; most are now type II.
- Gestational diabetes is associated with obesity and is becoming more common.
- Good glucose control with diet \pm metformin and/ or insulin improves maternal and fetal outcomes.
- Thyroid disease is common; even subclinical hypothyroidism is treated.
- Autoimmune disease increases pregnancy risks and venous thromboembolism.
- Congenital cardiac disease is becoming more common, may deteriorate in pregnancy, requires multidisciplinary management and is a major cause of maternal death.
- Venous thromboembolism is more common in pregnancy, can cause maternal death and is prevented by systematic risk assessment allowing liberal use of low-molecular-weight heparin.

22 Red blood cell isoimmunization

- Maternal antibodies to a different fetal blood group cross the placenta and cause fetal anaemia.
- Rhesus disease is rare because of routine anti-D administration to rhesus-negative women; many remaining cases are due to other rarer antibodies.
- Potentially affected babies are monitored using antibody levels and ultrasound; in utero transfusion is possible in severe disease.

23 Preterm delivery

- Preterm delivery is the most common cause of childhood handicap.
- Preterm delivery can be predicted but screening programmes are not routine because prevention is less successful.
- Most preventative strategies target women at risk because of their history.
- Infection is present in more than half and worsens the neonatal prognosis.
- Antenatal steroids reduce neonatal morbidity and mortality.

24 Antepartum haemorrhage

- Placenta praevia is when the placental site obstructs the cervix.
- Placenta praevia may cause maternal haemorrhage and skilled Caesarean delivery is required.
- Placental abruption involves premature separation of the placenta.

25 Fetal growth, compromise and surveillance

- Poor in utero growth is a major cause of stillbirth and neonatal morbidity.
- In low-risk women identification of the small baby relies on symphysis–fundal height (SFH) measurement.
- Ultrasound can determine fetal size but is largely reserved for women at increased risk or if the SFH measurement is low.
- Not all small babies are compromised: assessing whether fetal size is appropriate for constitutional factors such as ethnicity improves identification.
- Ultrasound with umbilical artery Doppler is key to the management of the small baby.
- Fetal heart rate abnormalities only appear late in the disease process.
- Management largely addresses the timing and mode of delivery.
- Pregnancies at >41 weeks are at increased risk and induction is recommended by 42 weeks.

26 Abnormal lie and breech presentation

- Breech presentation complicates 3% of term deliveries but is more common preterm.
- Elective Caesarean section is slightly safer for a breech baby than vaginal delivery.
- External cephalic version reduces the incidence of breech presentation and therefore Caesarean section.
- Transverse lie at term occurs with an obstructed pelvis or abnormal uterus but sometimes transiently in multiparous women.

27 Multiple pregnancy

- These are more common and virtually all maternal and perinatal risks are increased.
- High-order multiples have very high perinatal risks and reduction is offered.
- Determination of chorionicity before 14 weeks is crucial to pregnancy surveillance and management.
- Monochorionic twins are at increased risk because of complications of the shared placenta.
- If the presenting twin is cephalic, vaginal delivery is usually appropriate.

28 Labour 1: Mechanism—anatomy and physiology

- The powers (contractions), the pelvis and the passenger (fetus) determine the course of labour.
- Progress is assessed by cervical dilatation and descent of the head.
- Labour is divided into the first (0–10 cm) and second stages (10 cm until delivery); the third stage is from delivery of the baby until that of the placenta.
- The position of the head refers to its degree of rotation; the attitude refers to the degree of flexion.
- Most babies deliver flexed and in the occipito-anterior position; other positions (e.g. occipito-posterior) or extension (e.g. brow) may cause obstruction.

29 Labour 2: Management

- The importance of maternal physical and mental wellbeing on the progress of labour should not be underestimated.
- In nulliparous women slow progress is usually due to poor contractions and oxytocin is used to improve this.
- In multiparous women oxytocin should be used with caution.

- Delivery of the fetus can be expedited by Caesarean section in the first stage but usually by instrumental vaginal delivery in the second.
- Monitoring of the fetal condition principally involves heart rate auscultation or if this appears abnormal, and in high risk cases, electronic cardiotocography (CTG).
- Fetal hypoxia in labour is an important cause of morbidity and mortality and could usually be prevented.

30 Labour 3: Special circumstances

- Induction of labour, usually near term, aims to reduce fetal or maternal risk from continuation of a pregnancy.
- Vaginal birth after a Caesarean section is usually possible, but is associated with slightly increased risk.
- Rupture of the membranes at term precedes labour in many cases and most start labour within 24 hours.

31 Instrumental and operative delivery

- Instrumental delivery involves traction on the head in the second stage of labour to expedite delivery.
- Forceps are slightly safer for the baby; the Ventouse is slightly safer for the mother.
- Prolonged attempts at instrumental delivery are dangerous and Caesarean section is indicated.
- Nevertheless, Caesarean section is over-used in the West.

32 Obstetric emergencies

- Shoulder dystocia is more common with large babies but emergency management rather than prevention is usually practiced.
- Cord prolapse requires rapid delivery by the quickest route.
- Uterine rupture is rare but most commonly occurs in labour after a previous Caesarean section.
- Maternal collapse is most commonly due to haemorrhage, but may also be due to thromboembolism, amniotic fluid embolism and other medical causes.

33 The puerperium

- Most mothers who die do so after delivery.
- Primary haemorrhage, in the first 24 hours, is most commonly due to atonic uterus or delivery trauma.
- Secondary haemorrhage, in the ensuing 6 weeks, is most commonly due to uterine infection.
- Systematic risk assessment for venous thromboembolism is crucial after all deliveries.

34 Birth statistics and audit

- Perinatal mortality rate (UK) is the sum of stillbirths plus neonatal deaths in the first week, per 1000.
- Many are unexplained, but IUGR, haemorrhage, pre-eclampsia, congenital abnormalities and labour are important other associations.
- Maternal mortality is rare in developed countries; 'direct' causes (UK) include sepsis, haemorrhage, thromboembolism, pre-eclampsia, and ectopic pregnancy.
- Improvements in maternity care require assiduous audit of outcomes.

35 Legal (UK) and ethical issues in obstetrics and gynaecology

- Informed consent should include knowledge of complications, including rare ones if they are serious.
- Clinical negligence (UK) occurs when practice fell below a generally acceptable standard, and this contributed to an adverse outcome.
- Clinical governance translates as 'learn from your adverse outcomes, do a good job and prove it'.
- Key contentious ethical areas include abortion and assisted conception.