

GHANA COLLEGE OF PHYSICIANS & SURGEONS
FACULTY OF OBSTETRICS & GYNAECOLOGY

SYLLABUS FOR FELLOWSHIP IN GENERAL OBSTETRICS & GYNAECOLOGY

It is proposed that the trainee should have foreign exposure in the form of 3 months external rotation.

1. UROGYNAECOLOGY

HISTORY

The trainee must be able to describe the following:

- Terminology used for pelvic floor dysfunction
- Relationship between pelvic floor symptoms and other medical conditions
- Bladder diaries
- Validated questionnaires used in urogynaecology

The trainee must be able to:

- Take an appropriate history from a patient
- Present a relevant urogynaecological history including impact of condition on QoL
- Interpret bladder diaries
- Select appropriate standardised symptom and QoL questionnaires

The trainee must possess the:

- **Ability to take an appropriate history and use terminology in accordance with the International Continence Society**
- **Ability to use clinical history and bladder diary to make an initial diagnosis**
- **Ability to communicate patient's symptoms and describe their severity and social and psychological impact**
- **Ability to select and analyse appropriate questionnaires**

EXAMINATION

The trainee must be able to examine the patient completely and be able to describe the following:

- Examination findings relevant to pelvic floor disorders
- Examination findings relevant to patients with pelvic organ prolapse
- Neurological findings in denervation of the pelvic floor
- Neurological conditions that affect the lower urinary tract
- Objective methods for assessment of pelvic organ prolapse

Perform an appropriate general, pelvic floor and neurological examination

Ability to carry out a relevant examination and elicit abdominal and pelvic findings

Ability to describe stage of pelvic organ prolapse using a recognised method

Ability to perform neurological examination of the S4 pathway

Ability to communicate significance of clinical findings to the patient

Ability to put clinical findings in the context of the patient's symptoms

INVESTIGATIONS

Relevant anatomy and physiology

Urodynamics including:

- urine culture and cytology
- pad tests
- assessment of urinary residual
- uroflowmetry
- subtracted dual-channel cystometry

Modalities for imaging the urinary tract

Indications for advanced urodynamics (i.e. video urodynamics, ambulatory urodynamics and urethral function studies)

Understands when to refer for further investigation

Ability to assess urinary residual by bladder scan

Ability to describe tests to patient and refer to relevant Specialist

Ability to undertake urodynamics

Ability to explain the relevance of the test findings to the patient and to communicate the results with sensitivity

Ability to make appropriate requests for imaging of the lower urinary tract

Ability to understand the impact of results on clinical management

Pharmacological action and adverse effects of antimuscarinics

Principles of pelvic floor muscle training and role of different physical therapies

Principles of bladder retraining

Non-surgical management of pelvic organ prolapse

Basic understanding of anorectal dysfunction

Understand the role of drug therapy for women with overactive bladder symptoms

Understand the role of pelvic floor re-education in female urinary incontinence

Understand the indications for vaginal pessaries

Understand the indications for anorectal investigation and treatment

Ability to recognise the importance of nonsurgical management in the treatment pathway

Ability to prescribe appropriately and counsel on success and adverse effects

Ability to instruct a patient in bladder training

Ability to counsel patients on containment measures and support groups

Ability to counsel, select and fit an appropriate vaginal pessary for pelvic organ prolapse

Ability to counsel on simple treatments for faecal incontinence and refer appropriately

Knowledge of equipment, diathermy, instrumentation and theatre set-up

Awareness of potential surgical complications

Understand the management of major haemorrhage

Understand the indications and complications of the following procedures:

- cystoscopy
- colposuspension
- mid-urethral slings
- bladder neck injections

Knowledge of surgical management of detrusor overactivity

Be able to perform and manage complications of the following procedures:

- cystoscopy
- anterior repair
- posterior repair
- vaginal hysterectomy

- mid-urethral tape (TVT or TOT)

Able to manage postoperative voiding difficulty

Recognise indications for referral

Select patients appropriately for vaginal surgery

Counsel on vaginal surgery including nonsurgical alternatives, surgical complications and outcome

Perform vaginal and stress continence surgery in a fluent and safe manner

Recognise and appropriately manage intraoperative visceral injury including repair of simple operative bladder injury and postoperative bladder drainage

Instruct nursing staff on catheter management following continence surgery

Supervise a patient undergoing a programme of intermittent self-catheterisation

Recognise role of other specialists in the management of surgical complications

Knowledge of surgical management of faecal incontinence

Knowledge of surgical procedures for recurrent POP and SUI

Awareness of treatment options for recurrent SUI and POP

VESICOVAGINAL AND RECTOVAGINAL FISTULAE

Etiology of VVF and RVF.

Obstetric

Pelvic surgery

Radiation

Prevention of fistulae

Clinical examination and examination under anaesthesia in the evaluation of VVF and RVF.

Repair of simple fistulae

Complicated fistulae and their management

2. SUBFERTILITY AND REPRODUCTIVE ENDOCRINOLOGY

ASSISTED REPRODUCTION

Appropriate patient selection

Clinical prognostic factors relevant in ART leading to appropriate patient selection (female age, duration of infertility, ovarian reserve, past reproductive history, pelvic organ abnormalities)

Preparation of patients for assisted reproduction: hydrosalpinx, fibroids, HIV, Hep B and Hep C screening; the place of counselling.

Communication and consent.

Natural cycle for ART

Able to take a thorough history

Able to identify the cause of infertility and discuss the role which ART has in its management

Able to discuss the limitations and potential complications of ART, including the risk of genetic disorders after IVF/ICSI

Where necessary, the trainee must be able to arrange relevant further investigations:

Repeat semen analyses

Urine analysis for retrograde ejaculation

Endocrine, including ovarian reserve tests

Microbiological

Genetic (karyotype)

Ultrasound/HSG/HyCoSy

- Sympathy to the stress related to infertility
- Ability to explain treatment options, risks and benefits, and need for onward referral
- Explanation and planning of treatment according to cause of infertility and prognostic factors
- Explanation of the risks and benefits of hydrosalpinx treatment prior to assisted conception
- Able to decide which assisted conception technique to use and when to arrange appropriate referrals to tertiary centres for assisted conception
- Exposure to: clinics in subfertility, IVF clinics, embryology laboratory, ovarian ultrasound sessions
- Able to perform ultrasound monitoring of ovarian follicular growth

ANDROLOGY

Understand the process of spermatogenesis and its control

Recognise the impact of male factors in the genesis of infertility, including varicocele, endocrine disorders, coital dysfunction

Diagnosis and investigation of ejaculatory failure, impotence, retrograde ejaculation, genital infection, immunological causes, testicular maldescent, chromosomal abnormality, chemotherapy, radiotherapy, toxins (including drug effects)

Causes of severe oligozoospermia (<5 million per ml) and azoospermia (pretesticular, testicular, posttesticular)

Idiopathic male infertility

The place of advanced sperm function tests

The place of assisted conception

The sequelae of long-term low testosterone levels and the association with testicular cancer

Able to take a history and carry out a physical examination

Able to use an orchidometer and assess testicular volume

Able to recognise testicular tumour, varicocele, undescended testicles, hypospadias absence of vasa deferens

Able to initiate initial investigations and interpret results

Able to take urethral swabs

Able to arrange relevant further investigations: repeat semen analyses, urine for retrograde ejaculation, endocrine, microbiological, genetic (karyotype, CF screening), ultrasound

Able to arrange appropriate referrals: urologist, endocrinologist, clinical geneticist, psychosexual counsellor, assisted conception

Able to explain treatment options, risks and benefits, and need for onward referral

Attend male fertility clinic or appropriate urology/andrology clinic

Regularly attend infertility clinics

Exposure to: urology, GUM, endocrinology, clinical genetics, oncology

Observe: theatre (surgical sperm retrieval)

ENDOMETRIOSIS

Understand the anatomy of the abdomen, female genital tract, bladder, ureters and lower bowel

Pathogenesis, epidemiology and classification of endometriosis

Relationship between stages of endometriosis and infertility (defective folliculogenesis, ovulatory dysfunction, distorted pelvic anatomy, altered peritoneal function, autoimmune disorders, impaired implantation)

Diagnostics for endometriosis, (laparoscopy, MRI, transvaginal ultrasound, immuno-biochemistry)
Able to take accurate history and carry out a physical examination, including vaginal-rectal assessment
Able to perform transvaginal ultrasound scan
Able to arrange non-invasive investigations (MRI and USS)
Able to perform diagnostic laparoscopy
Able to treat early-stage endometriosis (I and II) by laparoscopy
Able to perform laparotomy and laparoscopy for endometrioma
Demonstrate competence in setting up laparoscopic equipment, theatre environment, patient positioning, optimisation and recording of images
Sympathy to the symptoms of endometriosis and to the stress related to infertility
Ability to explain diagnostic and treatment options, risks and benefits, and need for onward referral where appropriate
Ability to liaise with other specialists (urologist, general surgeon and radiologist) to optimise patient care and to arrange appropriate referrals to tertiary centres
Ability to decide when to operate

Knowledge of laparoscopic equipment, instrumentation and theatre set-up
Understand the principles of safe use of energy sources
Knowledge of safe entry techniques and port site problems
Knowledge of potential risks and complications specific to laparoscopic surgery (including anaesthesia)
Knowledge of the contribution of preoperative investigations, particularly CA125 and transvaginal ultrasound scan findings
Able to perform operative procedures in a fluent and safe manner
Demonstrate proficiency in Hasson direct and Palmer's point Veress needle entry techniques
Demonstrate competence in the choice of position and safe insertion of secondary ports
Demonstrate proficiency in safe tissue handling with laparoscopic instruments, sharp and blunt dissection, adhesiolysis
Demonstrate correct use of haemostatic techniques
Recognise and manage intraoperative complications, including when to convert to an open procedure
Recognise late-onset complications
Demonstrate proficiency in the performance of ovarian cystectomy and oophorectomy
Demonstrate proficiency in the excision and ablation of peritoneal endometriosis and ovarian endometrioma in early stage 1 and stage 2 endometriosis
Ability to select patients appropriately for operative laparoscopy.
Ability to provide counselling regarding benefits, risks and alternatives to laparoscopic surgery
Development of good patient communication and shared decision making skills
Ability to recognise the limitations of their operative laparoscopic surgery skills and refer on to colleagues who have advanced laparoscopic skills when appropriate

MANAGEMENT OF ANOVULATION

Describe the normal physiology of ovulation and its pathophysiology
Classify ovulation disorders anatomically
Recognise the clinical presentation and influence of lifestyle, including diet and weight, on anovulation
Discuss the usefulness of initial screening investigations such as FSH, LH, antimüllerian hormone, prolactin, androgens (testosterone, SHBG, FAI), thyroid function tests, pelvic ultrasound (ovarian volume, antral follicle count); also follow-up investigations such as MRI, karyotype.
The range of treatments for anovulation, including risks of multiple pregnancy and ovarian hyperstimulation syndrome (OHSS)

Appreciate the association of other medical conditions with anovulation, such as diabetes with polycystic ovaries, pituitary tumours with hypogonadotropic hypogonadism
Able to take a history, examine and accurately record: menarche, cycle regularity, hirsutism, BMI galactorrhoea, secondary sex characteristics, chemotherapy/pelvic radiotherapy
Able to advise appropriately on lifestyle issues
Able to arrange appropriate initial and follow-up investigations
Able to interpret results appropriately
Able to screen for associated conditions, e.g. autoimmune factors, diabetes mellitus, visual fields, late onset adrenal hyperplasia
Able to give a detailed explanation of the conditions causing anovulation, alternative treatments available and their relative risks and benefits
Sympathy to the difficulties overcoming lifestyle issues such as obesity
Sympathy to the psychological impact of hirsutism
Ability to understand the impact of psychiatric and psychological issues on anovulation

Understand the risks and sequelae of hypo-estrogenism, the risk and benefits of anti-estrogens, steroids, gonadotrophin analogues, dopamine inhibitors, laparoscopic ovarian diathermy.
Understand treatment success rates (pregnancy rate, live birth rate)
Able to provide appropriate treatment monitoring to assess effectiveness and minimise the risk of multiple pregnancy
Able to give appropriate advice for the management of the condition or its medication in pregnancy, such as the risk of developing gestational diabetes in patients with polycystic ovaries
Able to identify and manage OHSS
Demonstrate appropriate use of adjuvant therapy such as insulin sensitising agents.

Psychological aspects of infertility

Psychological factors in female infertility (e.g. amenorrhoea)
Psychological factors in male infertility (e.g. erectile dysfunction)
Stress associated with assisted conception treatment
Effects of infertility upon the family
The place of counselling in the management of the infertile couple
Local facilities for adoption.
Arrange appropriate referral to counsellors
psychosexual medicine
social services for adoption
Ability to explain diagnostic and treatment options, risks and benefits, and need for onward referral where appropriate
Sympathy to the stress related to infertility, marital disharmony, and difficulties in having intercourse
Ability to discuss the role and value of counselling

Tubal factor infertility

Aetiology of tubal factor infertility: infection, surgery, endometriosis, congenital abnormalities
Diagnostic techniques available for assessing tubal disease
Pathological features of acute and chronic inflammation associated with infertility
Classification of tubal disease relevant to natural and therapeutic prognosis
Screening of high-risk groups
Prognostic factors relevant in decisions for surgery
Excision or occlusion of hydrosalpinges prior to IVF
Knowledge of reversal of sterilisation: patients at risk, pregnancy rates
The place of assisted conception in tubal factor infertility

Able to take a careful history and examination

Able to decide which diagnostic technique to use

Able to carry out the following procedures:

hysterosalpingography

HyCoSy

pelvic scan

hysterosonography

laparoscopy

Management of proximal tubal disease: understand the role of selective salpingography and tubal catheterisation

Management of distal tubal disease: able to carry out salpingectomy, adhesiolysis and salpingostomy by laparoscopy or laparotomy

The place of reversal of sterilisation

Ability to refer to tertiary centre appropriately

Unexplained infertility

Understand the nature of the diagnosis (diagnosis of exclusion)

Understand other putative causes such as subtle ovulation defects, cervical mucus hostility, endometriosis, subclinical pregnancy loss, occult infection, sperm dysfunction, immunological causes and psychological factors.

Understand what investigations could be carried out for these causes, such as postcoital tests, follicle tracking, laparoscopy, immunological screening

Understand the scientific basis for the investigations

Understand the epidemiology and natural history including prognosis for unexplained infertility

Understand the different types of empirical treatment, including clomiphene, intrauterine insemination, superovulation and in vitro fertilisation

Able to decide when it is appropriate to consider a working diagnosis of unexplained infertility

Able to explain to the patient the other putative causes for infertility, and the rationale for not investigating for them

Able to explain to the patient the chances of conception naturally and with the different treatment options

Able to devise a care plan with the different treatment options and to explain the risks, benefits and alternatives

Able to decide when to move on to the alternative treatments

Uterine factor infertility

Aetiology of uterine factor infertility (infection, surgery, tumours, congenital abnormalities, intrauterine

adhesions, fibroids, polyps, congenital abnormalities)

Diagnostic techniques available for assessing uterine disease, any associated risks and complications

Prognostic factors relevant in decisions for surgery

The place of adhesiolysis in the treatment of intrauterine adhesions

Treatment options for uterine fibroids

Knowledge of hysteroscopic techniques, risks and the principles of safe use of energy sources

Able to perform transvaginal ultrasound scan

Know when to request an MRI and be able to interpret the result

Able to perform HSG and hysterosonography

Able to perform diagnostic hysteroscopy in a safe and fluent manner

Able to perform hysteroscopic polypectomy and able to recognise and know how to treat uterine septum and uterine adhesions

Recognise when and how to treat fibroids

Know when a hysteroscopic myomectomy is appropriate and refer appropriately
Know when to recommend a myomectomy by laparotomy and have performed under supervision
Manage intra- and postoperative complications

PREMENSTRUAL SYNDROME

3. SEXUAL HEALTH

Recognise, diagnose and correctly manage genital tract infections

Diagnosis and management of suspected anogenital tract infection in men and women.

To be able to explain the epidemiology, aetiology & natural history of genital infection by *N.*

gonorrhoeae, *C. trachomatis*, human papilloma virus, *T. vaginalis*, *C. albicans* and other yeasts, and bacterial vaginosis.

Syphilis

Ano-genital herpes simplex virus infections,

HPV Infections

Hepatitis A, B & C

Molluscum contagiosum

Scabies, pediculosis pubis

Common clinical presentation

To understand and be aware of infective causes and differential diagnosis of:

discharge (Vaginal / urethral)

dysuria

ulceration / pain

warts / lumps

itch / soreness

Principles of diagnosis

To understand and be able to describe the different methods of identification of bacteria, fungi and viruses that cause genital tract infection.

The uses and limitations of the currently available tests, including near patient testing, and antenatal and population screening.

Storage requirements for specimens and the logistics of transport of sample to laboratory

Principles of management

To be able to diagnose and manage the following conditions:

Infective causes of vulvovaginitis and balanitis

vaginal discharge

urethritis (including chlamydia negative non-gonococcal Urethritis in men)

rectal and pharyngeal infections as appropriate

pelvic inflammatory disease (PID)

epididymo-orchitis.

Genital HSV infection

Take a history / risk assessment

Perform appropriate clinical examination

Arrange routine laboratory investigations, and specific investigations as prompted by history and examination

Take adequate and appropriate specimens.

Correctly interpret test results.

Explain the diagnosis and management clearly to the patient

Prescribe drugs required

Initiate partner notification if appropriate

Complete necessary documentation

Assess an individual's need for referral and be able to explain the importance of it to the patient.

Discuss and arrange ongoing care

Prevention and vaccination strategies

To understand and be able to describe:

Current strategies on sexual health

Health promotion and interventions: safer sex, risk reduction, behavioural change

Partner notification

For hepatitis A and B - indications for screening for infection, immunisation, dosing schedules and follow-up.

HPV Vaccination

Management of recurrent or persistent conditions

Assess and explain common management options for

Recurrent vulvo-vaginal candidiasis

Recurrent bacterial vaginosis

Recurrent HSV including indications for suppressive therapy

Contact irritant dermatitis and lichen simplex

Psychosexual complications of STI or genital infections

Sexuality and sexual dysfunction

Sexual response cycle.

Frigidity etc

Sexual assault

Be able to explain:

the role of different professionals in managing a case of sexual assault

Knowledge of locally agreed referral pathways

Management options available to men and women who are alleged victims of sexual assault

The importance of offering the opportunity of forensic examination by a trained healthcare professional.

Treatment or prophylaxis of infections, HIV counselling and post-exposure prophylaxis, hepatitis B immunisation and post-coital contraception may be indicated.

Genital infections in pregnant women and children

Be able to explain:

Diagnosis, complications, treatment and management of sexually transmitted infections and other genital infections in pregnancy.

The multi-disciplinary management of children with genital infections.

Risk assessment for possible child abuse and possible referrals

HIV Infection

Be able to explain:

Laboratory tests used to diagnose HIV infection.

Risk factors for HIV infection.

Relevant issues for someone undergoing HIV testing.

Relevant issues for a pregnant woman undergoing HIV testing.

Medico-legal and ethical issues relevant to HIV/AIDS including partner notification, guidelines on insurance medical reports and confidentiality

To provide intermediate level contraception in a Hospital setting

Have the knowledge to provide all methods of modern contraception

Sexual health advice and management for young people

Insert and remove currently available sub-dermal contraceptive implants and IUCDs.

Ability to counsel and provide all methods of contraception.

Management of contraception in the perimenopause, including:

Appropriate use of methods

Diagnosis of the menopause in women using hormonal contraceptives

Abnormal bleeding while using hormonal contraception.

Women requesting HRT

Ability to integrate appropriate contraceptive care in the acute setting

4. PAEDIATRIC AND ADOLESCENT GYNAECOLOGY

Normal and abnormal puberty including precocious puberty

Pre-pubertal conditions

- Vulvovaginitis
- Vaginal bleeding
- Labial adhesions
- Urethral mucosal prolapse

Primary Amenorrhoea

Menstrual disorders in adolescence

- Menorrhagia

- Dysmenorrhoea

Polycystic ovary syndrome and its evolution in adolescence

- Presentation

- Investigation

- Treatment

- Lifestyle issues

Adolescent sexual health and contraception

Gynaecological and sexual health in adolescents with other chronic illness e.g.diabetes and other problems such as social deprivation

Unplanned teenage pregnancy including counselling, advice, legal and consent issues (Active participation in the termination process is not compulsory)

Adolescent athletes & the athletic triad

Childhood cancer survivors; premature ovarian failure & fertility issues

Investigation and appropriate referral of a pelvic mass

Evaluation of persistent urinary symptoms and appropriate referral

Congenital gynaecological anomalies including Disorders of Sexual Development (Intersex)

An understanding of the psychological implications of DSD (intersex) including disclosure of karyotype

Female genital mutilation in children and young women -practical and legal issues
Child protection issues and child sexual abuse

5. MENOPAUSE

Demonstrate history taking and ability to perform a relevant examination relating to menopause
Assess abnormal bleeding including interpretation of ultrasound and endometrial assessment reports
Ability to consider differential diagnoses

Knowledge of physiology, epidemiology and demography of the climacteric to include:

Endocrine changes

Aetiology of ovarian failure

Primary and secondary ovarian failure & surgical menopause

Genetics of the menopause

Pathophysiology

Vasomotor symptoms, incidence and aetiology

Connective tissue effects including skin and hair

Urogenital atrophy (effect on female urethra, bladder, vagina and pelvic floor muscles)

Mood disorders

(Undertake basic psychological evaluation)

Cognitive symptoms Undertake cognitive assessment, to include computerised testing
Benefits of HRT to cognitive function and memory

Sexual changes &
Sexual dysfunction Undertake a basic psychosexual evaluation. Demonstrate ability to take a sexual history including dyspareunia, vaginismus, phobias, psychosexual dynamics and libido.

Bone

Bone physiology including genetics

Peak bone mass, and contributing factors (environment, exercise, anorexia/bulimia)

Methodology for investigating and screening bone density, including DEXA and ultrasound densitometry

Bone markers and their relevance

Treatment strategies to include:

-Lifestyle counselling

-Weight-bearing exercise

-Ca and Vitamin D

-HRT & pharmaceutical alternatives e.g. bisphosphonates
strontium

SERMs

The Breast

Benign breast disease

Breast cancer to include risk and a previous history of breast cancer risk and HRT

Cardiovascular system

Pathophysiology of cardiovascular disease to include:

Demographics

Predisposing factors eg obesity, diabetes, blood pressure, thrombotic risk

The effect of oestrogen on: lipid profile, vascular dynamics, coagulation factors, insulin sensitivity, weight distribution & cellular oxidation.

Epidemiological studies and distinction between primary and secondary prevention

Understanding of basic lipid profile, homocysteine and cardiovascular risk markers e.g. lipoprotein a, and genetic markers.

Cognitive function and Dementia

Epidemiology of dementia & genetic predisposition

Demography

Patho-aetiology of dementia, e.g. amyloid deposition, cholinergic transmission

Assessment of cognitive function, including computerised testing

Effects of oestrogen on the central nervous system

Direct effects on neural cells

Oestrogen receptor sites and neurotransmitters

Suppression of apolipoprotein E

Effects on cerebral blood flow

Different types of dementia

Treatable causes, e.g. endocrine, toxic, traumatic and metabolic, cholinesterase inhibitors

Pharmacokinetics of HRT

Pharmacology of different types of oestrogen, progestogen, and testosterone

Types of HRT available and different combinations

Modes of delivery and their mechanisms of action: patch, gel, implant, oral, nasal spray and vaginal preparations

Contraindications, risks and adverse effects of different preparations

Use in special circumstances e.g. endometriosis, breast cancer

Specific pre-existing medical conditions and HRT

Endometriosis,
 Asthma,
 Fibroids,
 Pre-existing cardiovascular disease,
 Neurological disease e.g. migraine, epilepsy, Parkinson's disease and Alzheimer's disease
 Gastrointestinal disease, e.g. gall bladder, liver, Crohn's disease and lactose intolerance
 Diabetes
 Thyroid disease
 Malignancy, including ovarian, endometrial, cervical
 Autoimmune diseases, rheumatoid arthritis and systemic lupus erythematosus

6. GYNAECOLOGIC ONCOLOGY

Epidemiology, aetiology, diagnosis, prevention, screening, management, prognosis, complications, and anatomical considerations of premalignant and malignant conditions of:

a. Vulva:

- Preclinical phase of invasive carcinoma
- Paget's disease
- Basal cell carcinoma
- Squamous cell carcinoma
- Malignant melanoma
- Sarcoma

b. Cervix:

- Human papillomavirus screening
- Preclinical phase of invasive squamous cell carcinoma
- Adenocarcinoma in situ
- Squamous cell carcinoma
- Adenocarcinoma
- Sarcoma
- Metastatic tumours

c. Uterus:

- Adenocarcinoma
- Adenosquamous carcinoma
- Sarcoma
- Leiomyosarcoma
- Trophoblastic disease. hydatiform mole (complete, partial, invasive)

d. Ovary:

- Epithelial Tumours
- Germ Cell Tumours
- Sex Chord Stromal Tumours
- Gonadoblastoma
- Mesonephroma
- Metastatic carcinoma

Indications, techniques, complications and outcomes of:

Oncology Surgery:

a. Gynaecological

- Radical hysterectomy
- Pelvic lymphadenectomy
- Radical vulvectomy
- Vaginal reconstruction

- Pelvic exenteration
- Feeding jejunostomy/gastrostomy
- b. Urinary tract:
 - Ureter (ureteroneocystostomy, end-to-end ureteral anastomosis)
 - Conduits (ileum, transverse colon, sigmoid colon)
- c. Hysteroscopy
- d. Endometrial biopsy and curettage
- e. Vulval biopsy
- f. Needle biopsies (transvaginal, transabdominal)
- g. Nodal biopsies (pelvic, abdominal)
- h. Open biopsies

- i. Gastrointestinal:
 - Resection and anastomosis
 - Colostomy
- j. Radiotherapy:
 - i. Therapeutic methods:
 - Interstitial
 - Intracavity
 - External
 - ii. Complications:
 - Gastrointestinal tract
 - Urinary tract
 - Skin
 - Bone marrow
 - Kidneys
 - Liver
 - Central nervous system
 - iii. Chemotherapy
 - Drug Agents
 - Adverse effects
 - Monitoring

- k. Palliative and terminal care
 - Relief of symptoms
 - Pharmacological
 - Alternative Therapies
 - Community support roles:
 - General practitioner / Family Physician
 - Family
 - Religion

l. Indications, techniques, complications, and outcomes of:

- i. Cytology:
 - Cervical
 - Other (endometrial, vaginal, peritoneal)
- ii. Colposcopy / :
 - Cervix
 - Vaginal
 - Vulva
- iii. Minor procedures:

- Directed cervical biopsy
- Cone biopsy of cervix [cold knife / LEEP (LLETZ)]
- Endocervical curettage
- iv. Diagnostic Imaging:
 - CT Scan
 - Ultrasonography:
 - Pelvis
 - Abdomen
 - Retroperitoneal masses
 - Peripheral vascular thrombosis
 - 1. Magnetic resonance imaging:
 - Pelvis
 - Abdomen
 - Other

7. ABORTION CARE

Legal and ethical issues

Counselling

Risk assessment: Physical, Psychological, Social, Contraception, Sexually transmitted infection

Medical Abortion

Surgical abortion (MVA)

Post-abortion Care

UNSAFE ABORTION AND MANAGEMENT

8. LEGAL AND ETHICAL ISSUES IN CONTEMPORARY OBSTETRIC AND GYNAECOLOGICAL CARE

9. OBSTETRICS

- 1) Aetiology, incidence, pathophysiology, diagnosis, management, obstetric, medical & neonatal complications, and recurrence risks of:
 - Pregnancy induced hypertension
 - Antepartum haemorrhage
 - Obstetric cholestasis
 - Fetal growth restriction
 - Placental abnormalities
 - Fetal haemolysis
 - Preterm labour
 - Preterm premature rupture of membranes
 - Multiple pregnancy
 - Prolonged pregnancy
 - Malpresentation
- 2) Fetal cardiovascular and behavioural responses to: hypoxia, anaemia, sepsis
- 3) Normal and abnormal transvaginal ultrasound appearances of the cervix
- 4) Ultrasound scan for fetal surveillance, appropriate to the obstetric risks:
 - Biometry, Cervical length, Biophysical profile, Doppler studies of umbilical artery, middle cerebral artery (including MCA peak systolic velocity measurements for fetal anaemia)
- 5) Principles of and interpretation of Doppler studies of uterine arteries and ductus venosus

- 6) Incidence, risk factors, transmission risks, neonatal consequences, long term prognosis and management strategies to reduce vertical transmission of:
 - HIV,
 - Hepatitis B & C (HBV, HCV),
 - Herpes Simplex (HSV)
 - Group B Streptococcus (GBS)
- 7) Incidence, associated obstetric, medical, fetal & neonatal complications of the pregnant obese patient.
 - Endocrinology of obesity
 - The place of weight reduction strategies and appropriate nutrition in managing the pregnant obese patient.
 - The management of obesity and its complications during pregnancy including labour, delivery and the puerperium.
- 8) Prevalence, effects of pregnancy, management strategies and prognosis of pre-existing psychiatric disease (incl. depression / bipolar disorders, anxiety disorders, schizophrenia)
- 9) Pharmacology, maternal, fetal, neonatal and long-term effects (incl. adverse effects) of drugs used for psychiatric disorders
- 10) Risk factors, diagnostic features, natural history and prognosis (incl. recurrence risks) of pregnancy-induced / related psychiatric disease
- 11) Incidence, associated obstetric, medical, fetal & neonatal complications and legal consequences of the abuse of: alcohol (incl. acute intoxication), cannabis, opiates, cocaine and crack heroin, benzodiazepines, amphetamines, lysergic acid diethylamide (LSD), and cigarette smoking
- 12) Pharmacology (incl. adverse effects) of drugs of abuse and those used during detoxification.
- 13) Maternal & fetal effects of cancer therapies: Radiotherapy Chemotherapy
- 14) Pathology, prevalence, maternal and fetal risks, management during pregnancy and postnatally, advice re breastfeeding & contraception, prognosis and recurrence risks for:
- 15) Breast cancer
- 16) Gynaecological cancer (cervical cancer, ovarian cancer)

Chronic hypertension (HT)

Definition / diagnosis

- measurement of BP in pregnancy (incl. validated devices)
- impact of pregnancy on BP
- superimposed pre-eclampsia (PE)
- prevalence (primary & secondary causes)

Pathophysiology

- acute HT
- chronic HT (including end organ damage)

Management

- screening for common causes of secondary HT
- pregnancy management (incl. fetal monitoring)
- maternal and fetal risks
- contraception
- preconception counselling

Pharmacology (incl. adverse effects)

- anti-adrenergics (e.g. propranolol, labetalol, oxprenolol, atenolol)
- calcium channel blockers (e.g. nifedipine)
- vasodilators e.g. hydralazine
- ACE inhibitors (e.g. lisinopril)
- Central acting agents e.g. methyl dopa

Outcome

- long term cardiovascular risks

Preeclampsia

Definition / diagnosis

- pregnancy-induced HT (PIH)
- proteinuria
- prevalence

Pathophysiology

- placental pathology
- endothelial dysfunction / systemic manifestations
- oxidative stress

Prediction of PE and Management of severe PE

- maternal and fetal risks
- maternal monitoring (incl. indications for invasive monitoring)
- fetal monitoring
- management of complications
 - HELLP syndrome
 - eclampsia (incl. differential diagnosis of convulsions, altered consciousness)
 - cerebrovascular accident
 - pulmonary oedema, ARDS
 - renal complications
 - visual complications.
- Contraceptive options.

advise re future pregnancy risk & plan appropriate investigations

Pharmacology (including adverse effects)

- magnesium sulphate
- frusemide

Outcome of PE

- Long term cardiovascular risks

RENAL DISEASE

Kidney in normal pregnancy

- anatomical changes (incl. hydronephrosis)
- functional changes
- interpretation of renal function tests
- fluid and electrolyte balance

Pre-existing renal disease [CRD] (reflux nephropathy, glomerulonephritis, polycystic kidney disease)

- pathology
- prevalence
- pre-pregnancy assessment
- pregnancy management
- outcome (including genetic implications)

Renal transplant recipients

- pre-pregnancy assessment
- diagnosis rejection
- pregnancy management
- long term considerations
- pharmacology (including adverse effects)
cyclosporine, tacrolimus
azothiaprine
corticosteroids

Acute renal failure (ARF) in pregnancy & puerperium

- aetiology and diagnosis (incl. differential diagnosis abnormal renal function)
- management and outcome
- indications for and principles of renal support

Urinary Tract infection and Asymptomatic Bacteriuria

- differential diagnosis of proteinuria

CARDIAC DISEASE

Heart in normal pregnancy

- anatomical and functional changes (incl. differential diagnosis heart murmur)
- ECG, echocardiography and assessment of cardiac function

Congenital heart disease (HD)

- classification (cyanotic and acyanotic) & risks
- prevalence
- functional impact of pregnancy
- pre-pregnancy assessment, indications for TOP
- pregnancy management (incl. prevention / management of endocarditis, thromboembolism, arrhythmias, cardiac failure)
- maternal / fetal outcome (incl. genetic implications)
- contraceptive options

Acquired heart disease (rheumatic HD, ischaemic HD, valve replacement, Marfan syndrome, arrhythmias)

- functional impact of pregnancy
- pre-pregnancy assessment
- diagnosis (incl. differential diagnosis chest pain, palpitations pregnancy management (incl. management of CF)

Pharmacology (including adverse effects)

- diuretics / antihypertensives
- inotropes e.g. digoxin,
- anti-arrhythmics (e.g. adenosine, mexiletine, lidocaine, procainamide)
- anticoagulants (LMW heparin, warfarin)

Peripartum cardiomyopathy

- diagnosis (incl. differential diagnosis breathlessness)
- management and outcome
- recurrence risks

LIVER DISEASE

Liver in normal pregnancy

- anatomical and functional changes
- interpretation of liver function tests in pregnancy

Pre-existing liver disease

- pathology
- functional impact of pregnancy
- pregnancy management
- maternal and fetal outcome
- contraception

Obstetric cholestasis (OC)

- pathogenesis
- prevalence
- diagnosis (incl. differential diagnosis of itching & altered liver function)
- pregnancy management (including fetal monitoring)
- pharmacology (including adverse effects)

UDCA

Recurrence risks

Acute fatty liver of pregnancy (AFLP)

- diagnosis (incl. differential diagnosis of overlap syndromes e.g. PE)
- management and outcome (incl. management of liver failure)
- recurrence risks

Hepatitis

Virology / Epidemiology

- hepatitis A,B,C (HAV, HBV, HCV) and Hepatitis E Virus infections.
- natural history / viral dynamics
- pathophysiology acute / chronic hepatitis
- mode / risk of transmission
- epidemiology of infection in pregnancy

Screening / diagnosis

- differential diagnosis of jaundice / abnormal LFTs
 - rationale & organization of Hepatitis B (HbsAg) screening programme
 - laboratory tests
- serology e.g. enzyme immunoassay (EIA)
diagnostic e.g. Western blot, PCR
- risk groups for HCV
 - neonatal testing

Management

- supportive care
- screening for coincident infection (HBC, HCV)

Prevention

- HAV / HBV vaccination in pregnancy
- Prevention perinatal infection
- HA immunoglobulin (IG)
- HBIG and vaccination
- Mode of delivery / breastfeeding

Outcome

- HBV/HCV -related disease (cirrhosis, hepatocellular carcinoma)

Pharmacology

- HAV vaccine, HAIG
- HBV vaccine, HBIG

Respiratory Disease

Lungs in normal pregnancy

- anatomical and functional changes
- interpretation of chest X-ray and pulmonary function tests (incl. blood gases) in pregnancy

Pre-existing lung disease (asthma, tuberculosis, restrictive lung disease)

- pathogenesis
- prevalence
- functional impact of pregnancy
- pregnancy management
- maternal and fetal outcome
- pharmacology (incl adverse effects)
- sympathomimetics [(e.g. Short Acting Beta Adrenergic (salbutamol, (terbutaline)) and Long Acting Beta Adrenergic, formoterol]
- theophyllines
- disodium cromoglycate
- corticosteroids
- anti-tuberculous drugs

Acute lung disease in pregnancy (pneumonia, ARDS, pneumothorax and Mendelsohn's)

- pathogenesis
- diagnosis (incl. differential diagnosis of chest pain,, breathlessness, tachypnoea, acute hypoxaemia)
- oxygen therapy
- management of respiratory failure (incl. indications for and principles of ventilatory support)
- pharmacology (incl. adverse effects)
- antibiotics

Gastrointestinal disease

GI Tract in normal pregnancy

- anatomical and functional changes

Pre-existing GI disease (PUD and GERD, ulcerative colitis, Crohn's disease, coeliac disease, irritable bowel syndrome)

- pathogenesis
- functional impact of pregnancy
- pregnancy management
- maternal and fetal outcome

- pharmacology (incl. adverse effects) sulphasalazine, 5-ASA
corticosteroids
bulking agents, lactulose
anti-spasmodics

Pregnancy-related GI disease (hyperemesis gravidarum [HG], reflux oesophagitis, constipation)

- pathogenesis
- prevalence
- diagnosis (incl. differential diagnosis of vomiting and role of endoscopy)
- pregnancy management (incl. parenteral nutrition & steroids)
- pharmacology (incl. adverse effects)
anti-emetics e.g. cyclizine, metoclopramide, promethazine
antacids (e.g. magnesium trisilicate)
H2-receptor antagonists (e.g. ranitidine)
Proton pump inhibitors (e.g. esomeprazole)

Acute surgical conditions

Acute appendicitis
Intestinal obstruction

Diabetes

Glucose homeostasis in pregnancy

Pre-existing diabetes

- pathogenesis & classification
- prevalence
- complications (metabolic, retinopathy, nephropathy, neuropathy, vascular disease)
- pre-pregnancy assessment
- functional impact of pregnancy in uncomplicated and complicated diabetes
- pregnancy management
pre-pregnancy care
maternal monitoring (glycaemic control)
fetal monitoring
intrapartum care
- maternal and fetal outcome (incl. fetal abnormality, macrosomia, FGR)
- pharmacology (incl. adverse effects)
insulin
oral hypoglycaemics (e.g. metformin)
- contraceptive options

Gestational diabetes (GDM)

- pathophysiology and diagnosis
- prevalence
- Screening for GDM
- pregnancy management (incl. diet, insulin & oral hypoglycaemic agents)
- maternal and fetal outcome
- long term risks & management
- contraceptive options

Outcome

- neonatal complications and management

Other Endocrine Diseases

Endocrine function in pregnancy

- Thyroid physiology in pregnancy
- Pituitary and adrenal physiology in pregnancy
- Fetal thyroid and adrenal function

Thyroid disease (hyperthyroidism, hypothyroidism)

- Prevalence
- pathogenesis (incl. Graves disease)
- diagnosis
- maternal and fetal outcome (incl. fetal hypo/hyperthyroidism, developmental delay)
- pregnancy management
 - maternal monitoring (FT4, TSH, TSH-receptor Igs)
 - fetal monitoring (ultrasound, blood sampling)
- pharmacology (incl adverse effects): thyroxine, thionamides (e.g. carbimazole, PTU)
- outcome – management and outcome of neonatal hypo- & hyper-thyroidism

Pituitary and adrenal diseases

- pathophysiology (hyperprolactinaemia, Cushing's syndrome, hypopituitarism, Addison's disease, diabetes insipidus)
- maternal and fetal outcome
- pregnancy management
- pharmacology (incl. adverse effects)
 - bromocriptine

Pregnancy induced endocrine disease

- pathophysiology (postpartum thyroiditis, lymphocytic hypophysitis, diabetes insipidus)
- pregnancy / postnatal management

Neurological function in pregnancy

Pre-existing neurological disease (epilepsy, migraine, multiple sclerosis, myasthenia gravis, myotonic dystrophy, idiopathic intracranial hypertension, previous CVA)

- pathogenesis
- prevalence
- functional impact of pregnancy
- pregnancy management including; pre-pregnancy care, prenatal diagnosis, peripartum care
- maternal and fetal outcome
- pharmacology (incl adverse effects)
 - phenytoin, valproic acid, carbamazepine, lamotrigine and phenobarbitone
 - propranolol, tricyclic antidepressants
 - acetazolamide
 - pyridostigmine
- contraception

Acute / pregnancy-induced neurological disease (neuropathies –Bell's palsy, carpal tunnel syndrome and De Quervain's tenosynovitis)

- Pathogenesis of stroke (incl. cerebrovascular disease, cerebral venous thrombosis, SAH),
- neuropathies
- diagnosis (incl. differential diagnosis headache, convulsions and altered consciousness & cerebral

- imaging, electrophysiology)
- management (incl. corticosteroids)
- maternal and fetal outcome

Connective Tissue Disease

Systemic lupus erythematosus (SLE) and antiphospholipid syndrome (APS)

- pathogenesis
- prevalence
- diagnosis (incl. classification criteria [Sapporo, American Rheumatoid Association] , laboratory investigations)
- functional impact of pregnancy
- management incl; pre-pregnancy care, maternal and fetal monitoring
- maternal and fetal outcome
- pharmacology (incl adverse effects): corticosteroids, azathioprine, aspirin, LMW heparin
- contraceptive options
- outcome (incl. management of neonatal lupus)

Haematological function in pregnancy

- red cell / plasma volume changes during pregnancy
- changes in coagulation system during pregnancy
- interpretation of haematological / clotting tests

Anaemia

- pathogenesis (iron, folate & vitamin B12 deficiency)
 - prevalence
 - diagnosis
 - maternal and fetal outcome
 - pharmacology (including adverse effects)
- iron (oral & parenteral), folic acid, vitamin B12

Haemoglobinopathies (Sickle cell & Thalassemia syndromes)

- genetic basis and pathogenesis
- prevalence
- prenatal diagnosis, fetal monitoring
- functional impact of pregnancy
- maternal and fetal outcome
- management (incl. vaso-occlusive crisis in SCD, haematinic & transfusion therapy)

Thrombocytopenia

- prevalence
 - diagnosis (incl. differential diagnosis thrombocytopenia)
 - pathogenesis (incl. ITP, HUS and TTP)
 - maternal and fetal outcome
 - management (incl. role of splenectomy)
 - pharmacology (including adverse effects)
- corticosteroids, azathioprine
iv immunoglobulin G

Congenital coagulation disorders

- genetic basis / pathogenesis vWD, haemophilia
- prevalence

- prenatal diagnosis
- diagnosis / maternal monitoring (clotting factor levels / vWF antigen activity, vWF:RCo)
- maternal and fetal outcome
- management (including pre-pregnancy counselling and intrapartum care)
- pharmacology (including adverse effects)

DDAVP

recombinant and plasma derived factor concentrates

Disseminated intravascular coagulation [DIC]

- aetiology and pathogenesis
- diagnosis
- management: resuscitation with volume replacement platelet, fresh frozen plasma replacement recombinant fVIIa

Thromboembolic Disease

Venous thromboembolism (VTE) in pregnancy

- pathogenesis of deep venous thrombosis (DVT), pulmonary embolism (PE)
- prevalence
- risk factors (incl. thrombophilias)
- diagnosis (clinical, D-dimer, ultrasound, Doppler, CXR, ECG, blood gases, isotope scanning, spiral CT)
- acute management antithrombotic agents laboratory monitoring thrombolytic therapy / surgery
- subsequent prophylaxis (incl. non-pharmacological methods)
- pharmacology (including adverse effects) unfractionated heparin, LMWH warfarin streptokinase
- outcome (including postphlebotic syndrome)
- contraception

Thrombophilia / previous VTE

- genetic basis and pathogenesis of congenital and acquired thrombophilias
- diagnosis of thrombophilia (lab investigations and interpretation in pregnancy)
- risk of VTE (based on thrombophilia, past history)
- maternal and fetal risks (incl. fetal loss, PE, FGR)
- Management including non-pharmacological approaches, LMWH, aspirin, fetal monitoring
- contraception

Skin Disease

Physiological skin changes of pregnancy

- Skin changes
- Nail / hair changes

Pre-existing skin disease (eczema, psoriasis, acne)

- pathogenesis
- prevalence
- functional impact of pregnancy
- pregnancy / postnatal management
- pharmacology (including adverse effects) emollients topical corticosteroids topical benzoyl peroxide

Pregnancy-induced skin disease (pemphigoid gestationis, polymorphic eruption of pregnancy [PEP], prurigo of pregnancy, pruritic folliculitis of pregnancy)

- pathogenesis
- prevalence
- diagnosis (incl. skin histological and immunofluorescent findings)
- maternal and fetal outcome
- management (including plasmapheresis, immunosuppressants)

- pharmacology (including adverse effects) topical / systemic corticosteroids antihistamines (e.g. diphenhydramine)
- recurrence risks

Medical Disorders on the Labour ward

Pathophysiology

Including the effect of labour and delivery on the following diseases;

- diabetes
- cardiac/respiratory abnormalities
- haemoglobinopathies
- thrombotic / haemostatic abnormalities
- epilepsy
- severe pre-eclampsia / eclampsia
- renal disease
- hypertension
- HIV / sepsis

Management

- maternal monitoring: blood glucose, respiratory function (incl. respiratory rate, SaO₂, SPO₂, blood gases)
- cardiovascular function (incl. blood pressure, heart rate, cardiac output), renal function (incl. urine output, creatinine)
- analgesia and anesthesia

Pharmacology

- effects of drugs used to treat above conditions on course and outcome of labour
- effects of drugs used in management of labour (e.g. oxytocin, syntometrine) on above conditions
- effects of analgesics and anaesthetics on the above conditions

10. FETAL MEDICINE

INTRODUCTION TO FETAL MEDICINE

Principles of prenatal diagnosis and management

- **Conditions screened for.**
- **Detection and Timing.**
- **Counselling of couples including chances of survival, fetal and neonatal prognosis.**
- **Multidisciplinary approach.**
- **Management options:**
 - **Multidisciplinary approach.**
 - **Support.**
 - **Termination of pregnancy.**
 - **Continuation of pregnancy.**
 - **Initiation of fetal therapy.**
 - **Etc.**

CNS

Embryology

- brain & spinal cord (incl. postnatal development)

Pathology / Epidemiology

- pathology of common major CNS anomalies
- incidence of CNS anomalies
- risk factors
- associated chromosomal anomalies

Screening / diagnosis

- ultrasound appearance of normal embryonic/fetal CNS
- biometric measurements (incl. transcerebellar diameter, ventricular size, cisterna magna)
- ultrasound appearances of common CNS anomalies (incl. differential diagnosis)

(Perform an ultrasound scan to assess: head shape and biometry, cavum, thalami, cortex, ventricles, choroid plexus, cerebellum, cisterna magna.

Be able to diagnose the following: anencephaly / exencephaly, spina bifida, encephalocele, ventriculomegaly (all degrees)

Holoprosencephaly, Dandy Walker spectrum)

Management / outcome: acrania / exencephaly / anencephaly, spinal bifida, encephalocele, ventriculomegaly holoprosencephaly

Recurrence risks / prevention

- CNS anomalies
- Prevention of neural tube defect

Pharmacology

- Folic acid

Cardiac anomalies

Embryology

- heart and cardiovascular system
- circulatory adaptations at birth

Pathology / Epidemiology

- pathology of major cardiac anomalies
- incidence of major cardiac anomalies
- risk factors (incl. family history)
- associated chromosomal / genetic (incl. 22q deletions) anomalies

Screening / diagnosis

- ultrasound appearance of normal fetal heart including 4-chamber view of the heart, the aorta and the pulmonary artery.

Management / outcome

- septal defects
- hypoplastic heart syndromes
- outflow tract anomalies
- arrhythmia

Recurrence risks

- cardiac anomalies

Genitourinary anomalies

Embryology

- genito-urinary system (incl. physiology of fetal urinary system)
- functional adaptations after birth

Pathology / Epidemiology

- pathology of major GU anomalies
- incidence of GU anomalies
- risk factors
- associated chromosomal anomalies

Screening / diagnosis

- ultrasound appearance of normal embryonic/fetal / neonatal urinary tract
- ultrasound appearances of GU anomalies (incl. differential diagnosis)

(Perform ultrasound scan to assess: renal size, renal parenchyma & collecting system, ureters & bladder, genitalia, liquor volume.

Be able to diagnose the following: renal agenesis, multicystic / dysplastic kidney, pyelectasis / hydronephrosis, lower urinary tract obstruction)

Management / outcome

- renal agenesis
- renal cystic disease
- hydronephrosis
- lower urinary tract obstruction

Recurrence risks

- GU anomalies

Thoracic abnormalities

Embryology

- Trachea, lungs & diaphragm
- functional adaptations after birth

Pathology / Epidemiology

- Pathology of pulmonary anomalies
- Incidence of pulmonary anomalies
- associated chromosomal anomalies

Screening / diagnosis

- Ultrasound appearance of normal embryonic/fetal thorax
- Ultrasound appearances of major pulmonary anomalies (incl. differential diagnosis)

(Perform ultrasound scan to assess: chest size and shape, mediastinal shift, ribs, lung parenchyma, diaphragm

Be able to diagnose the following: Cystic adenomatoid malformation of lung (CAML), diaphragmatic hernia, pleural effusion)

Management / outcome

- Cystic adenomatoid malformation of lung (CAML)
- Diaphragmatic hernia
- Pleural effusion

Recurrence risks

- Major pulmonary anomalies

Abdominal wall (AW) and gastrointestinal (GI) anomalies

Embryology

- Abdominal wall
- Gastrointestinal tract

Pathology / Epidemiology

- Pathology of AW and GI anomalies
- Incidence of AW and GI anomalies
- risk factors
- Associated chromosomal anomalies

Screening / diagnosis

- Ultrasound appearance of normal embryonic/fetal AW and GI tract
- Ultrasound appearances of AW and GI anomalies (incl. differential diagnosis)

(Perform ultrasound scan to assess: Abdominal shape & biometry, Abdominal wall / cord insertion, Stomach, small & large bowel, liver, gallbladder, Intrahepatic vein & ductus venosus.

Be able to diagnose the following: Gastroschisis / body wall defect, Umbilical hernia / exomphalos, absent / enlarged stomach, bowel atresia, echogenic bowel, ascites.

Management / outcome

- Gastroschisis
- umbilical hernia / exomphalos
- Bowel atresia (incl. oesophageal & duodenal atresia)
- echogenic bowel

Recurrence risks

- Major AW and GI anomalies

Neck and face abnormalities

Embryology

- Fetal face
- Fetal neck

Pathology / Epidemiology

- Pathology of neck and facial anomalies
- Incidence of neck and facial anomalies
- Risk factors
- Associated chromosomal anomalies

Screening / diagnosis

- Ultrasound appearance of normal fetal neck and face
- Ultrasound appearances of neck and facial anomalies (incl. differential diagnosis)

(Perform ultrasound scan to assess: head shape & biometry (incl. orbital diameters), face and palate, neck.

Be able to diagnose the following: cystic hygroma, facial cleft, micrognathia)

Management / outcome

- Cystic hygroma

- Facial cleft
- Micrognathia

Recurrence risks

- Neck and facial anomalies

Skeletal abnormalities

Embryology

- Fetal skeleton and spine

Pathology / Epidemiology

- Pathology of skeletal anomalies
- incidence of skeletal anomalies
- associated chromosomal anomalies

Screening / diagnosis

- Ultrasound appearance of normal fetal skeleton
- Ultrasound appearances of skeletal anomalies (incl. differential diagnosis)

(Perform ultrasound scan to assess: long bone shape & biometry, ribs & spine, mineralisation of skeleton, feet and hands, joints, fetal tone and movements.

Be able to diagnose the following: micromelia (due to lethal and non-lethal dysplasias), limb reduction defect, talipes, polydactyly)

Management / outcome

- Lethal skeletal dysplasias (incl. thanatophoric dysplasia, achondrogenesis, osteogenesis imperfecta)
- Achondroplasia
- Talipes
- Limb reduction defect
- Polydactyly

Recurrence risks

- Skeletal anomalies

Fetal hydrops

Pathology / Epidemiology

- Pathology of fetal hydrops (incl. immune and non-immune causes)
- Incidence of fetal hydrops
- Risk factors
- Associated chromosomal / genetic / syndromic anomalies

Diagnosis

- Ultrasound appearance of fetal hydrops (incl. differential diagnosis)
- Role of, MCA Doppler and fetal blood sampling

(Perform ultrasound scan to assess: Cause of hydrops (incl. echocardiography and middle cerebral artery Doppler), Severity of hydrops (incl. amniotic fluid volume), Fetal condition

Be able to diagnose the following: Immune hydrops, Non-immune hydrops

Management / outcome

- Red cell alloimmunisation
- Cardiac arrhythmias

- Fetal infection
- Other non-immune causes of hydrops

Recurrence risks

- Immune and non-immune hydrops

Multiple Pregnancy

Embryology

- Mono & dizygous twinning
- placentation – chorionicity / amnionicity

Pathology / Epidemiology

- Pathology of abnormalities related to twinning and twin placentation (incl. twin-to-twin transfusion syndrome [TTTS], twin reversed arterial perfusion [TRAP] and conjoint twinning.
- Incidence of abnormalities related to twinning
- risk factors for twinning and related anomalies

Screening / diagnosis

- Ultrasound determination of zygosity / chorionicity
- Chorionicity and amnionicity
- Ultrasound appearances of abnormalities related to twinning (incl. differential diagnosis)

(Perform ultrasound scan in multiple pregnancy to assess: chorionicity and amnionicity, fetal anatomy, fetal growth.

Be able to diagnose the following: Multiple pregnancy with discordant fetal abnormality, Multiple pregnancy with discordant fetal growth, TRAP sequence, Conjoined twin, TTTS)

Management / outcome

- Triplet & higher order multiple pregnancy
- Discordant anomalies in multiples
- TRAP sequence
- Conjoined twins
- TTTS
- Discordant fetal growth

Disorders of Amniotic Fluid

Embryology / Physiology

Placenta and membranes
formation / function of amniotic fluid

Pathology / Epidemiology

Pathology of disorders of AF (incl. secondary effects of early amnion rupture & oligohydramnios)
incidence of AF disorders
risk factors
associated chromosomal anomalies

Diagnosis

Ultrasound measurement of AF
diagnosis of oligohydramnios and hydramnios (incl. differential diagnosis)

(Perform ultrasound scan to assess AF volume

Be able to diagnose and identify cause of:

- oligo/an-hydramnios (incl ROM, renal anomaly, FGR, postmaturity)
- hydramnios (incl. GI anomaly, neuromuscular anomaly, maternal diabetes)

Management / outcome: oligo/an-hydramnios, hydramnios
indications for / risks of: amnioinfusion, amnioreduction

Pharmacology

- Prostaglandin synthase inhibitors

Genetic Disorders

Genetics

Gene structure & function

DNA as genetic material

replication, transcription & translation

mechanisms & effects of mutation

inheritance & susceptibility

patterns of inheritance of single genes

genetic heterogeneity (locus & allele)

new mutations causing single gene disorder

expression & penetrance

multifactorial inheritance (incl. summation / interaction gene effects, polymorphisms)

mitochondrial inheritance

Service & Laboratory aspects

Organisation & role of Clinical Genetics Services

DNA testing in clinical practice

-ethical & societal issues

-diagnostic, predictive & carrier testing

-uses & limitations

-diagnostic pitfalls

Indications, methods and limitations (incl. failure / error rates) of:

-cytogenetics

-FISH

-mutation detection / PCR

-gene tracking using RFLPs

Methods of prenatal diagnosis (incl. indications, techniques, complications)

ultrasound

amniocentesis

chorion villus sampling (CVS)

Single gene defects

- epidemiology & inheritance

effects of mutation & associated pathology

clinical / pathological features

prognosis

recurrence risks

prenatal diagnosis of the following defects:

haemoglobinopathies

haemophilias

Chromosomes

- structure & function
- cell division
- types of abnormality (incl. structural rearrangements, trisomies, sex chromosome anomalies, extra markers, mosaicism)

Screening / diagnosis

- biochemical markers (incl. AFP, uE3, hCG, PAPP-A, inhibin-A)
- ultrasound markers
- 11-14 weeks (incl. nuchal translucency, nasal bone, ductus venosus Doppler, tricuspid regurgitation)
- 18-21 weeks (incl. nuchal oedema, clinodactyly, echogenic bowel, pyelectasis, choroid plexus cysts, nasal bone, short femur/humerus)
- Likelihood ratios & risk calculation
- screening strategies
- accuracy (incl. detection rate, false positive rate)
- service / cost implications
- laboratory diagnosis (incl. methods, failure / error rates)
- cytogenetic analysis
- FISH
- PCR

mosaicism (incl. classification and management)

principles & organisation of screening / diagnostic programme for chromosomal anomalies

quality control & audit

Chromosomal anomalies

- epidemiology, pathology, clinical / pathological features, prognosis, recurrence risks.
- prenatal diagnosis of the following chromosomal anomalies
- trisomy 21
- trisomy 18
- trisomy 13
- Turner syndrome
- Klinefelter syndrome (XXY)
- XXX
- triploidy

Red Cell alloimmunisation

Blood group systems / pathophysiology

- rhesus (incl. gene structure and prediction of genotype)
- other red cell antigens causing HDN
- fetal pathology in HDN

Epidemiology

- incidence (alloimmunisation & complications)
- risk factors (sensitizing events)

Laboratory methods

- Antibody detection (antiglobulin tests)
- Kleihauer testing / flow cytometry for fetomaternal haemorrhage (FMH)
- DNA analysis (incl. use of fetal DNA in maternal plasma)

Prevention

- FMH
- organisation & effectiveness of screening and prevention programmes

Management

- screening and diagnosis of fetal anaemia (incl. MCA Doppler)
- hydrops

Outcome

- Neonatal complications of HDN (incl. hyper-bilirubinaemia, anaemia)
- Management of complications (incl. exchange transfusion)

Pharmacology

- Anti-D immunoglobulin

Fetal growth disorders

Fetal growth

- pattern (incl. organ-specific growth)
- causes (incl. fetal, placental & maternal factors)

Definitions

- small for gestational age (SGA) / FGR
- large for gestational age (LGA) / macrosomia

Screening / diagnosis

- previous history
- clinical exam (incl. symphysis fundal distance)
- ultrasound morphometry – basic and derived measurements (incl. estimated fetal weight)
- customised growth charts

Tests of fetal wellbeing

Technique, indications for & interpretation of;

- Doppler (umbilical artery (UA), middle cerebral artery (MCA), ductus venosus (DV))
- amniotic fluid volume (AFV)
- cardiotocography (incl. computerized analysis)
- biophysical profile

Management

- strategy for monitoring
- timing / mode of delivery
- management of FGR in pre-viable/extremely preterm fetus & in multiple pregnancy

Outcome

- neonatal complications of SGA/LGA infant
- long term health implications of fetal growth disorders

Preconception Care

- assessment of risk of fetal anomaly
- personal / family history of genetic disorder
- prior chromosomal disorder / advanced age
- prior structural anomaly
- current medical disorder e.g. diabetes
- teratogen exposure

- investigations (incl. genetic testing)
- methods of screening / diagnosis
- alternative options (incl. assisted conception / preimplantation diagnosis)

Teratogenicity

- mechanisms of teratogenicity
- teratogenic effects of commonly used drugs incl:
lithium
warfarin
anti-epileptic drugs
ACE inhibitors
anti-neoplastic drugs
- teratogenic effects of radiological investigations

11. ADVANCED SURGICAL PROCEDURES IN OBSTETRICS

- 1) Operative vaginal delivery.
- 2) Management of shoulder dystocia.
- 3) Destructive operations.
- 4) Caesarean hysterectomy.
- 5) Ruptured uterus.
- 6) Management of 3rd and 4th perineal tears.
- 7) Surgical management of PPH.
 - a. B- Lynch brace sutures and its varieties.
 - b. Internal iliac ligation.
 - c. Sub-total and total hysterectomy.

12. SEVERE ACUTE MATERNAL MORBIDITY AND MORTALITY (“NEAR MISS”) AND VITAL STATISTICS

13. PRINCIPLES OF EVIDENCE BASED PRACTICE

Evidence Based Medicine

Definition

Historical perspectives

The Steps in the Evidence Based Practice Process: the trainee should be able to

1. Identify a clinical problem or question arising from the care of the patient
2. Construct a well-built clinical question derived from the case
 - use PICO
 - determine what type of question is being dealt with (Diagnosis, Therapy, Prognosis, Harm/Etiology, Prevention, Clinical Exam, Cost Benefit)
 - determine best type of study to answer question (evidence pyramid/ the hierarchy of study design)
3. Select the appropriate resource(s) and conduct a search for evidence (PubMed/MEDLINE, ACP Journal Club, Essential Evidence, Family Physician Inquiry Network (FPIN) Clinical Inquiries, Clinical Evidence and The Cochrane Library)
4. Critically appraise that evidence for its validity and applicability
5. Integrate that evidence with clinical expertise, patient preferences and apply it to practice
6. Evaluate the effectiveness and efficiency of the process (to improve next time).

(Keep records of clinical questions, research results and critical appraisal of evidence, follow up patients where results of searches have been applied and to record and, where appropriate, publish, outcomes).

14. CLINICAL AUDIT

Definition

Historical perspectives

The audit cycle: trainee should be able to

- Identify a topic that is important to audit
- Establish the authoritative standards against which to audit
- Develop audit criteria that will measure performance against the agreed standard.
- Collect and analyse data and report results
- Reflect on results and decide on improvement plan
- Implement improvement plan
- Repeat the data collection process to measure improvement

Importance of audit

Differences between audit and other data collection processes (research, surveys, service evaluation)

15. ICU ROTATION (ONE MONTH).

The trainee must be able to:

- Define intensive care / high dependency care and the critically ill.
- Define the criteria for admission to the ICU.
- Describe and use non-invasive and invasive monitoring.
- Perform and interpret ECG.
- Describe the pathophysiology and management of acid-base, fluid and electrolyte disturbances including the use of Arterial Blood Gases.
- Read Chest Xrays.
- Identify the indication for mechanical ventilation as well as manage patients on mechanical ventilation including weaning.
- Evaluate the cardio-respiratory status of ill patients.
- Describe the indications for and the management of Oxygen therapy.
- Perform Cardiopulmonary Resuscitation.
- Manage patients with haemorrhagic shock.
- Identify critically ill patients with multi-organ dysfunction and initiate management appropriately.
- Describe the pathophysiology and management of sepsis.
- Describe the basics of enteral and parenteral nutrition.

16. RENAL MEDICINE ROTATION (TWO WEEKS).

1. (Fluid and Electrolyte Disorders)

The trainee must be able to:

- Assess patients with disorders of fluid and electrolyte and acid-base homeostasis and initiate appropriate treatment.

2. Acute Kidney Injury (AKI) (Acute Renal Failure)

The trainee must be able to:

- Identify patients at risk of AKI and institute preventive measures
- Differentiate pre-renal failure, renal failure and urinary tract obstruction

- Grade severity of AKI using the RIFLE criteria
- Order, interpret and act upon investigations appropriately (biochemistry, haematology, microbiology)
- Initiate appropriate management of AKI and the underlying cause (including renal replacement therapy)

3. Chronic Kidney Disease (CKD)

The trainee must be able to:

- Describe the criteria for classifying chronic kidney disease.
- Differentiate between AKI and CKD.
- Describe the importance of albuminuria in the progression of CKD.

4. Haemodialysis

The trainee must be able to:

- Describe the methods of creating vascular access for haemodialysis.
- Describe the principles of haemodialysis and the effects of changes in treatment length and frequency.
- Describe the methods used to assess adequacy of haemodialysis.
- Describe the complications of haemodialysis

Acknowledgement

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