

SST: REPRODUCTIVE MEDICINE (RM)

Subspecialty training in Reproductive Medicine (RM) consists of the Special Interest Training Module (SITM) in Management of Subfertility (MoS) in Practice (CiPs) and the RM subspecialty specific CiPs. There are four Management of Subfertility SITM CiPs (MoS CiPs 1-4), five RM subspecialty specific CiPs (SST RM CiPs 1-5) and one subspecialty specific research CiP. The subspecialty trainee will need to complete all 10 CiPs to achieve subspecialty accreditation. The subspecialty specific CiPs can only be completed as part of an accredited subspecialty training programme in Reproductive Medicine. A doctor who has completed part or all of the SITM (MoS CiPs 1-4) prior to commencing subspecialty training in RM does not need to repeat any part of the SITM CiPs already completed.

SITM: Management of Subfertility (MoS)

SECTION 1: CAPABILITIES IN PRACTICE

MoS CiP 1: The doctor recognises, assesses and investigates the infertile woman	
Key Skills	Descriptors
Assesses women with infertility	<ul style="list-style-type: none"> • Takes a detailed history, recording menarche, cycle regularity, past medical and obstetric history. • If cycle irregular asks additional questions including hirsutism, acne, alopecia, galactorrhoea, secondary sex characteristics, previous chemotherapy/pelvic radiotherapy. • Screens for associated conditions, e.g. autoimmune factors, genetic causes, diabetes mellitus, late onset congenital adrenal hyperplasia • Takes social and sexual history • Screens for previous infections eg chlamydia and gonorrhoea • Performs appropriate physical examination including BMI, secondary sex characteristics & vagino-rectal assessment for endometriosis if appropriate. • Assesses visual fields if appropriate.
Arranges appropriate endocrine and other investigations to make a diagnosis	<ul style="list-style-type: none"> • Arranges baseline investigations including luteal phase progesterone, Day 2 FSH, LH and estradiol & Rubella • Arranges endocrine investigations, if appropriate, including a baseline hormone profile of FSH, LH, Oestradiol, PRL, TFTs, androgens (testosterone, SHBG, FAI, DHEAS, androstenedione

	<p>and 17αhydroxyprogesterone) and is able to interpret results appropriate</p> <ul style="list-style-type: none"> • Organises and interprets appropriate investigations of impaired glucose tolerance and hypercholesterolaemia. • Takes vulvo-vaginal swabs • Discusses diagnostic techniques available for assessing tubal disease and uterine disease, any associated risks and complications. • Is able to carry out ultrasound scans of the pelvis in order to assess uterine shape and size, ovarian size and morphology • Is able to diagnose an endometrioma on a pelvic ultrasound scan. • Arranges and interprets HSG, HyCoSy and saline-infusion sonohysterography. • Appropriately organises and reviews the results of CT/MRI scan including MRI of the pituitary gland • Establishes the likely cause(s) of infertility. • Records results appropriately, including the need for referral and/or additional imaging.
<p>Makes a diagnosis of unexplained infertility</p>	<ul style="list-style-type: none"> • Understand that it is a diagnosis of exclusion • Explains diagnosis to patients
<p>Demonstrates understanding of association of other medical conditions and multidisciplinary</p>	<ul style="list-style-type: none"> • Liaises with appropriate specialists for further management of associated medical conditions, such as diabetes with polycystic ovary syndrome, pituitary tumours with hypogonadotropic hypogonadism. • Advises the patient on lifestyle factors, being sympathetic to the difficulties overcoming lifestyle issues such as obesity. • Is able to discuss long term effects and management of conditions such as PCOS and premature ovarian failure and arranges appropriate referral.
<p>Evidence to inform decision</p>	
<ul style="list-style-type: none"> • CbD • Mini-CEX: • Local and Deanery Teaching • RCOG e-learning • NOTSS • Reflective practice • TO2 (including SO) 	<ul style="list-style-type: none"> • OSATS: <ul style="list-style-type: none"> ○ Ultrasound assessments of <ul style="list-style-type: none"> ▪ the normal pelvis including antral follicle count ▪ ovarian lesions ▪ uterine fibroids ▪ endometrial abnormality ▪ Monitoring ovarian stimulation ▪ Adnexal pathology ○ HyCoSy or saline infusion sonohysterography ○ HSG ○ Hysteroscopic proximal tubal catheterisation

- Diagnostic laparoscopy and DYE test
- Confirmed attendance at specialist clinics such as menopause, endocrinology, reproductive endocrinology, ART and weight loss clinics;
- Attendance at RCOG/BFS SITM course, advanced hysteroscopy course

Knowledge criteria

- Physiology of ovulation and pathophysiology
- Female anatomy – abdomen and pelvis
- Scoring system for hirsutism
- Normal ultrasound appearance of uterus, ovaries and adnexae
- Standardised terms and definitions to describe sonographic features of normal pelvis and pelvic pathology
- Anatomical classification of ovulation disorders
- The association of other medical conditions with anovulation, such as diabetes with polycystic ovaries, pituitary tumours with hypogonadotrophic hypogonadism
- The influence of lifestyle, including diet and weight, on anovulation
- The impact of psychiatric and psychological issues on anovulation
- 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
- Aetiology of tubal factor infertility: infection, surgery, endometriosis, congenital abnormalities
- Classification of tubal disease relevant to natural and therapeutic prognosis
- Classification of uterine disease
- Aetiology of uterine factor infertility: infection, surgery, tumours, congenital abnormalities, intrauterine adhesions, fibroids, polyps
- Diagnostic techniques available for assessing uterine and tubal disease, any associated risks and complications
- Pathological features of acute and chronic inflammation associated with infertility
- Indications, pre-requisites and possible complications of HyCoSy, sonohysterography and HSG
- The hypotheses on the pathogenesis of endometriosis and mechanism by which endometriosis may have an impact on fertility
- Endometriosis classification systems, their usefulness and limitations
- The relationship between stages of endometriosis and infertility (defective folliculogenesis, ovulatory dysfunction, distorted pelvic anatomy, altered peritoneal function, autoimmune disorders, impaired implantation)
- The usefulness and limitations of MRI of the pelvis and abdomen
- The contribution of preoperative investigations, particularly CA125 and transvaginal ultrasound scan findings
- The epidemiology and natural history including prognosis for unexplained infertility
- An understanding of other investigations that could be carried out to arrive at a diagnosis of unexplained infertility and the scientific basis for them:
- Other suggested causes of infertility:

- subtle ovulation defects
- cervical mucus hostility
- subclinical pregnancy loss
- endometriosis
- occult infection
- sperm dysfunction
- immunological causes
- Immunological screening
- Screening of high-risk groups

MoS CiP 2: The doctor recognises, assesses and investigates the infertile male	
Key Skills	Descriptors
Takes relevant history and arranges relevant initial investigations to diagnose male factor infertility	<ul style="list-style-type: none"> ● Arranges semen analysis and interprets results. ● Understands the reasons for and timing of a repeat semen analysis and arranges appropriately. ● Takes and interprets urethral swabs, and arranges for appropriate management of any abnormality, including referral to GUM clinics.
Performs physical examination to assess male reproductive system	<ul style="list-style-type: none"> ● Uses an orchidometer to assess testicular volume. ● Assesses the epididymis to detect any abnormalities. ● Recognises varicocele, testicular tumours, undescended testicles, hypospadias, absence of vasa deferens, inguinal hernia.
Arranges further investigations to identify the cause of severe male factor infertility (azoospermia or severe oligospermia with a sperm density of < 5 million/ml)	<ul style="list-style-type: none"> ● Arranges relevant further investigations: repeat semen analyses, urine for retrograde ejaculation, endocrine, microbiological, genetic (karyotype, CF screening, y chromosome microdeletions), scrotal & testicular ultrasound, testicular biopsy. ● Reviews investigations and is able to differentiate pre-testicular, testicular and post-testicular causes of severe sperm abnormality.
Evidence to inform decision	
<ul style="list-style-type: none"> ● Cbd ● Mini-CEX ● Reflective practice ● TO2 (including SO) ● Attendance at RCOG/BFS ATSM course ● Local and Deanery Teaching 	<ul style="list-style-type: none"> ● RCOG eLearning ● Confirmed attendance at ART clinics and appropriate urology/andrology clinic ● Exposure to specialist clinics: urology, GUM, endocrinology, clinical genetics, oncology ● Observes surgical sperm retrieval (SSR) procedures ● Observes vasectomy reversal

Knowledge criteria

- The male reproductive system – anatomy, physiology and the process of spermatogenesis
- The impact of male factors in the genesis of infertility
- The environmental factors influencing male reproductive function
- The endocrine disorders affecting male fertility
- The effect of reproductive pathologies such as varicocele, undescended testicles, sexually transmitted infections such as chlamydia and gonorrhoea, previous orchitis, chemo-radiotherapy
- The impact of previous surgery such as vasectomy, reversal of vasectomy, inguinal herniorrhaphy, orchidopexy
- Coital dysfunction associated infertility
- Y chromosome micro-deletion. To discuss sperm DNA damage, aneuploidy
- Idiopathic male infertility
- The availability of various advanced sperm function tests and their role in the management of male factor infertility
- Indications for vasectomy reversal
- The related aspects of male factor infertility, including the sequelae of long-term low testosterone levels and the association with testicular cancer
- Appropriate investigations for ejaculatory failure, impotence, retrograde ejaculation, genital infection, immunological causes, testicular maldescent, chromosomal abnormality, chemotherapy, radiotherapy, toxins (including drug effects)
- The causes of severe oligozoospermia (<5 million per ml) and azoospermia (pretesticular, testicular, post testicular)

MoS CiP 3: The doctor manages infertility

Key Skills	Descriptors
Communicates and formulates an appropriate plan for the management of infertility	<ul style="list-style-type: none"> • Explains the possible causes of infertility. • Formulates management plan related to pathological findings, taking into account relevant moral and ethical considerations. • Counsels the couple regarding the different treatment options available, taking into account their preferences and expectations. • Discusses treatment related complications and adverse effects. • Implements management plan and modifies treatment if necessary. • Manages coital dysfunction related infertility. • Arranges appropriate referrals to: urologist, endocrinologist, andrologist, clinical geneticist, psychosexual counsellor and IVF centre team.

<p>Manages women with anovulatory dysfunction including PCOS</p>	<ul style="list-style-type: none"> • Discusses potential consequences of expectant management. • Is able to diagnose and manage thyroid disorders and refer appropriately. • Explains treatment regimes of ovulation induction (anti-oestrogens and aromatase inhibitors), success rates (pregnancy rate and live birth rate), potential side effects of drugs and complications of procedures, including the risk of multiple pregnancy and ovarian hyperstimulation syndrome (OHSS) and the link with ovarian cancer. • Prescribes ovulation induction agents and progestogens for withdrawal bleed appropriately. • Provides appropriate treatment monitoring to assess effectiveness and minimise the risk of multiple pregnancy. • Provides appropriate advice for the management of a condition such as the risk of developing gestational diabetes in patients with polycystic ovary syndrome or the effects of medications in pregnancy. • Recognises the influence of lifestyle, including diet and weight on anovulation and is able to advise the patient on lifestyle factors, being sympathetic to the difficulties overcoming lifestyle issues such as obesity with an understanding of long-term health risks, metabolic effects and cancer risks.
<p>Manages women with tubal or uterine factor infertility</p>	<ul style="list-style-type: none"> • Discusses the impact of hydrosalpinx on natural fertility and assisted conception, including the role of salpingectomy. • Discusses the impact of proximal tubal disease on natural fertility and the role of selective salpingography. • Discusses with the patient the place of reversal of sterilisation. • Performs effective and safe surgery where appropriate, and refers as necessary. • Is able to decide when and on whom to operate for diagnosis or surgical management. • Keeps accurate notes of operative procedures. • Recognises the limitations of their operative laparoscopic, open and hysteroscopic surgery skills and, when appropriate, refers on to colleagues who have advanced laparoscopic skills.
<p>Manages patients with endometriosis and infertility</p>	<ul style="list-style-type: none"> • Understands and is able to communicate which treatments for endometriosis will improve fertility, and is able to refer when appropriate. • Is able to decide when and on whom to operate for diagnosis or surgical management. • Keeps accurate notes of operative procedures. • Refers on to colleagues who have advanced laparoscopic skills, when appropriate.

	<ul style="list-style-type: none"> • Arranges referral to other specialists when appropriate (eg pain clinic, surgeons).
Manages male infertility	<ul style="list-style-type: none"> • Explains the possible causes, treatment options, risks and benefits and the need for onward referral. • Arranges appropriate referrals: urologist, endocrinologist, clinical geneticist, psychosexual counsellor, assisted conception. • Is able to discuss the role of ART. • Discusses role of donor sperm in ART.
Manages unexplained infertility	<ul style="list-style-type: none"> • Explains the diagnosis. • Discusses options with couple – to continue to try to conceive naturally, or to move to assisted reproduction techniques & timing of this. • Advises on suitable therapeutic option, taking couples' wishes into consideration. • Devises a care plan with the different treatment options, explaining the risks, benefits and alternatives.
Evidence to inform decision	
<ul style="list-style-type: none"> • CbD • Mini-CEX • NOTSS • TO2 (including SO) • OSATS: <ul style="list-style-type: none"> ○ Operative hysteroscopy for polypectomy ○ Operative hysteroscopy for adhesiolysis or septal resection ○ Operative hysteroscopy for resection of submucous fibroids ○ Operative laparoscopy for salpingostomy ○ Operative laparoscopy for ovarian diathermy 	<ul style="list-style-type: none"> • Reflective practice • Local and Deanery Teaching • RCOG Learning • Attendance at RCOG/BFS ATSM course
Knowledge criteria	
<ul style="list-style-type: none"> • Treatment strategies, including: <ul style="list-style-type: none"> ○ anti-estrogens ○ aromatase inhibitors ○ anti-androgens ○ gonadotrophins ○ laparoscopic ovarian diathermy 	

- dopamine agonists
- steroids
- insulin sensitisers
- glitazones
- artificial insemination
- in vitro fertilisation
- intracytoplasmic sperm injection
- The range of treatments for anovulation, including risks of multiple pregnancy and ovarian hyperstimulation syndrome (OHSS)
- The risks and sequelae of hypo-estrogenism, the risk and benefits of anti-estrogens, steroids, gonadotrophin analogues, dopamine inhibitors, laparoscopic ovarian diathermy
- Follicle tracking
- Hysteroscopic techniques, risks and the principles of safe use of energy sources
- The surgical options and alternatives for tubal and uterine factor infertility
- The place of adhesiolysis in the treatment of intrauterine adhesions
- Laparoscopy – role of
- Treatment options for uterine fibroids
- When a myomectomy is appropriate & the most appropriate way to do this
- Excision or occlusion of hydrosalpinges prior to IVF
- The success rates, limitations and risks of salpingostomy, proximal tubal blockage, adhesiolysis and metroplasty
- Management of intra- and postoperative complications of salpingostomy, surgery for proximal tubal blockage, adhesiolysis and metroplasty
- Knowledge of reversal of sterilisation: patients at risk, pregnancy rates and the place of reversal of sterilisation
- The benefits, risks and alternatives of empirical, non-pharmacological, medical and surgical methods of treating endometriosis
- The limits of hormonal treatment and surgery for endometriosis on fertility outcomes
- The place of assisted conception in unexplained, uterine and tubal factor infertility
- Intrauterine insemination and In vitro fertilisation
- The indications for SSR and vasectomy reversal
- The prerequisites and arrangements for SSR
- The principles of various SSR techniques (PESA, TESE, MESA and micro-TESE)
- Psychological factors in female infertility (e.g amenorrhoea) and male infertility (e.g. erectile dysfunction)
- Effects of infertility upon the family
- The place of counselling in the management of the infertile couple
- Local facilities for counselling, self-help groups and community networks
- Local facilities for adoption.

MoS CiP 4: The doctor understands the principles of assisted reproduction techniques (ART) and their possible complications and can counsel patients effectively	
Key Skills	Descriptors
Demonstrates understanding of psychological aspects of male and female factor subfertility and ART	<ul style="list-style-type: none"> Recognises psychological factors in female (e.g. amenorrhoea) and male infertility (e.g. erectile dysfunction). Demonstrates understanding of stress related to infertility, marital disharmony, and difficulties in having intercourse. Discusses the effects of infertility upon the family. Explains about the stress associated with ART. Arranges appropriate referral to: counsellors, psychosexual medicine. Discusses the role and value of counselling in the management of the infertile couple. <p>Have spoken to a fertility counsellor about their job role; understand the different types of counselling (support, implications, welfare of the child). Preferably have attended a fertility ethics committee meeting.</p>
Discusses pros and cons of different therapeutic options	<ul style="list-style-type: none"> Clearly explains results of investigations. Informs the couple of the chances of natural conception and with the different treatment options.
Decides when to proceed with therapeutic options	<ul style="list-style-type: none"> Provides support for the couple if expectant treatment is the appropriate way forward. Is aware of local fertility funding policies and national variation.
Preparation of patients for ART	<ul style="list-style-type: none"> Ensures appropriate assessments are undertaken to confirm suitability for ART. Selects patients appropriately. Where necessary, arranges relevant further investigations in preparation for ART and interprets the results: <ul style="list-style-type: none"> Endocrine including ovarian reserve tests Virology screening to include HIV, Hep B and Hep C. Be aware of current guidance on timing (within 3 months of gamete donation) Microbiological screening: chlamydia and gonorrhoea, Genetic screening (karyotype, CF) Assesses welfare of the child issues.
Decides and communicates the timing of assisted conception and recommends an appropriate assisted	<ul style="list-style-type: none"> Discusses suitable ART options. Explains the role of ART and what an ART programme entails.



reproductive technology (ART) procedure	<ul style="list-style-type: none">• Discusses and recommends the most appropriate ART treatment according to cause of infertility, the results of the investigations and prognostic factors.• Explains the need for onward referral to an ART centre.• Discusses the benefits, risks, success and limitations of ART.• Is able to discuss the potential complications of ART, including OHSS, poor response, failed fertilisation, low fertilisation, multiple pregnancy, ectopic pregnancy, risk of infection and bleeding with oocyte retrieval procedure and the risk of genetic disorders after IVF/ICSI.• Explains the benefits of hydrosalpinx, fibroid, ovarian cyst (if any) treatment prior to assisted conception and associated risks.• Liaises with tertiary centres to arrange appropriate referrals for ART.• Undertakes trans-vaginal ultrasound scan for monitoring ovarian stimulation.• Discusses the role of pre-implantation testing.• Is able to discuss fertility preservation for individuals undergoing medical/surgical treatment affecting fertility and arranges appropriate referrals.• Is aware of local arrangements for fertility preservation categories (oncology, transitioning etc).
Diagnoses and manages ovarian hyperstimulation syndrome (OHSS)	<ul style="list-style-type: none">• Discusses the risk factors for developing OHSS and strategies to minimise the risk of OHSS in an ART cycle.• Assesses the patient presenting with symptoms of OHSS, classifying according to severity.• Formulates management plan for OHSS (outpatient and inpatient).• Understands the complications of severe OHSS and the importance of multidisciplinary team management.• Advises on management in pregnancy for women who have had severe OHSS.• Be able to discuss subsequent treatment for women who have previously had severe OHSS.
Directs patients to information sites and patient support groups	<ul style="list-style-type: none">• Discusses the role and value of self-help groups and community networks of support and arranges appropriate referrals.• Arranges appropriate referral to social services for adoption/fostering, local independent adoption societies.
HFEA Code of Practice	<ul style="list-style-type: none">• Has read and understood the HFEA Code of Practice.

Evidence to inform decision	
<ul style="list-style-type: none"> • CbD to assess application of knowledge • Mini-CEX • Attend ART clinics • TO2 (including SO) • Reflective practice • Local and Deanery Teaching 	<ul style="list-style-type: none"> • Observe psychosexual medicine clinics or equivalent • RCOG eLearning • Attendance at RCOG/BFS ATSM course • OSATS: <ul style="list-style-type: none"> • Ultrasound monitoring of ovarian stimulation/follicle tracking scans
Knowledge criteria	
<ul style="list-style-type: none"> • The UK legal and regulatory aspects of fertility treatment • Clinical prognostic factors relevant in ART leading to appropriate patient selection (female age, duration of infertility, ovarian reserve, past reproductive history, pelvic organ abnormalities) • Stress associated with assisted conception treatment • Preparation of patients for assisted reproduction: hydrosalpinx, fibroids HIV, Hep B and Hep C screening; the place of counselling • How to assess the welfare of the child, including communication and consent • The Human Fertilisation & Embryology Authority (HFEA) and its role 	

SECTION 2: PROCEDURES

Procedures marked with * require three summative competent OSATS

<i>Procedures</i>	<i>Level by end of training</i>	<i>CIP 1</i>	<i>CIP 3</i>	<i>CIP 4</i>
Ultrasound assessment of:*	5	X		
○ Normal pelvis	5	X		
○ Ovarian lesions	5	X		
○ Uterine fibroids	5	X		
○ Endometrial abnormality	5	X		
○ Monitoring ovarian stimulation	5	X		X
○ Adnexal pathology	5	X		
Hysterosalpingography (HSG)	2	X		
HyCoSy or saline infusion sonohysterography*	5	X		
Operative hysteroscopy for polypectomy*	5		X	
Hysteroscopic proximal tubal catheterisation	3	X		
Operative hysteroscopy for resection of submucous fibroids	3		X	
Operative hysteroscopy for adhesiolysis or septal resection	3		X	
Operative laparoscopy for salpingostomy*	4		X	
Operative laparoscopy for ovarian diathermy*	5		X	

SECTION 3: GMC GENERIC PROFESSIONAL CAPABILITIES

Mapping to GPCs

- Domain 1: Professional values and behaviours
- Domain 2: Professional skills
- Practical skills
 - Communication and interpersonal skills
 - Communication and interpersonal skills
 - Dealing with complexity and uncertainty
- Domain 3: Professional knowledge
- Professional requirements
 - National legislative structure
 - The health service and healthcare system in the four countries
- Domain 5: Capabilities in leadership and team working
- Domain 6: Capabilities in patient safety and quality improvement
- Domain 8: Capabilities in education and training
- Domain 9: Capabilities in research and scholarship

SECTION 4: MAPPING OF ASSESSMENTS TO MoS CiPs

MoS CIP	OSATS	Mini-CEX	CbD	NOTSS	TO1/ TO2	Reflective practice
1: The doctor recognises, assesses and investigates the infertile woman	X	X	X	X	X	X
2: The doctor recognises, assesses and investigates the infertile male		X	X		X	X
3: The doctor manages infertility	X	X	X	X	X	X
4: The doctor understands the principles of assisted reproduction techniques (ART) and their possible complications and can counsel patients effectively.	X	X	X		X	X

SECTION 5: RESOURCES (OPTIONAL)

1. NICE guidelines in infertility www.nice.org.uk
2. HFEA documents www.hfea.gov.uk
3. ESHRE guidelines www.eshre.com
4. RCOG guidelines www.rcog.org.uk
5. Journals: Human Fertility, Human Reproduction, Fertility and Sterility, Journal of Andrology
6. Other relevant websites: www.bica.net www.fertilitynetworkuk.co.uk

RM SST specific CiPs

SECTION 1: CAPABILITIES IN PRACTICE

SST RM CiP 1: The doctor is competent in recognising, assessing and managing endocrinological disorders.	
Key Skills	Descriptors
Is able to evaluate various endocrine systems that affect reproductive health	<ul style="list-style-type: none"> • Is able to interpret dynamic endocrinological testing.
Can counsel patients with endocrine disorders appropriately	<ul style="list-style-type: none"> • Communicates the results clearly to patients and discusses the possible cause and its impact on fertility. • Formulates an appropriate individualised management plan taking into account patient preferences. • Liaises effectively with colleagues in other disciplines, clinical and non-clinical. • Offers appropriate support and provides information on local and national support groups.
Is able to diagnose and manage polycystic ovary syndrome (PCOS)	<ul style="list-style-type: none"> • Understands the criteria for diagnosis in adolescents and adults and the need to exclude other disorders. • Uses ultrasound as diagnostic tool in the diagnosis of PCOS. • Recognises the influence of lifestyle, including diet and weight on anovulation and is able to advise the patient on lifestyle factors, being sympathetic to the difficulties overcoming lifestyle issues such as obesity. • Is able to discuss and manage obesity including counselling on efficacy of pharmacological and non-pharmacological treatments.
Is able to manage hyperandrogenism (hirsutism/acne/alopecia)	<ul style="list-style-type: none"> • Formulates an appropriate individualised management plan taking into account patient preferences.

	<ul style="list-style-type: none"> • Demonstrates understanding of the psychological impact of hirsutism. • Is able to initiate medical management of hyperandrogenism • Discusses and manages hyperandrogenism (hirsutism, acne and alopecia) including counselling on efficacy of pharmacological and non-pharmacological treatments. • Liaises effectively with colleagues in other disciplines, clinical and non-clinical (endocrinology, dermatology, plastics).
<p>Is able to diagnose and manage hypothalamic-pituitary disorders:</p> <ul style="list-style-type: none"> • Hypogonadotropic Hypogonadism <p>Is able to manage anorexia nervosa/exercise and lifestyle-related disorders</p>	<ul style="list-style-type: none"> • Takes a focused history, recording menarche, cycle regularity, hirsutism, acne, alopecia, BMI, galactorrhoea, secondary sex characteristics, previous chemotherapy/pelvic radiotherapy. • Performs an appropriate examination with reference to secondary sex characteristics. • Arranges and interprets appropriate investigations: baseline hormone profile to include FSH, LH, oestradiol, PRL, TFTs, androgens (testosterone, SHBG, FAI). • Formulates a differential diagnosis. • Is able to organise and review the results of CT/MRI scans, pelvic/abdominal ultrasound. • Is able to screen for associated conditions, e.g. autoimmune factors, genetic causes, diabetes mellitus, visual fields, late onset adrenal hyperplasia. • Discusses diagnosis in a sensitive manner, including impact on future fertility, fertility options and treatment strategies. • Escalates care to senior colleagues and other specialities when appropriate. • Appreciates the association of other medical conditions with anovulation and liaises with appropriate specialists for further management. • Is able to explain openly about complications and adverse effects of treatment.
<p>Is able to diagnose and manage primary and secondary amenorrhoea</p>	<ul style="list-style-type: none"> • Takes a focused history, recording menarche, cycle regularity, hirsutism, acne, alopecia, BMI, galactorrhoea, secondary sex characteristics, previous chemotherapy/pelvic radiotherapy. • Performs an appropriate examination with reference to secondary sex characteristics. • Arranges and interprets appropriate investigations including a baseline hormone profile to include FSH, LH, oestradiol, PRL, TFTs, androgens (testosterone, SHBG, FAI, DHEAS, Androstenedione, 17 α hydroxyprogesterone). • Is able to differentiate between primary and secondary amenorrhoea. • Interprets test results used to evaluate amenorrhoea.

	<ul style="list-style-type: none"> • For children and adolescents, is able to ascertain patient's and parents'/carer's/guardian's understanding of the condition. • Sensitively addresses adolescent's concerns about sexuality and/or sexual functioning. • Discusses treatment options. • Counsels on the impact of the diagnosis on long-term fertility. • Informs patients about support networks.
<p>Is able to diagnose and manage adrenal dysfunction:</p> <ul style="list-style-type: none"> • Cushing syndrome • Addison's disease <p>Congenital adrenal hyperplasia</p>	<ul style="list-style-type: none"> • Takes a focused history, recording menarche, cycle regularity, hirsutism, BMI, galactorrhoea, secondary sex characteristics, previous chemotherapy/pelvic radiotherapy. • Performs an appropriate examination with reference to secondary sex characteristics. • Arranges and interprets appropriate investigations including a baseline hormone profile, PRL, TFTs, androgens (testosterone, SHBG, FAI DHEAS, Androstenedione, 17 αHPA). • Arranges dexamethasone suppression test if appropriate to exclude Cushing syndrome • Formulates a differential diagnosis. • Is able to organise and review the results of CT/MRI scans, pelvic/abdominal ultrasound. • Formulates management plan related to endocrinological findings. • Is able to implement management plan and modify if necessary. • Liaises effectively with colleagues in other disciplines, clinical and non-clinical. • Discusses impact on future fertility and fertility options and counsels patients accordingly. • Is able to explain openly about treatments, complications and adverse effects of treatment.
<p>Is able to diagnose and manage ambiguous genitalia / genital anomalies</p>	<ul style="list-style-type: none"> • Organises appropriate investigations to include baseline hormone profile, radiological investigations and genetic testing as appropriate, and interprets the results. • Formulates a differential diagnosis. • Is able to ascertain patient's and parents'/carer's/guardian's understanding of the condition by listening and requesting them to articulate their understanding. • Liaises effectively with colleagues in other disciplines, paediatric endocrinology or adolescent gynaecology. • Counsels patients and parents/carer/guardian sensitively about options available and invites patient and parents' opinion. • Informs patients about support networks.



<p>Is able to diagnose and manage disorders of sexual development / difference including Turner syndrome</p>	<ul style="list-style-type: none">• Organises appropriate investigations to include baseline hormone profile, ultrasound scan and genetic testing as appropriate and interprets the results.• Formulates a differential diagnosis.• Is able to ascertain patient's and parents'/carer's/guardian's understanding of the condition.• Is aware of the importance of disclosure and liaising with clinical psychology to support the patient.• Formulates and implements a management plan addressing various aspects of the condition.• Liaises effectively with colleagues in other disciplines, endocrinology, psychology, cardiology, obstetrics, audiology, renal physicians• Discusses impact on future fertility and fertility options.• Counsels patients and parents/carer/guardian sensitively about options available and invites patient and parents' opinion.• Informs patients about support networks.
<p>Promotes non-discriminatory practice</p>	<ul style="list-style-type: none">• Understands the specific needs of transgender and non-binary individuals and is able to perform consultations and refer appropriately to specialist services, including discussing and undertaking egg or sperm storage fertility preservation, including surrogacy screening where indicated.
<p>Is able to diagnose and manage precocious puberty</p>	<ul style="list-style-type: none">• Organises appropriate investigations to include baseline hormone profile.• Liaises effectively with colleagues in other disciplines to formulate and implement a management plan.• Counsels patients and parents/ carer/guardian sensitively about options available and invites patient and parents' opinion.• Offers appropriate support.
<p>Is able to diagnose and manage delayed puberty</p>	<ul style="list-style-type: none">• Organises appropriate investigations to include baseline hormone profile, ultrasound assessment.• Liaises effectively with colleagues in other disciplines to formulate and implement a management plan.• Counsels patients and parents/carer/guardians sensitively about options available and invites patient and parents' opinion.• Offers appropriate support.
<p>Is able to diagnose and manage premature ovarian insufficiency</p>	<ul style="list-style-type: none">• Organises and interpret tests including endocrine assessment, dual-energy X-ray absorptiometry bone scans, immunological investigations and genetic testing.

	<ul style="list-style-type: none"> • Counsels on the treatment options for young women, including the advantages and disadvantages, risks and benefits of hormone replacement therapy. • Discusses impact on future fertility and fertility options including IVF using donor eggs. • Liaises effectively with colleagues in other disciplines, clinical and non-clinical, and refers for formal psychological or psychosexual counselling. • Liaises with reproductive endocrinologists, haematologists and other specialists for complex cases with medical co-morbidities. • Arranges appropriate follow up. • Offers appropriate support and provides information on local and national support groups.
<p>Is able to diagnose and manage the perimenopause and menopause</p>	<ul style="list-style-type: none"> • Discusses various forms of hormone replacement therapy (HRT), including the benefits, risks and adverse effects, the available preparations and their routes of administration. • Discusses alternatives to HRT and supports non-hormonal methods including lifestyle and dietary advice. • Is able to report and interpret DEXA scan results. • Liaises effectively with colleagues in other disciplines, clinical and non-clinical. • Liaises with reproductive endocrinologists, haematologists and other specialists for complex cases with medical co-morbidities. • Arranges appropriate follow up. • Offers appropriate counselling and provides information on local and national support groups.
<p>Management of survivors of childhood cancer</p>	<ul style="list-style-type: none"> • Understands the impact of the patient's diagnosis on their long-term health, including on their ability to reproduce. • Works with a multidisciplinary team and liaises with the oncologist, paediatric oncologist and medical genetics for long-term management. • Discusses impact on future fertility and fertility options including fertility preservation techniques.
<p>Evidence to inform decision</p>	
<ul style="list-style-type: none"> • CbD • Mini-CEX • Reflective practice • TO2 (including SO) • Local and Deanery Teaching • RCOG Learning • Preceptor assessment of knowledge 	<ul style="list-style-type: none"> • Attendance at specialist clinics - menopause clinic including DEXA bone scanning; endocrinology, PAG, Combined Fertility and Oncology, Late effects. • Appropriate postgraduate education courses: Paediatric and adolescent gynaecology Annual update and training day, Subfertility and Reproductive Endocrinology Course

<ul style="list-style-type: none"> • Personal study 	
Knowledge criteria	
<ul style="list-style-type: none"> • The standardised terms and definitions to describe sonographic features of normal pelvis and pelvic pathology • Endocrinological measurement of hormones in biological fluids for evaluation of the various endocrine systems <ul style="list-style-type: none"> ○ Neuroendocrine anatomy and physiology ○ Hypothalamic–pituitary dysfunction: ○ Hypogonadotrophic hypogonadism ○ Kallman syndrome ○ Pituitary adenoma ○ Hyperprolactinaemia • Disorders of growth hormone • Adrenal dysfunction: <ul style="list-style-type: none"> ○ Cushing syndrome ○ Addison’s disease ○ Adrenal hyperplasia • Thyroid disorders • Polycystic ovary syndrome and disorders of androgen secretion 	
<i>Neuroendocrine function</i>	
<ul style="list-style-type: none"> • The anatomical and functional aspects of the hypothalamus, neurovascular relationships, hypothalamo-hypophyseal portal circulation and target cells of the pituitary • Suprahypothalamic structures and neuronal systems relevant to regulation of reproductive processes • The site of production, biological action and control of secretion of oxytocin, vasopressins and neurophysins • The biochemical basis of neuroendocrine action of neuropharmacology of agonists and antagonists • Pineal gland • Blood–brain barrier • Sex steroid-concentrating neurones • The distribution and cellular characteristics of pituitary hormone-producing cells with special reference to gonadotrophe and lactotrophe • Anatomical and functional aspects of the peptidergic and catecholaminergic system and their control of the pituitary hormone secretion • Structure and function of pituitary reproductive hormones and neuropeptides • Control of secretory activities of the pituitary hormones, including long- and short-term rhythms and their target organs and feedback systems • Neuroendocrine regulation of the menstrual cycle • Neuroendocrine function of the fetus and placenta • Hypothalamic and pituitary hypopituitarism and disorders of over secretion of pituitary hormones • Organic lesions and/or functional disorders of the hypothalamic–pituitary system • Ectopic hormone syndromes 	

Thyroid function and disease states:

- Thyrotrophin-releasing hormone, thyroid-stimulating hormone, thyroid physiology
- Diagnostic value of thyroid-stimulating hormone, thyroid hormones total and free, thyroid-stimulating immunoglobulins and related diagnostic tests
- Biosynthesis, control and metabolism of thyroid hormones
- Clinical and pathophysiological correlates of hypo- and hyperthyroidism, particularly as related to menstrual disorders and fertility
- Pregnancy- and hormone-induced changes of thyroid function in the mother and the effect of abnormal maternal thyroid function on the fetus
- Thyroid physiology in the newborn and identification of cases at high risk of neonatal thyrotoxicosis
- Effects of thyroid replacement and anti-thyroid drug therapy on the fetus
- Pathophysiology of thyroiditis
- Thyroid function in struma ovarii, molar pregnancy and choriocarcinoma
- Medical and surgical management of non-toxic goitre, hypo- and hyperthyroidism

Adrenal function and disease states:

- Regulation and secretion of adrenocortical hormones
- Clinical and laboratory assessment of adrenocortical function
- Pharmacology of naturally occurring and synthetic glucocorticoids and mineralocorticoids
- Adrenocortical hypo- and hyperactivity (e.g., Cushing hyperplasia, adenoma, carcinoma)
- Congenital adrenal hyperplasia
- Effects of aberrations of adrenocortical function on hypothalamic-pituitary-ovarian function
- Aldosterone and disorders of the rennin–angiotensin system
- Catecholamine disorders

Androgen disorders:

- Production, physiology and metabolism of androgens in normal women
- Mechanisms of action of androgens
- Symptoms and signs of androgen excess together with any causes based on pathophysiology of androgen excess
- Physiology of normal and abnormal hair growth
- The scoring system for hirsutism
- Ovarian tumours, benign and malignant, which secrete androgens
- Benign stromal changes in the ovary which may result in increased androgen production
- Relate PCOS to abnormal hormone production
- Androgen-resistant states
- Congenital and acquired adrenal hyperplasia in terms of aetiology, genital morphology, general metabolic effects and differentiate action and treatment
- Management of androgen excess and of hirsutism
- Pharmacology of anti-androgens

Endocrinology of pregnancy:

- Fetoplacental unit: physiology and pathophysiology of steroid hormones (e.g., oestrogen, progesterone, corticosteroids)
- Physiology of decidua-chorionic-placental peptide hormones (e.g., gonadotrophins, somatomammotrophin, thyrotrophin, adrenocorticotrophic hormone/opioid peptides and prolactin)
- Initiation of parturition, including physiology, pathophysiology and pharmacology of prostaglandins
- Physiology of fetal adrenal gland
- Endocrine and cytokine pathophysiology of pre-eclampsia and eclampsia
- Pathophysiology of altered maternal thyroid, adrenal and pancreatic status during pregnancy

The ovary and polycystic ovary syndrome:

- Ovarian anatomy, physiology, pathophysiology and endocrinology
- Normal physiology of ovulation and classification of ovulation disorders anatomically
- The causes of anovulation, such as syndromes of inappropriate prolactin secretion, central nervous system-hypothalamic-pituitary
- The various treatment strategies to address fertility issues for those with hypothalamic-pituitary and hypothalamic disorders, including ovulation induction with gonadotrophins, in vitro fertilisation
- Diagnosis of polycystic ovary syndrome (PCOS):
 - Imaging of PCOS
 - Management of anovulation
 - Management of hyperandrogenism (hirsutism, acne, alopecia)
 - Management of obesity, including an understanding of long-term health risks, metabolic effects and cancer risks
- Management of ovulation induction in PCOS:
 - Dietary advice
 - Anti-oestrogens
 - Gonadotrophin therapy
 - Aromatase inhibitors
 - Ovarian diathermy

Ovarian function and diseased states:

- Cyclic changes in endocrine activities within the ovary
- Synthesis and secretion of hormone substances by the various compartments and cell types of the ovary; intra- and extraovarian control mechanisms
- The mechanism of protein/steroid hormone action in the ovary
- The regulation of hormone receptors
- Atresia and selection of the dominant follicle
- Luteolysis
- Hormone-producing tumours of the ovary
- Ovarian activity during gestation
- Age-related changes in ovarian structure and function
- Clinical and pathophysiological correlates of disorders of the human ovary (structure and function)

Ovarian pathology:

- Gross and microscopic findings and natural history of ovarian tumours in relation to reproductive function (e.g., follicular cysts, luteoma, corpus luteum, polycystic ovary syndrome, endometrioma, granulosa-theca cell tumour, Sertoli-Leydig cell tumour, gynandroblastoma, cystic teratoma, dysgerminoma, gonadoblastoma and mixed germ cell or gonadal tumours)
- Different compartments of the Graafian follicle (e.g., granulosa cells, theca and adjacent stroma) and the primordial, preantral, antral and Graafian follicles, including the dynamic changes which occur in the ovary from embryo to menopause
- Specific staining techniques and cellular ultrastructure as related to function

Paediatric and adolescent gynaecology

- Embryology: the development of embryo and abnormalities which will have an influence on reproduction, in particular the development of genital tract
- Factors controlling male and female development of the gonadal primordia, internal duct system and external genitalia
- Developmental abnormalities of the genital tract, including ambiguous genitalia, imperforate hymen and vaginal septa, uterine anomalies, Müllerian and Wolffian dysgenesis, Rokitansky syndrome and gonadal dysgenesis
- Embryology of hypothalamic–pituitary and other pertinent endocrine systems
- Developmental disorders:
 - Ambiguous genitalia
 - Disorders of sexual development
 - Complete androgen insensitivity syndrome
 - Endocrine disturbance
 - Precocious puberty
 - Delayed puberty
 - Congenital Adrenal hyperplasia
- Surgical management:
 - Developmental disorders
 - Ambiguous genitalia
 - Disorders of sexual development
- Awareness of patient support networks
- Normal sequence of pubertal changes in the female and male and their chronology
- Effects of hormones on bone growth and epiphyseal closure
- Hormonal changes and gametogenesis relative to the reproductive cycle from intrauterine life to the development of normal reproductive cycles (e.g., gonadotrophin secretion in the fetus and the neonate, sensitivity of the feedback system during fetal and neonatal life and childhood; role of adrenal androgens)
- Delayed puberty, indicating the differential diagnosis evaluation and appropriate therapy
- Sexual precocity, indicating the differential diagnosis, evaluation and appropriate therapy
- Developmental disorders, including those of:
 - Vagina: vaginal reconstruction by dilatation or surgery
 - Uterus: knowledge of Müllerian anomalies with obstruction of drainage

- Ambiguous genitalia, including involvement in the assignment of sex of rearing for an infant with ambiguous genitalia, techniques for surgical construction of unambiguous functioning female external genitalia and vagina (e.g., vaginoplasty, clitoridectomy and clitoral resection), indications and laparoscopic techniques for gonadectomy
- Embryonic development of the genital tract, including the factors controlling male and female development of the gonadal primordia, internal duct system and external genitalia
- Gross and microscopic findings and the development of gonadal structures found in various forms of gonadal dysgenesis and disorders of sexual development.
- Diagnosis and management of patients with developmental abnormalities of the genital tract, including ambiguous genitalia, imperforate hymen and vaginal septa, uterine anomalies, Müllerian agenesis and gonadal dysgenesis
- Embryology of the hypothalamic–pituitary and other pertinent endocrine systems
- Embryology of the urological system

Menopause and premature menopause

- Management of the post-menopausal woman:
 - The indications for and choice of hormone replacement therapy (HRT)
 - Non-hormonal methods including lifestyle and dietary advice
 - Adverse effects and risks of HRT
- The sequelae of long-term low oestrogen levels for POI
- The indications and principles of performing DEXA scanning
- The potential causes of amenorrhoea including premature ovarian insufficiency, congenital endocrine disorders (e.g., Turner syndrome, complete androgen insensitivity syndrome, ovarian agenesis, polyglandular endocrinopathy and fragile X syndrome) and acquired (e.g., post-surgery, chemo/radiotherapy)
- Interpretation of tests used to evaluate amenorrhoea
- A rational diagnostic and therapeutic approach to patients with amenorrhoea
- Premature menopause:
 - Causes of premature ovarian failure, congenital endocrine disorders (e.g., Turner syndrome, complete androgen insensitivity syndrome, ovarian agenesis, polyglandular endocrinopathy and fragile X syndrome) and acquired (e.g., post-surgery, chemo/radiotherapy)
 - Treatment options for young women with ovarian failure, with particular regard to future fertility
 - Advantages and disadvantages, risks and benefits of HRT

SST RM CiP 2: The doctor is competent in providing specialist care for women with endometriosis.

Key Skills	Descriptors
Takes a thorough history from the individual or couple to identify the causes of infertility and diagnoses endometriosis	<ul style="list-style-type: none"> • Demonstrates understanding of symptoms related to endometriosis such as dysmenorrhoea, dyspareunia, dyschezia, dysuria, pelvic pain, lower backache. • Ascertains fertility history and if the woman is trying for pregnancy.

	<ul style="list-style-type: none"> • Uses appropriate quality of life questionnaires and analyses to assess severity and monitor response to treatment. • Formulates a differential diagnosis such as urological or gastrointestinal disease. • Demonstrates understanding that other associated gastrointestinal and urological symptoms should also be assessed. • Performs focused physical examination for endometriosis: <ul style="list-style-type: none"> ○ Examines findings relevant to benign gynaecological conditions including assessment of the posterior cul de sac ○ Carries out an appropriate general, pelvic and rectal examination ○ Maps areas of pain or abnormal masses in relation to underlying anatomical structures
Organises appropriate investigations	<ul style="list-style-type: none"> • Organises appropriate radiological investigation (ultrasound/computed tomography/magnetic resonance imaging – abdomen and pelvis) to assess the extent of the disease. • Interprets the results.
Provides accurate and non-judgmental information on the effects of endometriosis and its treatment on fertility and ART	<ul style="list-style-type: none"> • Discusses expectant management, non-pharmacological, medical and surgical treatment. • Discusses impact of endometriosis on future fertility. • Liaises effectively with colleagues in other disciplines, clinical and non-clinical, e.g., colorectal surgeons, urologists, chronic pain team and radiologists.
Is able to decide appropriate role of medical intervention for the management of endometriosis	<ul style="list-style-type: none"> • Formulates an appropriate individualised management plan taking into account patient preferences. • Counsels appropriately. • Follows safe prescribing. • Arranges appropriate follow up.
Provides medical management of endometriosis using either combined oral contraceptive pills, progestogens (oral, depot injections or intra-uterine system) or GnRH analogues ± addback therapy	<ul style="list-style-type: none"> • Chooses appropriate treatment including pre-prescription assessment for suitability for combined oral contraceptive pills. • Counsels appropriately. • Discusses possible benefits and potential adverse effects. • Follows safe prescribing. • Arranges appropriate follow up.
Explains the role of endoscopic and open surgery	<ul style="list-style-type: none"> • Clearly explains treatments, complications and side effects of surgery. • Decides when to operate and when to not operate.



for endometriosis associated symptoms or infertility	
Advises on the role of assisted conception in endometriosis associated infertility	<ul style="list-style-type: none"> • Formulates an appropriate individualised assisted conception management plan taking into account patient preferences. • Counsels appropriately. • Able to discuss issues such as poor ovarian response, effect on ovarian endometrioma on ovarian stimulation and for oocyte retrieval.
Advises on multidisciplinary pain management	<ul style="list-style-type: none"> • Accurately documents patient’s descriptions of pain. • Prescribes effective and safe analgesia. • Recognises when to refer to pain management teams.
Provides general advice including dietary, lifestyle and psychological advice	<ul style="list-style-type: none"> • Provides general dietary, lifestyle and psychological advice. • Refers to dietician, pain specialist and psychologist to assist in management of patient where appropriate.
Evidence to inform decision	
<ul style="list-style-type: none"> • CbD • Mini-CEX • Reflective practice • TO2 (including SO) • Local and Deanery Teaching • Preceptor assessment of knowledge 	<ul style="list-style-type: none"> • Personal study • RCOG Learning • Confirmed participation in endometriosis multidisciplinary team-based meeting • Confirmed attendance at specialist endometriosis clinics, pain clinic • Appropriate postgraduate education courses
Knowledge criteria	
<ul style="list-style-type: none"> • The anatomy of the abdomen, female genital tract, bladder, ureters and lower bowel • Pathogenesis and aetiology of endometriosis • The mechanisms by which minimal and mild endometriosis may impair fertility, e.g. defective folliculogenesis, ovulatory dysfunction, hyperprolactinaemia, autoimmune disorders, disturbances in the peritoneal fluid environment. • Diagnosis, staging/grading of disease and prognosis • The role of physical examination in the diagnosis of endometriosis • The indications for investigations, including: <ul style="list-style-type: none"> ○ ultrasound / computed tomography/ magnetic resonance imaging ○ Pelvic MRI/CT ○ Serum CA125 measurement • The limitations of serum CA125 measurement • The limitations of hormonal treatment for suppression of ovarian function, surgery and IUI on fertility and assisted conception outcomes. • The pharmacology of chemical substances that act upon benign gynaecological conditions 	

- The pharmacology and side-effects of analgesic drugs
- The role of hormonal agents, e.g., oral contraceptives, progestogens, danazol, gestrinone, gonadotrophin-releasing hormone (GnRH) analogues, and their possible benefits and adverse effects
- The pharmacology of combined oral contraceptive pills
- The pharmacology of GnRH analogues and add-back therapy
- The pharmacology of Danazol, its role in the management of endometriosis and the potential androgenic adverse effects
- Appreciates that Danazol is not recommended as a first line drug for the management of endometriosis
- The effects of assisted conception on fertility
- The role of ART in the management of endometriosis, subfertility
- The role and limitations of surgical and medical management of endometriosis prior to assisted conception
- Knowledge of multidisciplinary pain management teams
- The contribution of complementary therapies for analgesia

SST RM CiP 3: The doctor has the surgical skills appropriate for a subspecialist in reproductive surgery.

Key Skills	Descriptors
Explains the role of endoscopic and open surgery in the treatment of fertility-related conditions, e.g., fibroids, endometriosis, hydrosalpinges and tubal disease, sterilisation reversal	<ul style="list-style-type: none"> • Clearly explains treatments, complications and side effects of surgery. • Decides when to operate and when to not operate. • Be aware of different surgical approaches, advantages and disadvantages: open, straight stick laparoscopy, robotic.
Performs appropriate surgery safely and efficiently	<ul style="list-style-type: none"> • Selects patients appropriately. • Decides optimal method of entry. • Demonstrates competence in setting up the equipment, theatre environment, patient positioning, optimisation and recording of images. • Refers to colleagues with advanced skills when appropriate. • Involves appropriate multidisciplinary team of specialists. • Manages intra- and postoperative complications. • Be capable in intermediate endometriosis surgery. • Work towards advanced (deep infiltrating) endometriosis surgery. • Be able to remove uterine fibroids by different routes and techniques.

<p>Assesses, manages and refers appropriately for male factor infertility</p>	<ul style="list-style-type: none"> • Obtains focused and relevant history. • Interprets the results of endocrinological assessment. • Examines epididymis and appreciates any abnormalities. • Assesses testes using orchidometer. • Selects patients appropriately for percutaneous epididymal sperm aspiration (PESA), testicular sperm aspiration (TESA) or extraction (TESE). Performs procedures under direct supervision and manages intra- and postoperative complications such as pain, bleeding, infection, testicular atrophy. • Organises appropriate use of surgically retrieved sperm. • Refers to a urologist with a special interest in male factor infertility for: <ul style="list-style-type: none"> ○ Microscopic epididymal sperm extraction ○ Microscopic testicular sperm extraction
<p>Evidence to inform decision</p>	
<ul style="list-style-type: none"> • CbD • Mini-CEX • NOTSS • TO2 (including SO) • Local and Deanery Teaching • RCOG Learning • Confirmed attendance at specialist clinics • Attendance at specialist courses • Reflective practice • Surgical logbook 	<ul style="list-style-type: none"> • OSATS: <ul style="list-style-type: none"> ○ Hysteroscopic surgery ○ Laparoscopic adhesiolysis ○ Laparoscopic treatment of endometriosis ○ Laparoscopic ovarian cystectomy ○ Laparoscopic salpingectomy ○ Laparoscopic salpingostomy ○ Myomectomy ○ TAH+/-BSO ○ PESA ○ TESA ○ Open testicular biopsy ○ Others: <ul style="list-style-type: none"> ○ Surgery for excision of vaginal septum ○ Surgery for imperforate hymen
<p>Knowledge criteria</p>	
<ul style="list-style-type: none"> • Female pelvic and abdominal anatomy • Possible anatomical changes in a woman with endometriosis • Sterilisation reversal • Uterine anatomy and histology: <ul style="list-style-type: none"> ○ normal anatomy ○ different types of congenital abnormalities, such as uterine septum, their impact on fertility and their management ○ impact and management of intrauterine adhesions ○ impact and management of fibroids, including medical, surgical and embolisation • Tubal anatomy and histology: <ul style="list-style-type: none"> ○ normal anatomy ○ different types of congenital abnormalities ○ management of proximal, mid-tubal and distal tubal disease 	

- sterilisation and reversal of sterilisation
- gross and microscopic findings of diseases of the oviduct related to reproductive endocrinology (e.g. acute and chronic salpingitis, granulomatous salpingitis, endometriosis)
- natural history and clinical course of acute and chronic salpingitis and relate these to subsequent fertility
- Vaginal and cervical anatomy and histology:
 - gross and microscopic findings of endometriosis and adenosis
 - possible consequences of antenatal hormone exposure
 - effects of various hormones on the vagina and cervix
- Endometrial histology:
 - histological appearance of normal and abnormal endometrium
 - current data relating estrogens with endometrial hyperplasia and adenocarcinoma
 - acute and chronic endometritis
 - developmental stages of the endometrium (dating)
 - endometrial factors that affect implantation in early pregnancy
- Myometrial histology:
 - gross and microscopic findings of adenomyosis, leiomyoma and other myometrial lesions related to reproduction
 - relationships of leiomyoma to infertility, including each of the different types (e.g., subserosal, intramural and submucosal)
- Ovarian anatomy and histology:
 - gross and microscopic findings and natural history of ovarian tumours related to reproductive function (e.g., follicular cysts, luteoma, corpus luteum, polycystic ovary syndrome, endometrioma, granulosa-theca cell tumour, Sertoli-Leydig cell tumour, gynandroblastoma, cystic teratoma, dysgerminoma, gonadoblastoma and mixed germ cell or gonadal tumours)
 - different compartments of the Graafian follicle (e.g., granulosa cells, theca and adjacent stroma) and the primordial, preantral, antral and Graafian follicles, including the dynamic changes which occur in the ovary from embryo to menopause
 - specific staining techniques and cellular ultrastructure as related to function
 - gross and microscopic findings and the development of gonadal structures found in various forms of gonadal dysgenesis and intersex conditions
- Testicular anatomy and histology:
 - normal anatomy and development of the testis
 - various stages of normal and abnormal spermatogenesis;
 - gross and microscopic findings in testicular disease (e.g., teratoma, seminoma, Leydig and Sertoli cell tumours)
- The role of endoscopic and open surgery in the treatment of fertility-related conditions, e.g., fibroids, endometriosis, hydrosalpinges and tubal disease, sterilisation reversal
- The alternative therapies such as pharmacological, medical and non-medical treatments
- The environment, staffing and equipment required to safely and effectively perform surgery
- Principles of safe use of energy sources
- The techniques to minimise the risk of chemical peritonitis
- The available anti-adhesion agents and their limitations for adhesiolysis

- The importance of excision or occlusion of hydrosalpinges prior to IVF
- The associated reduced ovarian reserve following salpingectomy and has strategies to minimise this risk
- When to request a 3D ultrasound scan or MRI prior to myomectomy
- When and how to treat fibroids and refer appropriately
- The principles and practical steps involved in the performance of laparoscopic myomectomy
- The various techniques available, their safety and effectiveness in minimising the risks of excessive bleeding at myomectomy
- The principles, benefits and risks of ovarian diathermy for anovulatory polycystic ovary syndrome
- Good understanding of available hysteroscopic tissue removal systems for resection of submucous fibroids and endometrial polyps
- How to use distension media and the importance of maintaining fluid balance
- The principles of and the surgical steps involved septal resection
- The various techniques available for myomectomy, their safety and effectiveness in minimising the risks of excessive bleeding
- The indications and prerequisites for PESA and TESA
- The environmental, staffing and supplies required to safely perform PESA and TESA
- The indications and principles of performing an open testicular biopsy
- The indications and principles of performing MESA and micro-TESE

SST RM CiP 4: The doctor is competent in recognising, assessing and managing complex fertility problems and assisted conception.

Key Skills	Descriptors
Arranges further investigations to identify the cause of severe male factor infertility (azoospermia or severe oligospermia with a sperm density of < 5 million/ml)	<ul style="list-style-type: none"> • Is able to arrange relevant further investigations: <ul style="list-style-type: none"> ○ repeat semen analyses ○ urine for retrograde ejaculation ○ endocrine evaluation ○ microbiological ○ genetic (karyotype, CF screening) ○ scrotal and testicular ultrasound scan ○ testicular biopsy • Reviews investigations and is able to differentiate pre-testicular, testicular and post-testicular causes of severe abnormality. • Organises sperm banking if appropriate.
Co-ordinates medical therapy for male factor infertility	<ul style="list-style-type: none"> • Liaises with reproductive endocrinologists and andrologists and co-ordinates suitable medical therapy. • Discusses available drugs, their effects, limitations and side-effects of these drugs. • Discusses alternatives to medical therapy.

	<ul style="list-style-type: none"> • Arranges appropriate follow up to assess improvement in fertility. • Refers men with low testosterone to reproductive endocrinologists for testosterone replacement therapy.
<p>Discusses the role of intra-uterine insemination: natural cycle and stimulated</p>	<ul style="list-style-type: none"> • Discusses intrauterine insemination as an option. • Clearly explains treatment regimes for ovarian stimulation, success rates (pregnancy rate and live birth rate), potential side effects of drugs and complications of procedures, including the risk of multiple pregnancy and ovarian hyperstimulation syndrome (OHSS) and link with ovarian cancer. • Provides appropriate treatment monitoring to assess effectiveness and minimise the risk of multiple pregnancy.
<p>Counsels on in vitro fertilisation (IVF) and intracytoplasmic sperm injection (ICSI)</p>	<ul style="list-style-type: none"> • Discusses IVF and ICSI. • Clearly explains treatment regimes for pituitary downregulation, controlled ovarian stimulation, final follicular maturation trigger, luteal phase support and is able to perform oocyte retrieval and embryo transfer. • Explains success rates (pregnancy rate and live birth rate) taking into consideration various factors. • Discusses potential side effects of drugs and complications of procedures including the risk of poor ovarian response, failed fertilisation, multiple pregnancy, ovarian hyperstimulation syndrome (OHSS), ectopic pregnancy, the risks with oocyte retrieval procedure, the link with ovarian cancer and the risk of genetic disorders after IVF/ICSI. • Provides appropriate monitoring to assess effectiveness and minimise the risk of multiple pregnancy. • Completes appropriate HFEA consent forms. • Offers appropriate counselling support.
<p>Counsels on various pituitary down-regulation protocols</p>	<ul style="list-style-type: none"> • Clearly explains treatment regimens for pituitary down-regulation to suit particular clinical scenario. • Discusses Long GnRH agonist protocol. • Discusses short (flare or micro-flare) GnRH agonist protocols. • Discusses GnRH antagonist protocol.

<p>Manages drugs dosage and strategies for controlled ovarian stimulation (COS)</p>	<ul style="list-style-type: none"> • Determines gonadotropin dosage taking various factors into consideration to provide safe and effective COS. • Provides appropriate monitoring to assess safety and effectiveness of COS. • Uses appropriate strategies to minimise the risk of and manage over or under response to COS. • Discusses strategies such as cycle cancellation, coasting, freeze all, for hyper response. • Discusses, as appropriate, conversion to IUI or cycle cancellation for poor ovarian response.
<p>Is able to diagnose and manage ovarian hyperstimulation syndrome (OHSS)</p>	<ul style="list-style-type: none"> • Be familiar with drainage of peritoneal fluid (ascites) technique.
<p>Manages frozen embryo replacement cycle (FERC)</p>	<ul style="list-style-type: none"> • Clearly explains treatment regimes for FERC to suit particular clinical scenario. • Is able to initiate and manage stimulated cycle FERC. • Is able to discuss local and national success rates. • Offers appropriate support counselling.
<p>Counsels on use of donor gametes (eggs and sperm) and embryo</p>	<ul style="list-style-type: none"> • Counsels patients sensitively on the options of using donor gametes or embryos relevant to particular situation. • Counsels on available alternative options. • Completes relevant HFEA consent forms for gamete and embryo donation. • Offers appropriate counselling.
<p>Co-ordinates donor-recipient cycle</p>	<ul style="list-style-type: none"> • Clearly explains treatment regimes for patients (donor and recipient). • Initiates and undertakes appropriate co-ordination of donor-recipient cycle. • Discusses local and national success rates. • Offers appropriate support and implication counselling.
<p>Counsels on gametes (sperm or eggs) and embryo freezing</p>	<ul style="list-style-type: none"> • Offers appropriate counselling for individuals wishing gametes or embryo storage • Discusses local and national success rates. • Offers appropriate counselling for posthumous use of gametes. • Completes relevant HFEA consent forms for gamete or embryo storage.



Discusses gametes (sperm or eggs) and embryo storage prior to oncology treatment	<ul style="list-style-type: none">• Arranges appropriate investigations and interprets the results.• Arranges relevant further investigations: endocrinological and virology screening (HIV, Hepatitis B&C, VDRL).• Discusses local and national success rates.• Counsels patients on alternative options available.• Offers appropriate counselling for posthumous use of gametes.• Completes relevant HFEA consent forms for gamete or embryo storage.• Organises appropriate follow-up schedule to assess fertility following oncology treatment.• Offers appropriate counselling for posthumous use of gametes.
Manages fertility preservation for female cancer patients or social fertility preservation	<ul style="list-style-type: none">• Arranges appropriate investigations to assess the suitability and interprets the results.• Formulates an appropriate individualised management plan, taking into account patient preferences.• Counsels patients on available alternative options.• Liaises with other specialists (oncologists, haematologists, surgeons and radiologists) to optimise patient care.• Offers appropriate counselling.
Discusses sperm banking with men wishing to have vasectomy for contraception	<ul style="list-style-type: none">• Arranges semen analysis and interprets the results.• Arranges relevant further investigations: pre-sperm banking screening (HIV, Hepatitis B&C, VDRL).• Completes relevant HFEA consent forms for gamete storage.• Counsel patients about available alternative options.• Offers appropriate counselling for posthumous use of gametes.• Organises appropriate follow-up schedule to assess fertility following oncology treatment.
Discusses and co-ordinates gamete or embryo donation for clinical use or research	<ul style="list-style-type: none">• Arranges appropriate investigation and interprets the results.• Assesses the suitability for gamete or embryo donation.• Arranges relevant further screening investigations: HIV, HTLV, CMV, Toxoplasmosis, Hepatitis B & C, VDRL, chlamydia and gonorrhoea, blood group, karyotyping & cystic fibrosis screening.• Completes relevant HFEA consent forms for gamete and embryo donation.• Offers appropriate implications and support counselling.

<p>Discuss the role of surrogacy</p>	<ul style="list-style-type: none"> • Explore the indications and different types of surrogacy treatment • Be familiar with the surrogacy process: tests, consents, counselling, legal aspects.
<p>Discuss the management of viral discordant couples</p>	<ul style="list-style-type: none"> • Be aware of viral screening requirements for all couples having ART. • Be able to interpret viral results and act upon them. • Co-ordinate with infectious diseases colleagues when required. • Be familiar with ESHRE guidelines on treating couples with transmissible viral diseases. • Know about lab requirements for treating viral positive patients.
<p>Counsels on infertility and fertility treatment</p>	<ul style="list-style-type: none"> • Provides supportive counselling to couples before, during and after treatment. • Liaises with counsellors. • Provides therapeutic and psychosexual counselling alongside a counsellor. • Counsels on the legal aspects of the use of donated gametes and adoption alongside a counsellor.
<p>HFEA Code of Practice</p>	<ul style="list-style-type: none"> • Has read and understood HFEA Code of Practice. • Consider HFEA PR entry programme.
<p>Can apply knowledge of clinical and molecular genetics to the management of individuals / couples at risk of, or affected by a genetic problem</p>	<ul style="list-style-type: none"> • Takes an appropriate history, can construct a family tree and arranges appropriate investigations. • Communicates effectively with women and their partners/families, regarding genetic inheritance and transmission of genetic disease. • Manages the care of a woman or couple with a personal or family history of a chromosomal abnormality, single gene disorder or syndromic anomaly, including assessment of risk, prenatal diagnostic options, and further management options after testing. • Discusses the role of pre-implantation genetic testing (PGT-M, PGT-SR) • Provide information to the patient. • Recognises when advice from, and referral to, clinical genetics services is needed.
<p>Evidence to inform decision</p>	
<ul style="list-style-type: none"> • CbD 	<ul style="list-style-type: none"> • RCOG Learning

<ul style="list-style-type: none"> • Mini-CEX • OSATS <ul style="list-style-type: none"> ○ HyCoSy or saline infusion sonohysterography ○ Oocyte retrieval ○ Ultrasound assessments of: <ul style="list-style-type: none"> ▪ the normal pelvis including antral follicle count ▪ ovarian lesions ▪ uterine fibroids ▪ endometrial abnormality ▪ follicular monitoring ▪ adnexal pathology • Reflective practice • TO2 (including SO) • NOTSS 	<ul style="list-style-type: none"> • Preceptor assessment of knowledge • Attendance at RCOG/BFS course • Local / Deanery / National Teaching or Training sessions • Confirmed attendance at IVF and genetics laboratory sessions • Regular participation in IVF theatres • Exposure to relevant specialist clinics: endocrinology, clinical genetics, oncology, urology/andrology clinics, • Participation in HFEA inspection • Attendance at UKAS inspection • Attendance at assisted reproduction ethics committee meeting
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Knowledge criteria

General subfertility

- Female reproductive anatomy and physiology
- The normal physiology of ovulation, endometrial changes, tubal function
- The male reproductive anatomy and physiology
- The process of spermatogenesis and its control
- Awareness of possible feelings of guilt in patients with previous infection
- The environmental factors influencing male reproductive function
- The endocrine disorders affecting male fertility
- The effect of reproductive pathologies such as varicocele, undescended testicles, sexually transmitted infections such as chlamydia and gonorrhoea, previous orchitis, chemo-radiotherapy
- The impact of previous surgery such as vasectomy, reversal of vasectomy, inguinal herniorrhaphy, orchidopexy
- Coital dysfunction associated infertility
- Other putative causes of infertility: subtle ovulation defects, cervical mucus hostility, subclinical pregnancy loss, occult infection, sperm dysfunction, immunological causes and psychological factors
- The availability of various advanced sperm function tests and their role in the management of male factor infertility
- Normal ultrasound appearances of the uterus, ovaries and adnexa
- The standardised terms and definitions to describe sonographic features of normal pelvis and pelvic pathology
- Appearance of normal and abnormal uterus including fibroids
- Endometrial assessment, including normal cyclical changes, changes associated with hormone replacement, hyperplasia and malignancy



- Ovarian, para-ovarian and tubal masses
- The indications, pre-requisites and possible complications of HyCoSy, sonohysterography, HSG and laparoscopy
- The role of CT and MRI imaging
- The indications for medical therapy for azoospermia
- The sequelae of long-term low testosterone levels and the association with testicular cancer

IVF and assisted contraception

- The various treatment strategies for anovulation:
 - anti-estrogens
 - anti-androgens
 - aromatase inhibitors
 - gonadotrophins
 - laparoscopic ovarian diathermy
 - dopamine agonists
 - steroids
 - insulin sensitisers
 - glitazones
 - in vitro fertilisation
- The impact of psychiatric and psychological issues on anovulation
- IVF and intracytoplasmic sperm injection
- Management options:
 - Long gonadotrophin-releasing hormone (GnRH) agonist protocol
 - Short GnRH agonist protocol
 - GnRH antagonist cycles
 - Frozen embryo replacement (natural cycle, HRT cycle)
 - Donor–recipient cycle
 - Sperm freezing
 - Embryo freezing
 - In vitro oocyte maturation
 - Oocyte freezing
 - Fertility preservation for cancer patients
- The indications for intrauterine insemination
- Clinical trial design
- Ultrasound/imaging:
 - Follicular tracking: natural/simulated cycles
 - Tracking IVF endometrial development
 - Uterine abnormalities
 - Ovarian pathology
 - Early pregnancy assessment
 - Oocyte retrieval

- Embryo replacement
- Microsurgical epididymal sperm aspiration
- Percutaneous epididymal sperm aspiration
- Open testicular biopsy
- The pharmacokinetics of drugs used in reproductive medicine:
 - anti-estrogens
 - anti-androgens
 - aromatase inhibitors
 - gonadotrophins (FSH, LH, hCG)
 - GnRH-agonists
 - GnRH antagonists
 - dopamine agonists
- Estradiol
- progesterone
- The various down-regulation protocols
- Drugs and dosage for controlled ovarian stimulation
- The strategies to minimise the risk of OHSS
- Ultrasound guided paracentesis
- Clinical presentation and classification of OHSS
- The potential complications of OHSS and the importance of multidisciplinary team management
- The process and limitations of natural cycle FERC
- The embryo survival rate following freeze-thaw
- The law relating to gamete and embryo donation and storage
- The various methods of gamete and embryo freezing
- The role and limitations of medical therapy such as GnRH agonists/aromatase inhibitors for breast cancer
- The various treatment protocols for preserving fertility for female cancer patients, including random start, double stimulation (DuoStim)
- The role of counselling (supportive, implications, therapeutic, adoption, legal aspects and psychosexual)

Genetics

- Normal chromosome structure and function
- Gene structure and function, including gene control, mechanisms and effects of mutation, genetic heterogeneity
- Cell division (meiosis and mitosis), and abnormalities arising from these processes
- Patterns of genetic inheritance and susceptibility, expression and penetrance, multifactorial and mitochondrial inheritance
- Types of aneuploidy, including structural rearrangements, deletions and common microdeletions, trisomies, sex chromosome anomalies (including Monosomy X, Klinefelter syndrome and Triple X), extra markers, mosaicism (fetal and placental), uniparental disomy,

triploidy

- The underlying genetic aetiology of single gene disorders including myotonic dystrophy, Huntington's disease, haemoglobinopathies, haemophilia, other common bleeding disorders and inborn errors of metabolism
- The role of pre-implantation genetic testing (PGT-M, PGT-SR) and diagnosis
- Chromosome analysis
- International System for Human Cytogenetic Nomenclature
- Normal variation
- Banding techniques
- Prenatal diagnosis
- Cell culture and processing
- The statistical terms relevant to screening, including sensitivity, specificity, false positive rates, positive predictive rates, and how these are inter-dependent
- The meaning of likelihood ratios in risk calculations
- How recurrence risks for chromosomal and single gene disorders are derived
- Laboratory techniques for analysing parental and fetal samples, including quantitative PCR, FISH, karyotyping, microarray, mutational analysis, sequencing, enzymatic analysis, analyte Genetic inheritance and transmission of genetic disease

Laboratory techniques

- Has observed the following techniques in an IVF laboratory:
 - sperm preparation
 - oocyte culture
 - oocyte insemination
 - oocyte sperm injection
 - embryo culture
 - embryo freezing and thawing
 - assisted hatching
 - polymerase chain reaction
 - preimplantation genetic diagnosis
 - DNA, RNA and protein amplification techniques
 - culture systems
 - blastocyst culture
 - time-lapse imaging of embryo
 - flow cytometry
- Human Fertilisation and Embryology Authority (HFEA) laboratory inspection
- Clinical Pathology Accreditation laboratory inspection
- International Standards Office and quality management systems

The role of HFEA:

- The HFEA Code of Practice

- The role of the “Person Responsible”
- HFEA regulations regarding the storage and use of gametes, including posthumous use
- What constitutes an adverse event and how to report it

Andrology

- Appropriate history and investigations:
- Semen analysis
- Endocrine profile: male
- Anatomy and physiology of the testis
- Investigation of azoospermia
- Hypothalamo-pituitary-thyroid axis function and assessment
- Assessment and management of impotence
- Treatment:
- Endocrine therapy
- Gonadotrophin therapy

SST RM CiP 5: The doctor is competent in recognising, assessing and managing complex early pregnancy problems.

Key Skills	Descriptors
Assesses women with recurrent miscarriage and performs a physical examination	<ul style="list-style-type: none"> • Records pregnancy and medical history. • Performs appropriate physical examination with particular emphasis to anatomical assessment of reproductive tract by abdomino-pelvic examination, calculation of body mass index and extent of hirsutism.
Arranges appropriate investigations to establish the conditions associated with recurrent miscarriage	<ul style="list-style-type: none"> • Arranges appropriate investigations, including appropriate endocrine, immunological and anatomical assessment (antiphospholipid antibodies, cytogenetic analysis of products of conception, parental peripheral blood karyotyping, thrombophilias, HbA1C, thyroid function tests, trans-vaginal ultrasound scan (2D +/-3D), saline infusion sonography, Hysterosalpingogram, CT/MRI scan). • Interprets results appropriately. • Discusses the results of these tests and their impact on recurrent miscarriage in detail with the patient. • Demonstrates understanding of the psychological impact of recurrent miscarriage.

<p>Communicates and formulates an appropriate management plan for couples with recurrent miscarriage</p>	<ul style="list-style-type: none"> • Counsels patients on available treatment options and formulates an appropriate individualised management plan, taking into account investigation results and patient preferences. • Implements management plan and modifies if necessary. • Refers to clinical geneticist on findings of an abnormal karyotype. • Liaises with obstetricians for assessment and management cervical factor to improve pregnancy outcome in women with a suspected history suggestive of cervical weakness. • Is able to offer and/or perform appropriate surgical management. • Advises and offers support to make life-style modifications to improve pregnancy outcome. • Offers supportive care in a dedicated early pregnancy assessment unit setting for women with unexplained recurrent miscarriage. • Liaises with colleagues in other disciplines, clinical and non-clinical, for advice and support. • Refers to support groups as appropriate.
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Evidence to inform decision	
<ul style="list-style-type: none"> • CbD • Mini-CEX • Local and Deanery Teaching • RCOG Learning • TO2 (including SO) • NOTSS 	<ul style="list-style-type: none"> • OSATS: <ul style="list-style-type: none"> ○ Ultrasound assessments of <ul style="list-style-type: none"> ▪ the normal pelvis ▪ congenital uterine anomaly ▪ uterine fibroids ▪ Early pregnancy • Confirmed attendance at specialist recurrent miscarriage clinics and early pregnancy assessment unit • Reflective practice

Knowledge criteria
<ul style="list-style-type: none"> • The various professional societies' definitions of recurrent miscarriage • The risk factors, causes, investigations and management options for recurrent miscarriage • Normal ultrasound appearances of the uterus, ovaries and adnexa • The standardised terms and definitions to describe sonographic features of normal pelvis and pelvic pathology • The role of antiphospholipid syndrome (APS) in recurrent miscarriage • The benefits of treatment with low-dose aspirin plus heparin in women with APS • The potential risks of low-dose aspirin plus heparin in pregnancy • The evidence base for some treatments such as the use of corticosteroids or intravenous immunoglobulin for women with recurrent miscarriage. • The role of pre-implantation genetic testing for aneuploidy (PGT-A) in relation to miscarriage. • The available options on surgical correction of uterine abnormalities on pregnancy outcome

- The evidence base regarding routine use of hormonal therapy or immunotherapy for recurrent miscarriage
- The efficacy of thromboprophylaxis during pregnancy in women who have thrombophilias (inherited or acquired) with recurrent first-trimester miscarriage or second trimester miscarriage assessment.
- The role of cervical cerclage (transvaginal and transabdominal) for second trimester miscarriage prevention.
- The role of infection (and microbiome) in pregnancy loss and subfertility.

SECTION 2: PROCEDURES

<i>Procedures</i>	<i>Level by end of training</i>	<i>CiP 1</i>	<i>CiP 2</i>	<i>CiP 3</i>	<i>CiP 4</i>	<i>CiP 5</i>
Laparoscopic destruction of superficial endometriosis	5		X	X		
Laparoscopic excision of deep endometriosis	3		X	X		
Laparoscopic excision/ablation of ovarian endometriomas	4		X	X		
Laparoscopic surgery – treatment of ovarian dermoid	5			X		
Laparoscopic surgery – division of adhesions	5			X		
Laparoscopic surgery – salpingectomy for hydrosalpinx	5			X		
Laparoscopic surgery – salpingostomy	5			X		
Laparoscopic surgery – myomectomy	2			X		
Hysteroscopic surgery – resection of fibroid	5			X		
Hysteroscopic surgery – resection of polyp	5			X		
Hysteroscopic surgery – division of septum	2			X		
Hysteroscopic surgery – division of adhesions	5			X		
Hysteroscopic proximal tubal catheterisation	3			X		
Excision of vaginal septum	3			X		
Imperforate hymen	3			X		
Male surgery – percutaneous epididymal sperm aspiration	2			X		
Male surgery – testicular sperm aspiration	2			X		
Male surgery – open testicular biopsy	2			X		
Male surgery – Microscopic epididymal sperm aspiration	1			X		
Male surgery – Micro – TESE	1			X		
Hysterosalpingography (HSG)	2				X	
Hysterosalpingo contrast sonography (HyCoSy) or saline sonohysterography	5				X	
Blue dye test at laparoscopy	5			X	X	



<i>Procedures</i>	<i>Level by end of training</i>	<i>CiP 1</i>	<i>CiP 2</i>	<i>CiP 3</i>	<i>CiP 4</i>	<i>CiP 5</i>
Intrauterine insemination	5				X	
Embryo transfer	5				X	
Transvaginal ultrasound egg collection	5				X	
Trans-abdominal ultrasound egg collection	3				X	
Embryo transfer procedure	5				X	
Ovarian cystectomy	5			X		
Laparoscopic salpingostomy for distal tubal blockages (cuff salpingostomy)	3			X		
Laparoscopic ovarian diathermy for anovulatory polycystic ovary syndrome	5	X		X		
Proficiency in: Veress needle entry, Hassan & Palmer's point entry techniques	5			X		
Safe tissue handling with laparoscopic instruments, sharp and blunt dissection	5			X		
Haemostatic techniques at laparoscopic and open surgery	5			X		
Open myomectomy	4			X		
Excision of rudimentary horn of uterus (laparoscopic resection)	1			X		
TAH+/-BSO	3			X		
Trans-vaginal ultrasound scan for:					X	
• follicular tracking	5				X	
• Normal pelvis	5				X	X
• Antral follicle count	5				X	
• follicular tracking IVF	5				X	
• endometrial development	5				X	
• uterine fibroids	5				X	X
• uterine cavity abnormalities	5				X	
• congenital uterine anomaly	5					X
• ovarian pathology	5				X	
• Adnexal pathology	5				X	
• oocyte retrieval	5				X	
• embryo replacement	5				X	
• early pregnancy assessment	5				X	X

SECTION 3: GMC GENERIC PROFESSIONAL CAPABILITIES

Mapping to GPCs

Domain 1: Professional values and behaviours
Domain 2: Professional skills

- Practical skills
- Communication and interpersonal skills
- Dealing with complexity and uncertainty

Domain 3: Professional knowledge

- Professional requirements
- National legislative structure
- The health service and healthcare system in the four countries

Domain 5: Capabilities in leadership and team working

Domain 6: Capabilities in patient safety and quality improvement

Domain 8: Capabilities in education and training

Domain 9: Capabilities in research and scholarship

SECTION 4: MAPPING OF ASSESSMENTS TO RM CiPs

SST RM CIP	OSATS	Mini-CEX	CbD	NOTSS	TO1/ TO2	Reflective practice
1: The doctor is competent in recognising, assessing and managing endocrinological disorders.		X	X		X	X
2: The doctor is competent in providing specialist care for women with endometriosis.		X	X		X	X
3: The doctor has the surgical skills appropriate for a subspecialist in reproductive surgery.	X	X	X	X	X	X
4: The doctor is competent in recognising, assessing and managing complex fertility problems and assisted conception	X	X	X	X	X	X
5: The doctor is competent in	X	X	X	X	X	X

SST RM CIP	OSATS	Mini-CEX	CbD	NOTSS	TO1/ TO2	Reflective practice
recognising, assessing and managing complex early pregnancy problems.						

Research - Subspecialty Training

SECTION 1: CAPABILITIES IN PRACTICE

CIP 6: The doctor is able to engage with research and promote innovation within their subspecialty.	
Key Skills	Descriptors
Demonstrates research skills	<ul style="list-style-type: none"> • Is able to demonstrate practice in healthcare research and the different methodologies within their subspecialty. • Shows continued engagement in GCP and R&D processes • Engages in ethics and governance processes within research, demonstrating they are able to follow guidelines on ethical conduct and consent for research. • Demonstrates involvement in informatics, statistical analysis and emerging research areas within their subspecialty. • Shows engagement with national trials within their subspecialty, including patient recruitment, trial monitoring and adverse event reporting • Shows understanding of the role of Public and Patient involvement within clinical trials • Is able to discuss clinical trials with, and facilitate recruitment of patients within their subspecialty • Has the ability to translate research into clinical practice within their subspecialty
Demonstrates critical thinking	<ul style="list-style-type: none"> • Is able to develop and critically appraise a research protocol • Is able to critically evaluate clinical trial data to establish the clinically significant outcomes and relevance for clinical practice within their subspecialty • Is able to interpret research findings, reflect on the potential impact on their clinical practice and share this with colleagues and patients • Can develop and critically appraise a Patient Information Leaflet

	<ul style="list-style-type: none"> Is able to interpret research findings within their subspecialty and discuss these when taking informed treatment consent
Innovates	<ul style="list-style-type: none"> Demonstrates how their clinical practice has developed from innovative research within their subspecialty Is able demonstrate engagement with the introduction of any innovations within their subspecialty, including governance and costs
Evidence to inform decision	
<ul style="list-style-type: none"> National Teaching / Courses Critical appraisal of protocols/papers Subspecialty journal club presentations GCP re-certification Participation, including recruitment for national multicentre trials Preparation research protocol / grant applications Oral, and/or poster presentations at national /international subspecialty meetings 	<ul style="list-style-type: none"> SIPM in Clinical Research Peer reviewed original research publications relevant to their subspecialty A higher degree such as a PhD or research MD

SECTION 2: PROCEDURES

There are no procedures in this SST Research CiP.

SECTION 3: GMC GENERIC PROFESSIONAL CAPABILITIES

Mapping to GPCs
<p>Domain 1: Professional values and behaviours</p> <p>Domain 2: Professional skills</p> <ul style="list-style-type: none"> Practical skills Communication and interpersonal skills Dealing with complexity and uncertainty <p>Domain 3: Professional knowledge</p> <ul style="list-style-type: none"> Professional requirements National legislative structure The health service and healthcare system in the four countries <p>Domain 5: Capabilities in leadership and team working</p> <ul style="list-style-type: none"> Promoting a culture of learning and academic and professional critical enquiry



Domain 6: Capabilities in patient safety and quality improvement

- Quality improvement

Domain 8: Capabilities in education and training

Domain 9: Capabilities in research and scholarship