

Women's Health Pocket Guides 1 of 3

The RCN Women's Health Forum

Female Anatomy and Physiology



Menstrual Cycle

(see further details on card 21)

Hormonal activity during the Menstural Cycle



Average Body Temperature during Menstrual Cycle



Uterine Cycle



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The female reproductive anatomy (see card 2) consists of:

The **uterus** is a pear shaped organ, like an inverted triangle with variable dimensions. It has three layers:

- peritoneum the outer serous layer
- myometrium the middle muscular layer
- endometrium the inner mucus layer.

The vulva or external genitalia consists of:

- mons pubis
- labia majora
- labia minora
- vestibule between the labia minora into which the urethra, Bartholins ducts and vagina open into. This goes from the fourchette to the clitorus.
- the perineum.

The **vagina** which is a fibromuscular distensible 8-10cm long tube passing upwards and backwards from the introitus at the vulva. It is attached to the cervix.

The cervix is cylindrical in shape and 2.5cm long.

The **ovary**, attached by the ovarian ligament and contains follicles, is covered by germinal epitherlium. There is a central vascular medulla and an outer cortex.

The **pelvic floor** consists of muscles which support the organs in the lower pelvic region.

Heavy Menstrual Bleeding (HMB)

HMB is a common debilitating problem affecting 1 in 3 women at some stage in their life, particularly over the age of 35. It can have a major impact on a woman's quality of life.

Causes

- 1. Dysfunctional uterine bleeding (60%) often no known cause.
- Pelvic pathology (35%) includes fibroids, endometriosis, adenomyosis, polycystic ovarian disease, endometrial hyperplasia, malignancy, infection and trauma.
- 3. Systemic disorders (5%) includes coagulation disorders.

Assessment

- A comprehensive history menstrual (frequency, duration, volume, flooding/accidents/sanitary changes), contraception, sexual, cervical screening, obstetric, medical, social.
- Examination general (signs/symptoms anaemia), pelvic (speculum/bimanual).

Diagnosis

- 1. Tests full blood count (to exclude anaemia).
- Transvaginal ultrasound scan (to assess endometrium and identify other pathology, such as fibroids).
- 3. Hysteroscopy (to assess uterine cavity).
- 4. Endometrial biopsy (to exclude hyperplasia/malignancy).
- Other tests to consider if clinically indicated thyroid function, endocrine and coagulation screening, sexually transmitted infection screening, pregnancy test.

Heavy Menstrual Bleeding (HMB)

Treatments

1. Medical

Hormonal – levonorgestrel intra-uterine system, oral progestogens, combined oral contraceptive pill. Non-hormonal – tranexamic-acid, mefenamic-acid, ullipristal-acetate.

- 2. Surgical endometrial ablation, hysterectomy, myomectomy.
- 3. Non-surgical uterine artery embolization (UAE).

References

NICE (2007) *Heavy Menstrual Bleeding*, National Collaborating centre for Women and Children's Health. www.nice.org.uk (accessed January 2017).



Endometriosis

Endometriosis is defined as the presence of endometrial-like tissue outside the uterus, which induces a chronic, inflammatory reaction.

Approximately 1 in 10 women of reproductive age suffer from endometriosis (estimates range from 2 to 10% of the general female population, but up to 50% in infertile women).

It takes an average of 7.5 years from the onset of symptoms for women to get a diagnosis.

Cause is uncertain but may include:

- genetics/family history
- retrograde menstruation
- immune dysfunction.

Signs and symptoms:

- dysmenorrhea
- dyspareunia
- chronic pelvic pain
- · painful caesarean section scar or cyclical lump
- infertility
- cyclical or premenstrual symptoms with or without abnormal bleeding and pain
- chronic fatigue
- depression
- · less commonly: dysuria, dyschezia, haematuria
- back, legs and chest pain.



Endometriosis

Treatments: (there is no definite cure)

Medical management

- a) Non-hormonal:
 - non-steroidal anti-inflammatories; +/- paracetamol or codeine-based analgesia
 - pain modifiers
 - · diet and complementary therapies.
- b) Hormonal:
 - · combined contraceptive pill
 - levonorgestrel intrauterine system
 - oral progestogens
 - · gonadotropin-releasing hormone analogues.

Surgical management

- · laparoscopic ablation/excision of endometriosis lesions
- radical surgery: total abdominal hysterectomy/bilateral salpingo-oopherectomy
- bladder/bowel involvement requires BSGE specialist centre involvement.

Support/sdvice

- Endometriosis UK: www.endometriosis-uk.org
- RCN (2015) Endometriosis factsheet www.rcn.org.uk

Useful resources

- RCN (2015) Clinical nurse specialist in endometriosis www.rcn.org.uk
- The British Society for Gynaecological Endoscopy www.bsge.org.uk
- Royal College of Obstetricians and Gynaecologists www.rcog.org.uk
- European Society of Human Reproduction and Embryology www.eshre.eu
- The World Endometriosis Society www.endometriosis.ca



Female Genital Mutilation (FGM)

Any procedure that involves partial or total removal of the external female genitalia, or other injury to the external female genitalia for non-medical reasons. There are four types of FGM (see RCN Guidance).

Complications

Short term	Long term
Haemorrhage	Difficulty passing urine
Severe pain; shock	Urinary tract/pelvic infections
Urine Retention	Dysmenorrhoea
Infection	Dyspareunia
Injury to adjacent tissue	Infertility
Limb injury due to restraint	Clitoral neuroma
Death	Problems during childbirth
	Psychological and mental health problems

Safeguarding duties

FGM is child abuse

- · Complete safeguarding assessment
- Mandatory reporting
 - Regulated health professionals must report cases of FGM in girls under 18 to the police by calling 101 if they:
 - see physical signs of FGM
 - are informed by the girl that they have had FGM
 - This is a personal duty and subject to sanctions if not complied with.

Female Genital Mutilation (FGM)

Best Practice

- Be sensitive but ask clear questions: "Have you been cut?" Or "do you come from a community that practises FGM?"
- · Diagnose type and/or refer to specialist FGM clinic.
- Document.
- · Complete FGM enhanced data template if appropriate.
- · Explain UK law and health complications.
- Share information with GP and health visitor/senior nurse if appropriate.

Useful resources

RCN (2016) Female Genital Mutilation: An RCN Resource for Nursing and Midwifery Practice (Third edition)

RCN (2017) FGM and Travel Health

RCN (2017) FGM and Sexual Health - all available from www.rcn.org.uk

DH online Safeguarding support www.gov.uk/government/collections/ female-genital-mutilation-fgm-guidance-for-healthcare-staff



Early Medical Abortion (EMA)

Definition

A combination of drugs used to induce an abortion, up to 10-weeks gestation.

The RCN believes it is important for nursing teams to be reminded of the legislation within which abortion is provided.

Drugs used

Mifepristone, given as a tablet orally, blocks the action of progesterone and sensitises the uterus to the misoprostol, a prostaglandin analogue, which is given between 24 to 72 hours later, causing the uterus to contract and expel the pregnancy. (RCOG, 2011) at: www.rcog.org.uk/globalassets/documents/guidelines/abortion-guideline_web_1.pdf

Side effects of drugs: nausea with occasionally vomiting, headache, feverishness/shivering, diarrhoea.

Possible complications:

- Retained products of conception (3 in 100): problematic bleeding, cramping pain. May need additional misoprostol or surgical evacuation. If suspicion of infected retained products (bleeding, pain, fever, offensive discharge, feeling unwell), needs urgent surgical evacuation.
- Continuing pregnancy (less than 1 in 100). EMA has a small risk of failure. If no or minimal bleeding within 24 hours after misoprostol, medical assessment required. Successful abortion should be checked, by pregnancy test or by ultrasound scan. Surgical abortion is the preferred option in a continuing pregnancy (misoprostol has been shown to have teratogenic effects in early pregnancy).



Early Medical Abortion (EMA)

- haemorrhage (2 in 1000): (soaking two large sanitary pads for two consecutive hours) seek urgent help.
- infection (2 in 1000): endometritis, pelvic inflammatory disease, may require antibiotics.

References

Abortion Act 1967 (as amended 1990) to the Human Fertilisation and Embryology Act, permits abortion under certain circumstances in England, Wales and Scotland.

RCN (2013) (updated 2017) *Termination of Pregnancy. An RCN Nursing Framework* www.rcn.org.uk/-/media/royal-college-of-nursing/ documents/publications/2013/july/pub-004386.pdf

RCN (2013) Termination of Pregnancy (Induced Abortion) Position Statement www.rcn.org.uk/about-us/policy-briefings/br-3213



Menopause

The menopause occurs when menstrual periods become irregular (perimenopause) and then finally stop; when this occurs a women can no longer get pregnant. A women is post-menopausal when she has not had a period for 12 months.

The average age of menopause is 51 in the UK (range 45-57).

Premature ovarian insufficiency (POI) usually occurs in women under 40.

Signs and symptoms

- Irregular periods or absent periods.
- Hot flushes / night sweats.
- Mood changes.
- Vaginal dryness.
- Decreased sex drive.
- Problems sleeping.
- Bladder problems.
- Longer-term problems such as osteoporosis and increase in cardiovascular disease (CVD).





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Causes

- A natural event that all women experience.
- Decreased oocytes leads to increase in FSH/LH and decrease in oestrogen (negative feedback system).
- Induced menopause medication, surgery, chemotherapy, radiotherapy.
- POI unknown, genetic, infections, autoimmune.

Keeping healthy at the menopause

Some women experience minimal symptoms and medical intervention is not needed. It is important to optimise health with good diet, weight management and increasing exercise, to help with CVD, bones and minimise symptoms.

Treatments

- Lubricants or moisturisers
- Diet and lifestyle changes reduce caffeine, alcohol and stop smoking and keep food diary for flush triggers.
- Herbal remedies.
- Cognitive Behavioural Therapy.
- Hormone replacement therapy (HRT) available as tablets, patches, gel, intrauterine progestogen, vaginal oestrogen for local treatments. Oestrogen and progesterone if the women has a womb and oestrogen if not.
- Prescribed alternatives such as clonidine, SSRI and gabapentin (off Licence).



Menopause

Benefits and risks of HRT

- Symptoms management.
- Side effects breast tenderness, headaches, bleeding, mood changes.
- Slight increased risk of breast cancer, strokes, blood clots (less with transdermal oestrogen) (NICE, NG23, 2015).
- HRT within specialist care only, if previous VTE, hormone dependent cancer, undiagnosed vaginal bleeding, liver disease.

Further information

The British Menopause Society (BMS) https://thebms.org.uk/ Daisy network www.daisynetwork.org.uk

Menopause matters www.menopausematters.co.uk

NICE guideline [NG23] November 2015 NICE Menopause:

diagnosis and management

www.nice.org.uk/guidance/ng23?unlid=46651615820163246111

RCN (2017) Menopause Lifestyle Choices. To be published.



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NICE 2015

NICE guideline [NG23] November 2015 NICE Menopause: diagnosis and management

www.nice.org.uk/guidance/ng23?unlid=46651615820163246111

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Cervical Human Papilloma Virus (HPV)

- There are more than 100 types of HPV, they are a group of viruses that are extremely common.
- HPV can be high risk or low risk. Most infections do not cause symptoms and resolve without causing problems.
- Persistent infection with high risk types of HPV (types 16 and 18) can lead to pre-cancerous cervical lesions.
- If untreated, lesions caused by persistent HPV may progress to cervical cancer, but this development usually takes several years.
- HPV types (16 and 18) cause 70% of cervical cancers and precancerous cervical lesions, there is also evidence linking HPV with cancers of the anus, vulva, vagina and penis.
- In 99% of cases, cervical cancer occurs as a result of a long-term infection with high-risk HPV
- HPV is transmitted through skin-to-skin contact. Cervical HPV infection is caused by sexually acquired infection with certain types of HPV.
- Once infected with HPV, the virus can remain in your body as an active infection or be dormant and undetectable after your immune system clears the infection. HPV does not go away and may remain present in cervical cells for many years.
- HPV vaccine is routinely offered to secondary school girls aged 12 and 13, offering protection against HPV types 16 and 18.

HPV screening

HPV triage/assessment is performed on all cytology screening tests with low grade abnormalities. Positive results for high risk HPV

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Cervical Human Papilloma Virus (HPV)

will generate referral to colposcopy. Negative results will returned women to routine screening every three or five years.

Test of cure is used after a woman has been treated for cervical abnormalities, to ensure treatment was successful. Usually about six months after treatment HPV screening and cervical screening cytology are performed (one test). Negative results can return a woman to three-yearly cervical screening.

Primary HPV testing is not currently in widespread use, but may be in the future. This is where cervical cytology samples are tested for HPV first. If HPV is found, cervical screening cytology is then done to confirm if cell changes are present.

Note: not all areas within the UK currently use HPV screening. Please check your local screening guidelines.

Further information

NHS Choices, HPV vaccine www.nhs.uk/conditions/vaccinations/ pages/hpv-human-papillomavirus-vaccine.aspx

WHO 2016 Human papillomavirus (HPV) and cervical cancer fact sheet, available online at: www.who.int/mediacentre/factsheets/ fs380/en/

RCN (2012) (To be updated in 2017) *Human Papillomavirus (HPV)* and Cervical Cancer – The Facts www.rcn.org.uk/__data/assets/ pdf_file/0011/78716/003083.pdf

RCN (2012) Cervical Screening (To be updated in 2017) RCN Guidance for Good Practice www.rcn.org.uk/__data/assets/pdf_ file/0007/78730/003105.pdf



Common Gynaecological Surgical Interventions

Procedure	Name	Explanation
Hysteroscopy	Diagnostic Endometrial ablation TCRE (Trans cervical resection of the endometrium) TCRF (Trans cervical resection of fibroid) Endometrial polypectomy Sterilisation (Essure) Hysterscopic division of adhesions Removal of septum	Operations via the vagina with a hysteroscope to look at and treat any abnormities within the uterus. These are more commonly being undertaken in outpatient/ambulatory settings.
Laparoscopy	Diagnostic Ablation and excision of endometriosis Tube removal salpingectomy and tube opening – salpingostomy Laparoscopic adhesiolysis A laparoscopy and dye test Cystectomy – ovarian Removal of tubes	To investigate pain/abnormal scans and treat pathology within the abdomen/ uterus and adenexa. Undertaken under general anaesthetic via small incisions under umbilicus and lower on the abdomen. Complex operations can be carried out this way, hysterectomy and myomectomy.
Vulva	Marsupialisation of Bartholins cyst Vulvectomy add Deinfibrulation (FGM)	
Fibroids	Myomectomy Laproscopic myomectomy	Surgical removal of fibroids.
Hysterectomy	Sub total hysterectomy (cervix left in situ) TAH (total abdominal hysterectomy) – uterus removed Radical hysterectomy Vaginal hysterectomy Laparoscopic assisted hysterectomy Laparoscopic hysterectomy	Removal of the womb.

Common Gynaecological Surgical Interventions

Procedure	Name	Explanation
Bladder operations	Anterior colphorrhaphy Posterior colporrhaphy Sling procedures Colposuspension Sacrospinus fixation TVT Vaginal hysterectomy (if prolapse present)	Repair of the front and back wall of the vagina. Some procedures use slings under the bladder neck to provide support
Ovaries	Bilateral salpingo – oophorectomy Oophorectomy	Removal of ovaries and or fallopian tubes. For cancer, cysts, preventative for BRAC patients
Pregnancy related	Surgical management of miscarriage Surgical abortion via vacuum aspiration (manual or electric) or dilation and evacuation (D&E) Salpingectomy Salpingotomy (Ectopic Pregnancy)	
Cervix	Knife cone Large loop excision of transformation zone LLETZ (<i>large loop excision</i> of the transformation zone) Radical trachelectomy (removal of cervix – cancer operation to preserve fertility)	Removal of areas of the cervix found to be abnormal at colposcopy
Laparotomy	Omentectomy Lymphadenectomy	Removal of the omentum and lymph nodes in cancer operations in conjunction with hysterectomy

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Female Reproductive Anatomy and Menstrual Cycle

The menstrual cycle:

The proliferative/follicular phase

Under the control of FSH an ovum develops. When this happens oestrogen levels rise and block FSH. The endometrial glands grow and new blood vessels form in a healthy endometrium, under the influence of oestrogen.

Secretory/luteal phase

The LH surge from the anterior pituitary leads to final maturation of the dominant follicle and rupturing of the graffiaan follicle and is preceded by a rise in progesterone and ovulation about 38 hours after the initiation of the LH surge.

The empty follicle fills with blood and the theca and granulosa cells of the follicle luteinise with formation of corpus luteum. Progesterone is synthesised by the corpus luteum. This phase lasts for 14 days. The endometrium develops into secretory endometrium, ready for implantation. The fall in oestrogen and progestogen then results in menses.

Menstruation is the shedding of superficial layers of the endometrium and is initiated by a fall in circulating concentrations of progesterone. A normal cycle loss is up to 80mls.

Along with these changes, the cervical mucus becomes thinner at the time of ovulation to facilitate the penetration of the cervix by the sperm. It then becomes less and thicker under the influence of progestogen. Breasts increase in size and tenderness in the week pre-menstruation.



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