

Chapter 6: Physiology, Anatomy & Abnormal Findings

On completion of this section, the learner will be able to:

1. Describe the normal developmental changes associated with female genitalia.
2. Describe the external and internal anatomy and physiology of the female.
3. Recognize variations of female genital cutting (FGC) or circumcision.
4. Understand normal versus abnormal bleeding.
5. Identify abnormal findings and indications of STIs, and when referral is necessary.

Learning Objectives

Developmental Changes in the External and Internal Genitalia¹

The size of the uterine corpus and cervix change over time. In a premenarchial female, one third of the uterus is corpus, and two thirds may be cervix. In the adult multiparous female, the corpus is two thirds of the uterus, while the cervix is a third.

ADOLESCENTS

External Genitalia During Puberty

- External genitalia increase in size
- Clitoris becomes more erectile
- Labia minora more vascular
- Labia majora and mons pubis become more prominent and begin to develop hair, often occurring simultaneously with breast development

Internal Genitalia During Puberty

- Vagina lengthens, and epithelial layers thicken
- Vaginal secretions become acidic
- Uterus, ovaries, and fallopian tubes increase in size and weight
- Uterine musculature and vascular supply increase
- Endometrial lining thickens in preparation for the onset of menstruation (menarche), which usually occurs between the ages of 8 and 16 years
- Vaginal secretions increase just before menarche

PREGNANT CLIENTS

- Vagina changes to a violet color
- Mucosa of the vaginal walls and the connective tissue thicken, and smooth muscle cells hypertrophy
- Vaginal secretions increase and have an acidic pH due to an increase in lactic acid production by the vaginal epithelium

OLDER CLIENTS

- Ovarian function diminishes during a client's 40s
- Ovulation usually ceases about 1 to 2 years before menopause
- Menstrual periods begin to decrease in amount and intervals between cycles increase (for clients between 40 and 55 years of age - fertility may continue)
- Menopause is defined as 1 year of no menses

Irregular menstrual cycles as well as persistent intermenstrual, postcoital and postmenopausal bleeding are all considered abnormal bleeding patterns and should be appropriately investigated. Depending of your scope of practice, all abnormal findings need to be investigated appropriately or referred to a specialist.

**Important
Information**

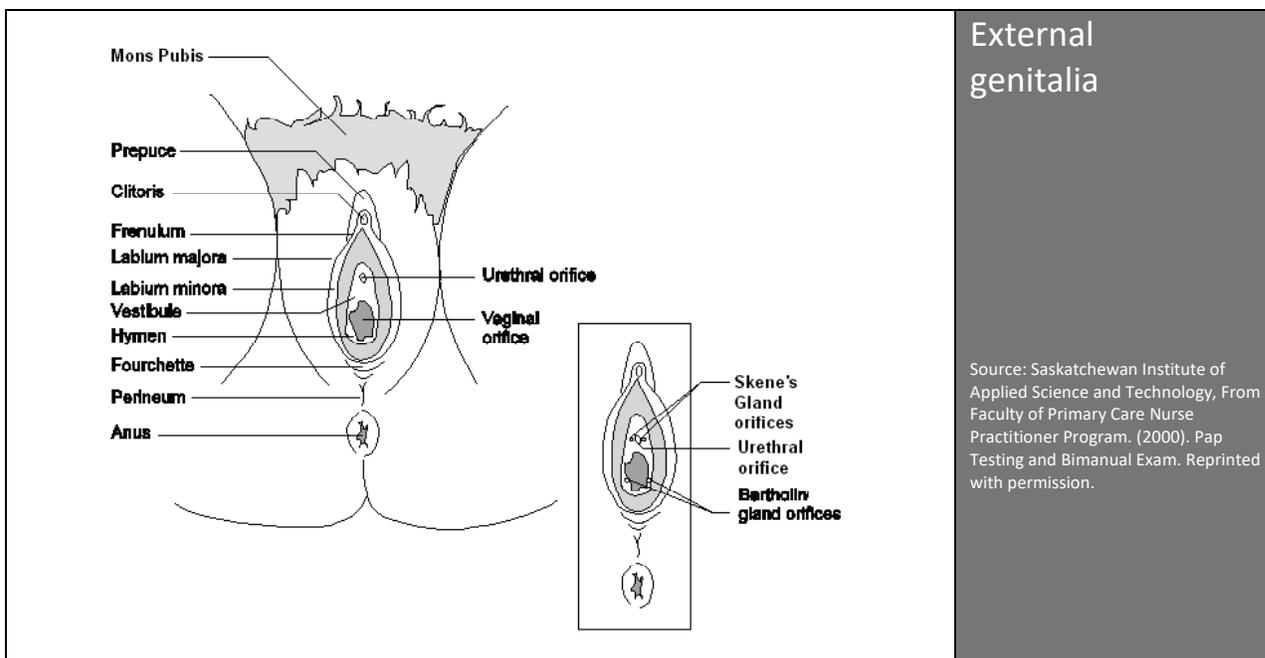
Changes in External Genitalia

- Estrogen levels decrease, causing the labia and clitoris to become smaller
- Labia majora also become flatter as body fat is lost
- Pubic hair turns gray and is usually more sparse

Changes in Internal Genitalia

- Vaginal introitus gradually constricts
- Vagina narrows, shortens, and loses lubrication, and the mucosa becomes thin, pale, and dry, which may result in dyspareunia
- Vaginal walls may lose some of their structural integrity
- Cervix becomes smaller and paler
- Uterus decreases in size, and the endometrium thins
- Ovaries also decrease in size to approximately 1 to 2 cm
- Ligaments and connective tissue of the pelvis sometimes lose their elasticity and tone, thus weakening the supportive sling for the pelvic contents

External Genitalia²



Mons Pubis

The mons pubis is the cushion of adipose and connective tissue covered by skin and coarse, curly hair in a triangular pattern over the symphysis pubis.

Abnormal Findings

- Excessive hair associated with excessive hair elsewhere
- Absence of hair in a client >16 may suggest abnormality, however it is not uncommon for clients to remove their pubic hair

Urethral Orifice

The urethral orifice is normally pink with no excretion.

Abnormal Findings

- Erythema
- Abnormal exudates
- Abnormal mass within or upon the orifices

Vaginal Orifice and Skene's Glands

When the labia are spread, the vaginal orifice (introitus) and the urethral meatus are visible. Less easily visible (normally invisible) are the multiple orifices of Skene's glands (paraurethral gland), mucus-producing glands located on both sides of the urethral opening.

Abnormal Findings

- Visible Skene's gland orifice
- Erythema
- Abnormal exudates
- Abnormal mass situated within or upon the orifice

Bartholin's Gland Orifices

Openings of the two mucus-producing Bartholin's glands are located laterally and posteriorly on either side of the inner vaginal wall. Orifices of the Bartholin's glands are normally not visible.

Abnormal Findings

- Erythema
- Abnormal exudates
- An abnormal mass

Clitoris

The clitoris is the sensitive organ of sexual stimulation formed by erectile tissue. It is covered by the prepuce, which along with the frenulum is formed by the merged, inner parts of the labia minora. The adult clitoris is normally no greater than 0.5 cm in diameter.

Abnormal Findings

- Enlargement
- Atrophy
- Any abnormal mass
- Female genital cutting

Frenulum

The frenulum is the protective tissue covering the clitoris.

Abnormal Findings

- Abnormal mass within or upon the frenulum

Labia Majora and Minora

The labia majora border the vulva laterally from the mons pubis to the perineum. The labia minora, two moist smaller mucosal folds of delicate darker pink to red tissue, lie within the labia majora. They are made up of dense connective and erectile tissue. The labia majora and minora are usually symmetrical but vary in size. Before menarche, the labia majora are poorly defined, and with the menopause, they atrophy. In a client of reproductive age, they are prominent.

Abnormal Findings

- Asymmetry or unusual enlargement
- Abnormal exudates
- Focal hyperpigmentation
- Sebaceous cyst: blocked opening of sebaceous gland evident by a small firm round nodule on the labia. Often yellow in color with a dark center.
- Atrophy of labia majora before menopause
- Depigmentation
- Erythema
- Excoriations
- Ulcerations
- Leukoplakia may signify precancerous growth
- HPV, herpes simplex virus (HSV) and molluscum
- Lack of prominence of labia majora in clients over 16 years of age

Vestibule

The vestibule is the space between labia minora, clitoris and the fourchette. It contains the vaginal opening, Skene's glands and the hymen.

Hymen

The hymen, a tissue membrane varying in size and thickness, may completely or partially cover the vaginal orifice. In a virgin, the hymen normally contains a small aperture. An imperforate hymen may cause the retention of menstrual blood in the vaginal canal.

Perineum

The perineum is the structure constituting the pelvic floor and is referred to as the distinct bridge of tissue that separates the vaginal and anal orifices. It narrows as a result of vaginal delivery. It is usually smooth and unbroken however you may note a scar from a previous episiotomy or tear.

Abnormal Findings

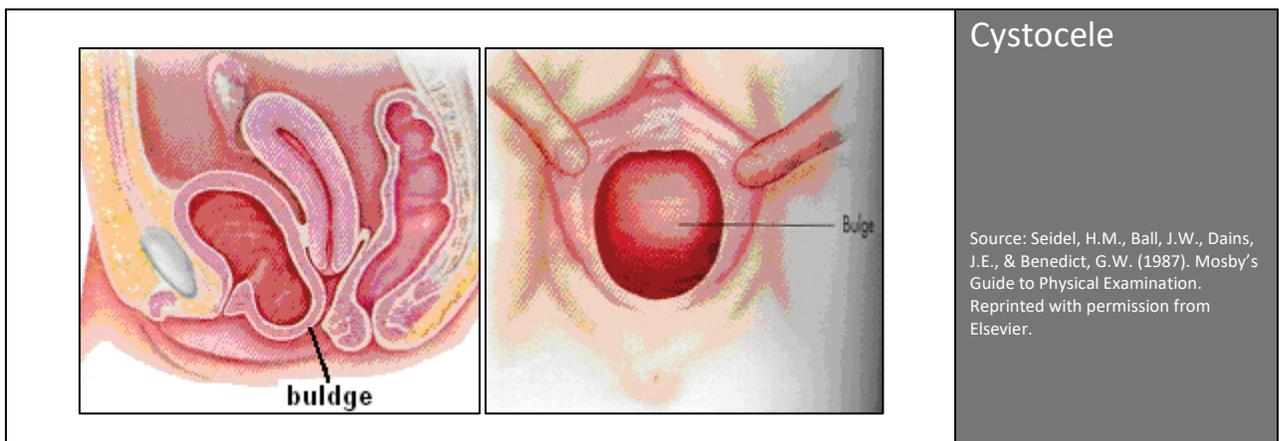
- Extreme narrowing of the perineum
- Fistula
- Bulging
- Abnormal mass
- HPV, HSV, molluscum

Vaginal Orifice

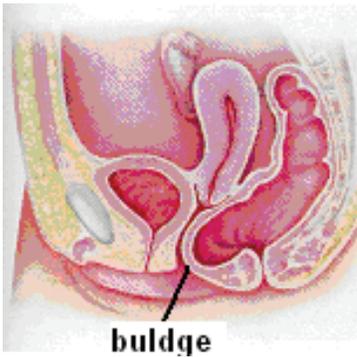
Also called the introitus. No part of the vaginal walls is normally visible through the vaginal orifice, unless the orifice is gaping as the result of one or more vaginal deliveries.

Abnormal Findings

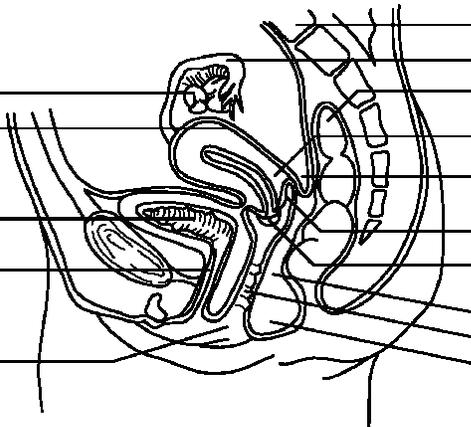
- Cystocele: prolapse of the urinary bladder through the anterior wall of the vagina, sometimes even exiting the introitus. The bulging can be seen and felt as the client bears down. More severe degrees of cystocele are accompanied by urinary stress incontinence.
- HPV, HSV, molluscum



Rectocele: prolapse of part of the rectum through the posterior wall of the vagina is called rectocele or proctocele. Bulging can be observed and felt as the client bears down.

 <p>buldge</p>		<h3>Rectocele</h3> <p>Source: Seidel, H.M., Ball, J.W., Dains, J.E., & Benedict, G.W. (1987). Mosby's Guide to Physical Examination. Reprinted with permission from Elsevier.</p>
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Internal Genitalia²

<p>Ovary Uterus Bladder Urethra Introitus</p>		<p>Sacrum Fallopian tube Rectum Isthmus of uterus Rectouterine pouch of Douglas Fornix Cervix Rectovaginal septum Vagina Perineum</p>	<h3>Lateral view of internal genitalia</h3> <p>Source: Saskatchewan Institute of Applied Science and Technology, Faculty of Primary Care Nurse Practitioner Program. (2000). Pap Testing and Bimanual Exam. Reprinted with permission.</p>
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Vagina

The vagina is a highly elastic muscular tube extending between the urethra and rectum upward and back. The vaginal epithelium is normally continuous and unbroken and covered with epithelium fluid or transudate that is clear, colourless, and odorless. Blood is normal if it is menstrual. Before menopause the mucosa is pink. After menopause it is more pale. During pregnancy, the epithelium may appear cyanotic because of underlying venous congestion. In a nulliparous client, the vaginal mucosa typically displays rugations (wrinkles) that become less prominent after a vaginal delivery.

Abnormal Findings

- Abnormal masses or exudates
- Blood of unknown origin
- Cyanosis in a nonpregnant woman
- Erythema
- Genital warts
- Fistula
- Atrophic Vaginitis: in older clients, atrophy of the vagina is caused by lack of estrogen. The vaginal mucosa is usually dry and pale, but it may become reddened and develop petechiae and superficial erosions. The accompanying vaginal discharge may be white, gray, yellow, green, or blood-tinged. It can be thick or watery.
- Hemorrhagic lesions
- Leukoplakia
- Nodularity
- Pallor in a premenopausal woman
- Ulceration

Fornices

The recess anterior to the cervix is called the anterior fornix, the one posterior to the cervix is the posterior fornix, and the one on either side of the cervix is the lateral fornix.



Uterus

The uterus is a small, firm, pear-shaped, and fibromuscular organ. It is about 7.5 cm. long, rests between the bladder and the rectum and usually lies at almost a 90-degree angle to the vagina. The uterus is divided into the following three layers:

- Serosa: external layer made up of a serous membrane
- Myometrium: middle layer made up of a heavy muscular wall
- Endometrium: internal lining which responds to changing estrogen and progesterone levels during the menstrual cycle

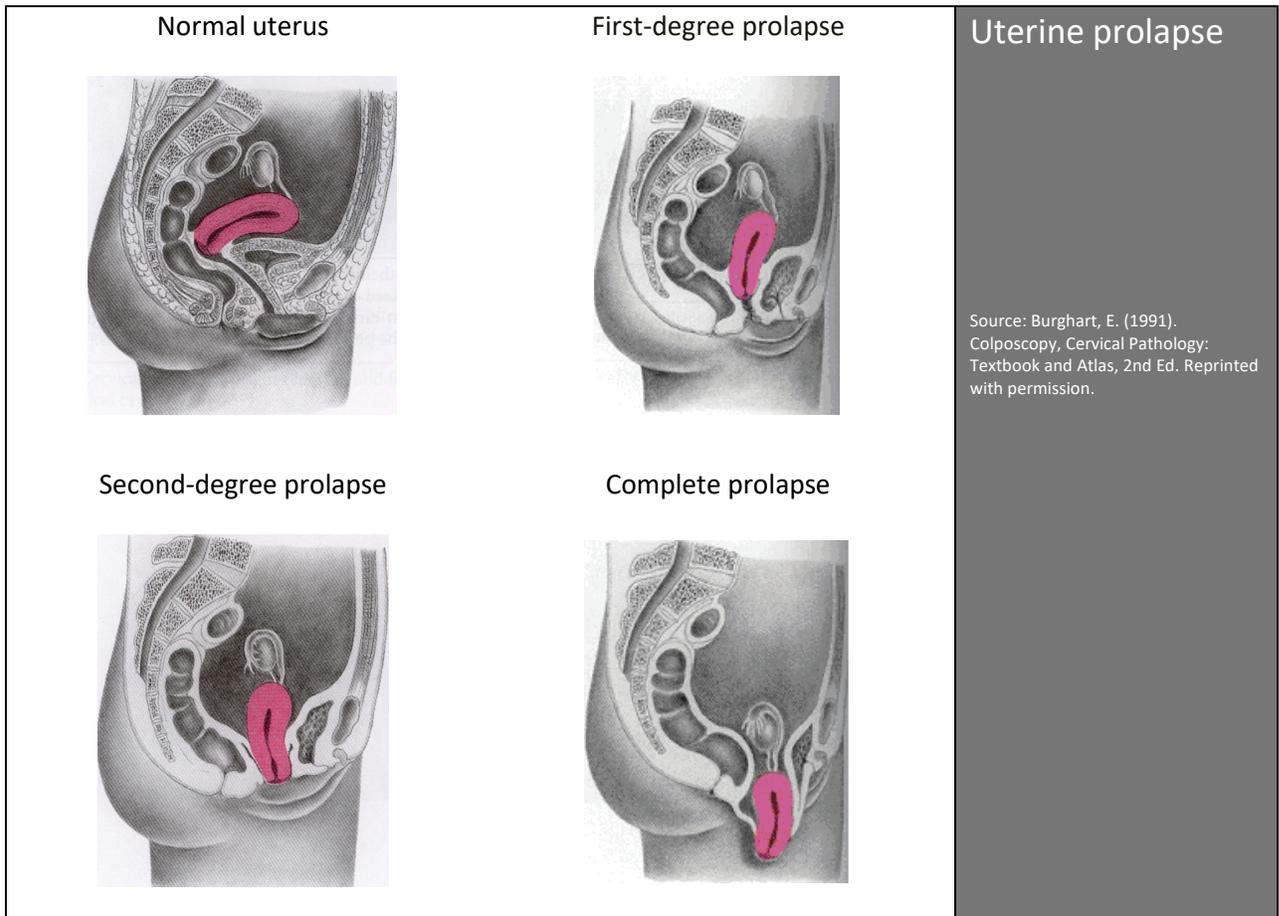
The uterus has two parts:

1. the cervix, which projects into the vagina, and
2. the fundus, which is the larger, upper part. In pregnancy the elastic, upper uterine portion (the fundus) accommodates most of the growing fetus. The uterine neck (isthmus) joins the fundus to the cervix. The fundus and the isthmus make up the corpus, the main uterine body. The size of the uterus varies depending on the number of births (parity) and uterine abnormalities. The uterus is anteflexed or anteverted above or over the empty bladder in most women, but can also be midplane (its long axis parallel to the long axis of the body), retroverted, or retroflexed.

Abnormal Findings

- Asymmetry
- Enlargement in a nonpregnant woman
- Lateral displacement
- Limited mobility
- Any abnormal mass

- Genital track duplication: can involve duplication of the fundus, entire uterus or entire uterus and vagina. Where there are two cervixes, a Pap test should be taken from each.
- Uterine prolapse: the uterus prolapses when the supporting structures of the pelvic floor weaken. This often occurs concurrently with a cystocele or rectocele. The uterus becomes progressively retroverted and descends into the vaginal canal. In first-degree prolapse the cervix remains within the vagina. In a second-degree prolapse the cervix is at the introitus and in a third-degree prolapse the cervix drops outside the introitus. See illustrations below.



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- Uterine Cancer:³ in most cases, uterine cancer develops in the glandular tissue of the endometrium and is called adenocarcinoma. Having the following signs and symptoms does not necessarily indicate uterine cancer, but may require more discussion in the health history and a possible referral to a gynaecologist or oncologist.

Early Uterine Cancer Symptoms

- Bleeding between menstrual periods
- Heavy bleeding during periods
- Spotting or bleeding after menopause
- Bleeding after intercourse
- A foul discharge
- Yellow watery discharge
- Cramping pain
- Pressure in abdomen or pelvis, back or legs
- Discomfort over the pubic area
- Post-menopausal bleeding: bleeding after the first complete year without a period is considered a high risk factor for endometrial cancer and the client should be referred to a gynaecologist for an endometrial biopsy and pelvic ultrasound. The client should be told to watch for this pattern of bleeding and to arrange for evaluation.

Fallopian Tubes

From each side of the fundus extends a fallopian tube, the fringed, funnel-shaped end of which curves toward the ovary. Usually nonpalpable, these 8 -14 cm long, narrow tubes of muscle fibers have finger-like projections, called fimbriae, on the ends that partially surround the ovaries. Fertilization of the ovum usually occurs in the outer third of the fallopian tube.¹

Ovaries

The ovaries are almond-shaped structures that vary considerably in size but average about 3 – 3.5 cm long, 2 cm wide and 1 – 1.5 cm thick from adulthood through menopause. They lie near the lateral pelvic walls, a little below the anterosuperior iliac spine. The two primary functions of the ovaries are to produce ova and secrete hormones, including estrogen, progesterone, and testosterone. About 300 ova are released during a client's childbearing years.

Abnormal Findings

- Ovarian cancer:⁴ Ovarian cancer can develop for a long time without causing any signs or symptoms. When symptoms do start, they are often vague and easily mistaken for more common illnesses. Ovarian cancer is often first diagnosed as advanced disease. Although bimanual exam is not a part of this manual, the HCP should be aware of signs of ovarian cancer.

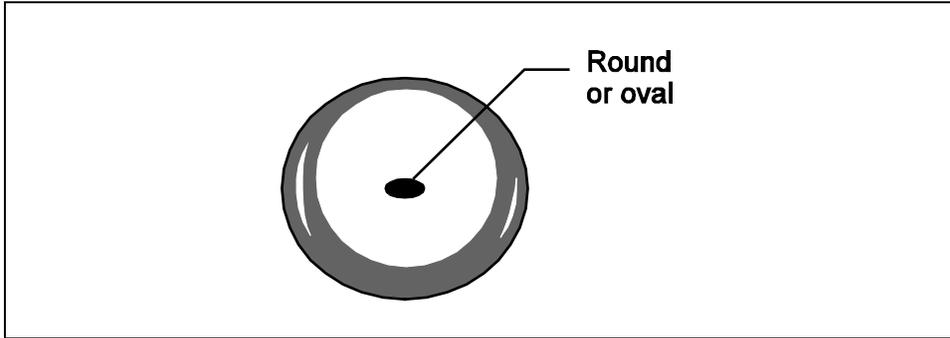
Having the following signs and symptoms does not necessarily indicate ovarian cancer, but may require more discussion in the health history and a possible referral depending on your scope of practice. These symptoms are common, however, if they persist for three weeks or more, a client should be assessed for ovarian cancer.

Early Ovarian Cancer Symptoms

- Mild abdominal discomfort or pain
- Abdominal swelling
- Change in bowel habits
- Feeling full after a light meal
- Indigestion
- Gas
- Upset stomach
- Sense that bowel has not completely emptied
- Nausea
- Constant fatigue
- Pain in lower back or leg
- Abnormal menstrual or vaginal bleeding
- More frequent urination
- Pain during intercourse
- Persistent cough

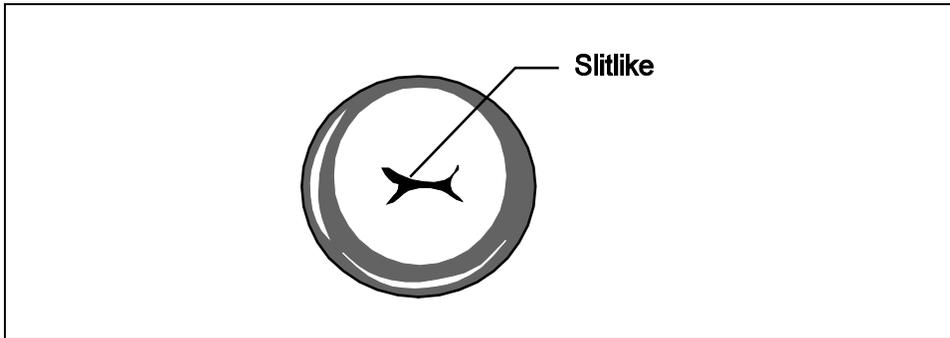
The Cervix⁵

The cervix normally protrudes into the vaginal vault by 1 to 3 cm. In a nulliparous client, its diameter is 2 to 3 cm, and following vaginal delivery increases in size to 3 to 5 cm. It is usually round and symmetrical in shape. A round (in nulliparous clients) or slit-like (in parous clients) depression is the external os of the cervix and marks the opening into the endocervical canal and uterine cavity. The trauma of a delivery may tear the cervix, producing permanent transverse or stellate lacerations.



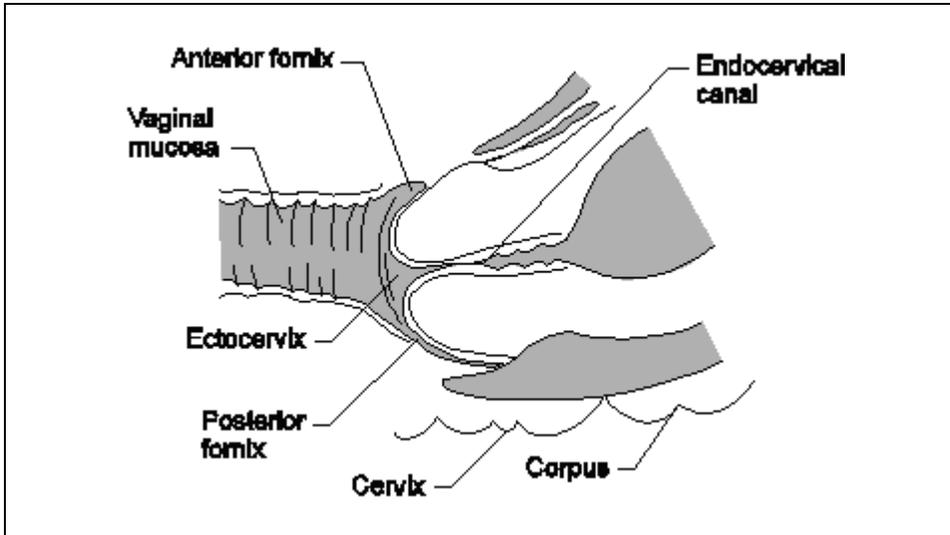
Normal nulliparous cervix

Source: Saskatchewan Institute of Applied Science and Technology, Faculty of Primary Care Nurse Practitioner Program. (2000). Pap Testing and Bimanual Exam. Reprinted with permission.



Normal parous cervix

Source: Saskatchewan Institute of Applied Science and Technology, Faculty of Primary Care Nurse Practitioner Program. (2000). Pap Testing and Bimanual Exam. Reprinted with permission.



Lateral view of internal genitalia

Source: Saskatchewan Institute of Applied Science and Technology, Faculty of Primary Care Nurse Practitioner Program. (2000). Pap Testing and Bimanual Exam. Reprinted with permission.

Common Findings

- Nabothian follicles: mucus retaining cysts caused by normal changes of surface columnar squamous epithelium. They are usually small (5mm diameter) but occasionally may enlarge to 1.5 cm. If several are present the cervix may have a knobby appearance.⁶



Nabothian Follicles

Source: Burghart, E. (1991).
Colposcopy, Cervical Pathology:
Textbook and Atlas, 2nd Ed. Reprinted
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- Polyp: bright red, soft growth emerging from os. It is usually a benign lesion, but must be determined by biopsy. There may be discharge or bleeding.



Cervical polyps

Source: Burghart, E. (1991).
Colposcopy, Cervical Pathology:
Textbook and Atlas, 2nd Ed. Reprinted
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Abnormal Findings

- Asymmetrical shape
- Enlargement not attributable to a vaginal delivery
- An abnormal mass
- Protrusion into the vaginal vault by more than 3 cm

Please see the Pap Test Learning Module DVD presentation on “Carcinoma of the Cervix” to visualize carcinoma and other abnormalities of the cervix.

Important Information

Ectocervix

The ectocervix is covered with smooth squamous epithelium that is normally moist with a clear, colorless fluid. In some women, the epithelial color is uniformly pink, and in others, an erythema surrounds the cervical os. Usually, it appears:

- flat
- pink
- uniform
- featureless



Ectocervix :
original squamous
epithelium in
reproductive
period

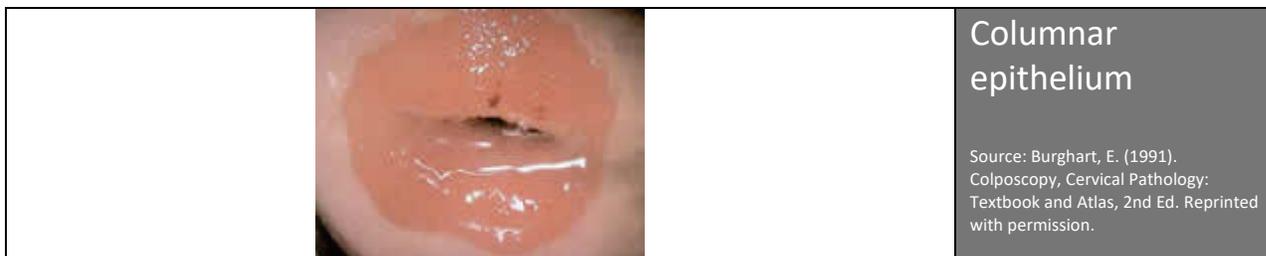
Source: Burghart, E. (1991).
Colposcopy, Cervical Pathology:
Textbook and Atlas, 2nd Ed. Reprinted
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Endocervix

A columnar, mucus producing epithelium lines the cervical canal. The columnar epithelium extends proximally from the squamo columnar junction (SCJ) to the endocervical canal and internal os. It covers a variable amount of the ectocervix and lines the endocervical canal. The endocervix:

- is irregular
- seems dark red because of the underlying vessels
- produces mucus that is more profuse, clear and watery just before ovulation

- is thicker, duller and more tenacious after ovulation or during pregnancy



Columnar epithelium

Source: Burghart, E. (1991).
Colposcopy, Cervical Pathology:
Textbook and Atlas, 2nd Ed. Reprinted
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Squamo Columnar Junction (SCJ)

The SCJ of the cervix is the area of change or line along which the squamous epithelium of the ectocervix meets the columnar epithelium of the endocervix.

The SCJ is often marked by a line of metaplasia (see transformation zone below) and its location is variable. Age and hormonal status are the most important factors influencing its location. For example, it may be located:

- at or very close to the external os during perimenarche
- on the ectocervix at variable distances from the os in reproductive-aged women
- further away from the os as high estrogen levels during pregnancy and with oral contraceptive use promote further eversion of the SCJ
- receding up the endocervical canal from the perimenopause on, or with prolonged exposure to strong progestational agents which cause atrophy
- receding into the endocervical canal (inverted) and cannot be readily visualized during post menopause

Transformation Zone

This is the area of transformation where squamous epithelium of the ectocervix has replaced columnar (glandular) epithelium of the endocervix through the process of squamous metaplasia.

The SCJ discussed above is the visible border between the squamous and columnar epithelia of the cervix and represents the new squamocolumnar junction. Adjacent to the new SCJ the dynamic process of squamous metaplasia occurs throughout the reproductive years. This is a normal process during which columnar epithelium is replaced by squamous epithelium.

The transformation zone includes the area between the original squamocolumnar junction and the new squamocolumnar junction and has a variegated appearance. This zone:

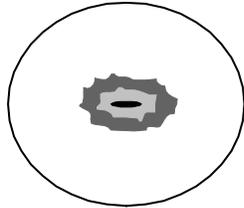
- is located 8mm to 13mm proximal to the ectocervix, but may extend as far as 20mm to 30mm into the cervical canal
- is higher within the cervix in older clients and on the ectocervix in clients who are pregnant



Transformation zone

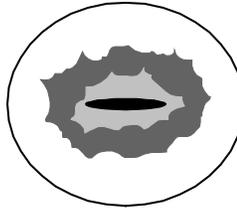
Source: Burghart, E. (1991).
Colposcopy, Cervical Pathology:
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A. narrow transformation zone



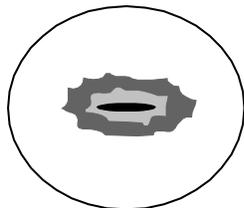
A

C: broadly everted transformation zone parous



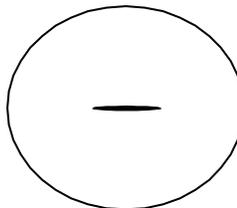
C

B. broader transformation zone – parous



B

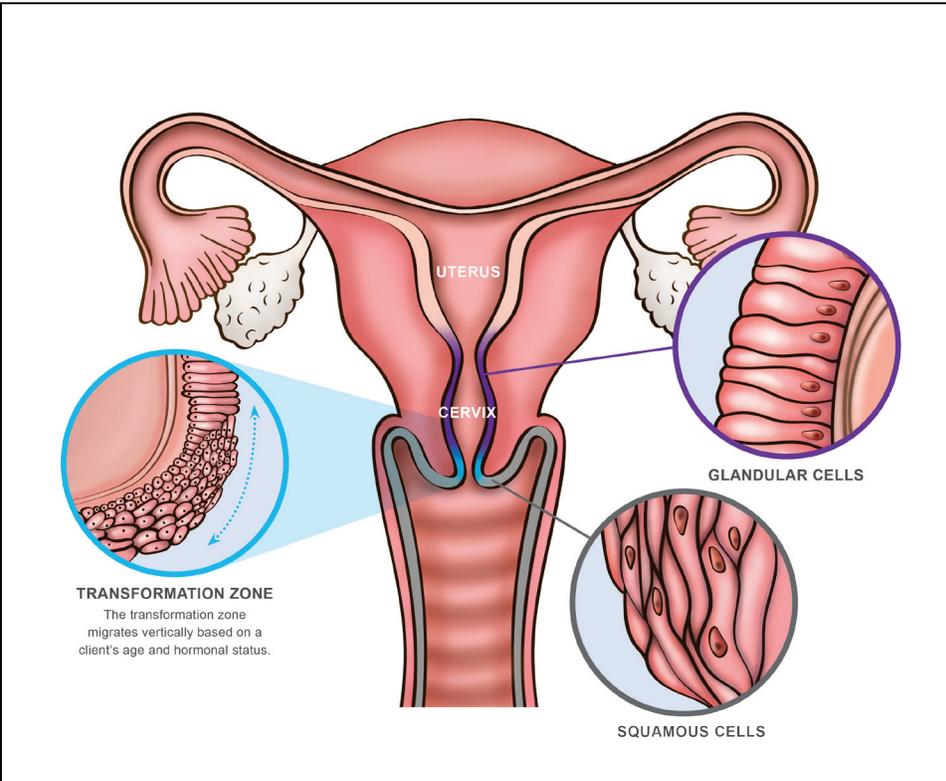
D. post-menopausal (indrawn) or post-treatment type



D

Variations in the transformation zone

Source: Saskatchewan Institute of Applied Science and Technology, Faculty of Primary Care Nurse Practitioner Program. (2000). Pap Testing and Bimanual Exam. Reprinted with permission.



Transformation zone epithelium (lateral view)

Source: CervixCheck, CancerCare Manitoba, 2017.

Abnormal Findings

- Abnormal exudates or masses upon the ectocervix
- Asymmetrical circumoral erythema with irregular borders
- Blood of unknown origin
- Cyanosis in a nonpregnant client
- Diffuse erythema
- Ulcerations
- Nodularity or roughness is usually abnormal, but may be attributable to nabothian cysts which are common
- Hemorrhagic lesions
- Leukoplakia
- Punctuation: vertical, single-loop capillaries viewed end-on



Cervical
punctuation
(Carcinoma in situ)

Source: Saskatchewan Institute of Applied Science and Technology, Faculty of Primary Care Nurse Practitioner Program (2000).

- Mosaicism: tile like pattern of vessels around blocks of white epithelium caused by neovascular changes. Coarser patterns and vessels indicative of higher grade lesions.



Mosaicism (Carcinoma in situ)

Source: Burghart, E. (1991).
Colposcopy, Cervical Pathology:
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- Extensive erosion and severe dysplasia



Extensive erosion and severe dysplasia

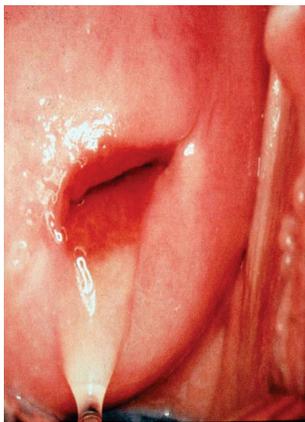
Source: Burghart, E. (1991).
Colposcopy, Cervical Pathology:
Textbook and Atlas, 2nd Ed. Reprinted
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If you suspect malignancy (e.g. inflammation of the cervix, abnormal bleeding from cervix) or see any lesion that you are unsure of, depending on your scope of practice you should seek assistance from an appropriate practitioner, or consider colposcopy before proceeding with a Pap test. If the appropriate practitioner is not on site, ensure clear clinical details are noted on the lab requisition and the woman's record. If a Pap test is not taken, refer the woman immediately for further investigation. If there is an obvious lesion on the cervix, a Pap test may not be appropriate as it may produce a false Negative result.

Important Information

Identifying Abnormal and Normal Cervical Appearances^{7 8}

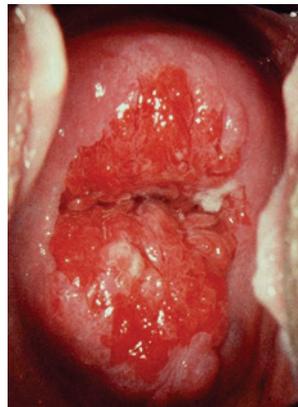
Below are examples of cervixes that may be seen during a Pap test. Any visual cervical abnormalities and/or symptoms (i.e. abnormal bleeding or discharge) must be referred for colposcopy regardless of the Pap test result.



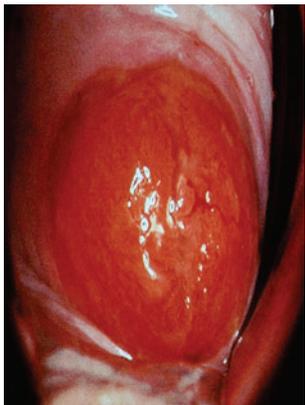
Normal



Normal with IUCD



Normal with ectropion



Normal with extensive ectropion (pregnant)



Nabothian follicles



Normal, post-laser



Endocervical polyp
(biopsy required)



Cervical polyps
(biopsy required)



Decidual polyp
(biopsy required)



Endocervical polyp
(biopsy required)



Atrophy



Transformation zone



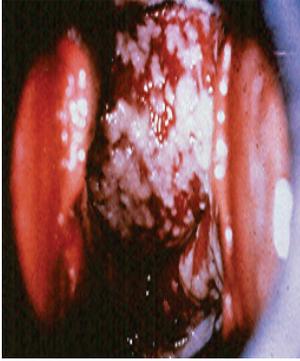
Cervical ulcer
(biopsy required)



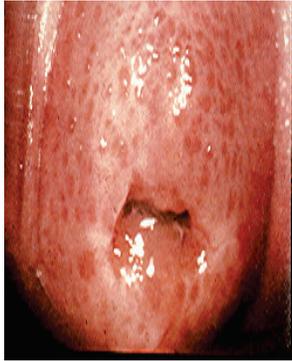
Cervical condyloma
(biopsy required)



Cervical condyloma
(biopsy required)



Monilia (*Candida albicans*)
(cultures required)



Trichomonas vaginitis
(cultures required)



Leukorrhea
(cultures required)



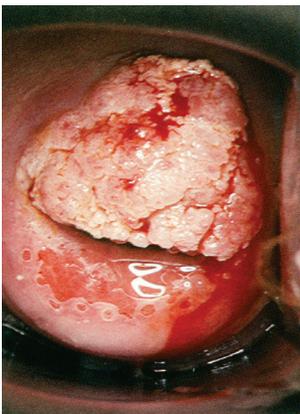
Cervical carcinoma



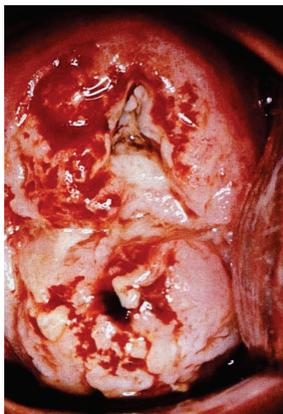
Cervical carcinoma



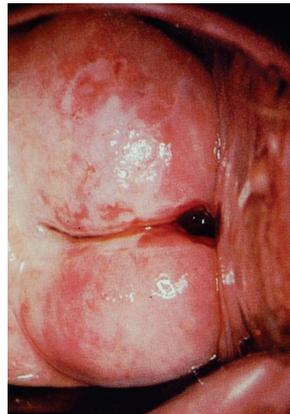
Cervical carcinoma



Invasive squamous
carcinoma & condyloma



Cervical carcinoma



Cervical carcinoma



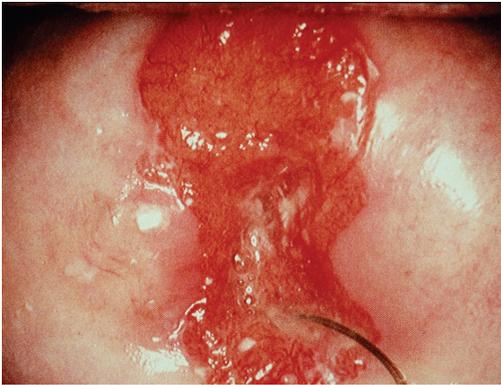
Cervical carcinoma



Cervical carcinoma



Cervical carcinoma



Cervical carcinoma

Female Genital Cutting (FGC) or Circumcision

Some cultures traditionally excise female genitalia as a puberty rite or means of preserving virginity until marriage. Clients who have undergone this practice may have many related negative health consequences. The World Health Organization has different classifications based on the extent of FGC.⁹

Type I

Excision of the prepuce with or without excision of part or all of the clitoris (clitoridectomy).

Type II

Excision of the prepuce and clitoris together with partial or total excision of the labia minora.

Type III

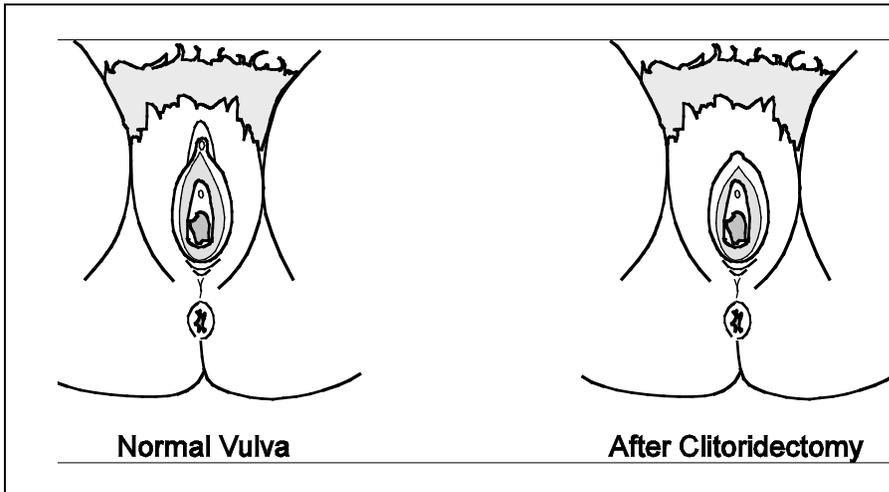
Excision of part or all of the external genitalia and stitching/narrowing of the vaginal opening (infibulation).

Type IV

Unclassified. May include:

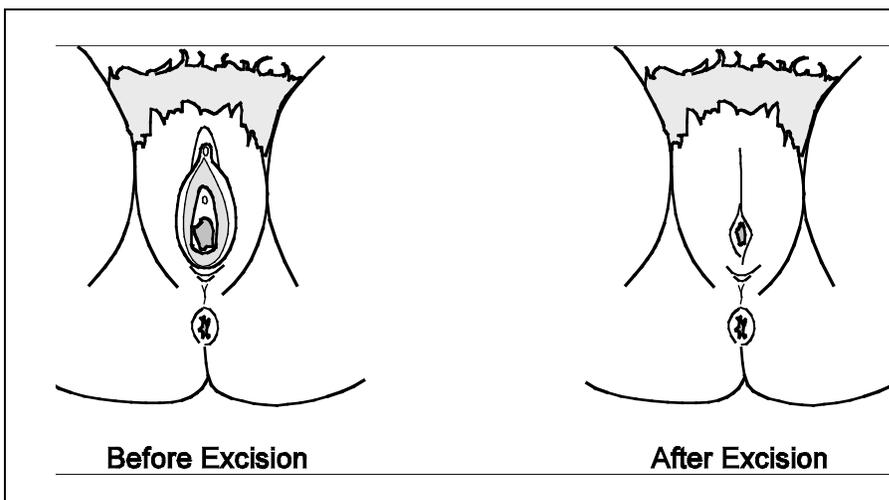
- pricking, piercing or incision of clitoris and/or labia
- stretching of clitoris and/or labia
- cauterization by burning of clitoris and surrounding tissues
- scraping of the vaginal orifice or cutting of the vagina
- introduction of corrosive substances into the vagina to cause bleeding
- herbs into the vagina with the aim of tightening or narrowing the vagina
- any other procedure which falls under the definition of FGC given above

The following graphics depict various extents of FGC.



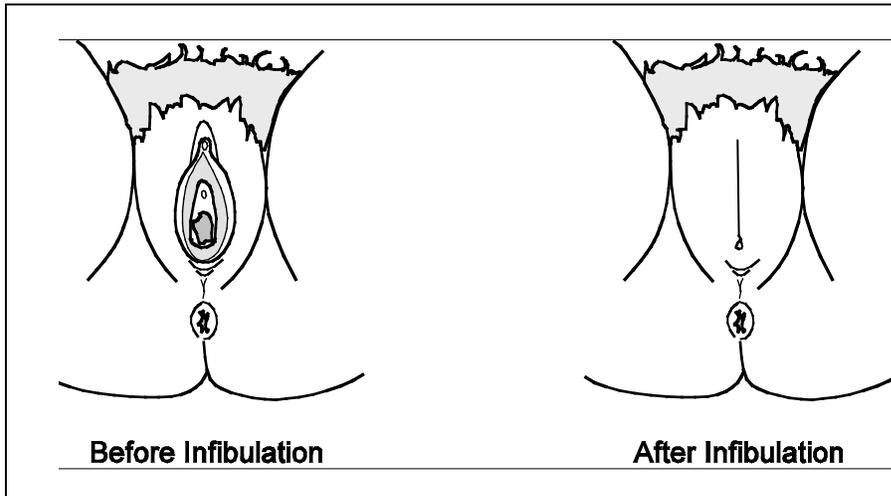
Clitoridectomy :
the prepuce and
head of the clitoris
is removed

Source: Saskatchewan Institute of Applied Science and Technology, Faculty of Primary Care Nurse Practitioner Program. (2000). Pap Testing and Bimanual Exam. Reprinted with permission.



Excision : removal
of the entire head
of the clitoris and
labia minora

Source: Saskatchewan Institute of Applied Science and Technology, Faculty of Primary Care Nurse Practitioner Program. (2000). Pap Testing and Bimanual Exam. Reprinted with permission.



Infibulation :
removal of the
entire external
genitalia

Source: Saskatchewan Institute of Applied Science and Technology, Faculty of Primary Care Nurse Practitioner Program. (2000). Pap Testing and Bimanual Exam. Reprinted with permission.

Normal Versus Abnormal Uterine Bleeding

Normal Uterine Bleeding (Menstrual Cycle)¹⁰

The menstrual cycle is a complex process involving the reproductive and endocrine systems. The average menstrual cycle usually occurs over 28 days, although the normal cycle for clients may range from 22 to 34 days. Fluctuating hormone levels that, in turn, are regulated by negative and positive feedback mechanisms regulate the cycle.

Abnormal Uterine Bleeding

Abnormal uterine bleeding is beyond the scope for nurse managed care. Nurses should refer clients to a nurse practitioner, midwife or family doctor for evaluation of abnormal uterine bleeding.

When taking a history of abnormal uterine bleeding, determine the following:

- the timing, frequency, amount and duration
- the nature of the bleeding, post coital and quantity
- the associated signs and symptoms including pain, fever and/or vaginal discharge
- pertinent medical history, including history of bleeding disorders, family history and medication history
- changes in weight, excessive exercise, chronic illness, and/or stress

Types of Abnormal Uterine Bleeding

- Oligomenorrhea: > 38 day cycle length
- Polymenorrhea: < 24 day cycle length
- Menorrhagia: increased flow or duration at regular intervals
- Metrorrhagia: regular flow at regular intervals
- Menometrorrhagia: increased flow or duration at regular intervals

Causes of Abnormal Uterine Bleeding

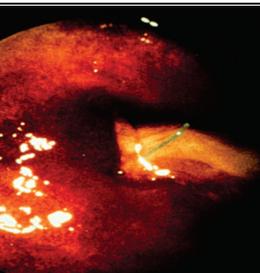
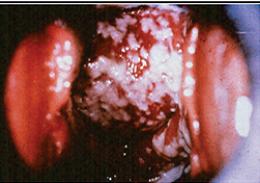
- Anovulation: hypothalamic immaturity
- Stress
- Exercise induced stress
- Pregnancy
- Infection
- Coagulation disorder
- Endocrine disorder
- Polyps/fibroids/adenomyosis
- Medication related, eg. Contraception
- Ovarian sarcoma
- Ovarian cancer
- Peri-menopausal
- Estrogen therapy
- Trauma

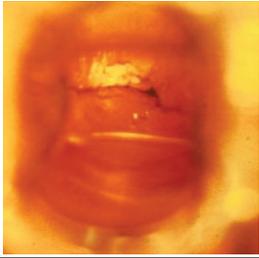
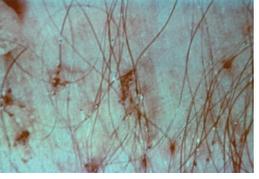
Summary Chart Discharges, Infections, Ulcers and Lesions¹¹

Depending on your scope of practice, all abnormalities or suspected infections of the vulva, vagina or cervix should be appropriately documented and investigated and the client should be followed-up or referred as per your facility or region policy. Details about STI testing are not included in this manual although it is considered a normal part of the provision of person-centred care (depending on age and risk factors). Refer to your facility or region's policy to determine procedures and guidelines around STI testing.

Important Information

GENITAL ULCER DISEASE				
Name	Discharge	Erythema/Itching	Associated symptoms	Pictures
Syphilis	Secondary - Papules covered by gray exudate.	<p>Syphilitic Chancre (Primary Syphilis) can appear as a single painless, indurated ulcer found on the genitals. Most chancres in women develop internally and often go undetected.</p> <p>Condyloma Latum (Secondary Syphilis) lesions appear 2 to 12 weeks after infection. They are flat, round or oval.</p>		
Genital Herpes (can be due to HSV (herpes simplex virus)-1 or HSV-2)	Clear watery discharge from early blister-like lesions.	Usually starts with painful papules followed by vesicles (blisters), ulceration, crusting and healing. The lesions may itch and are usually painful.	Dysuria, swollen glands in groin, outbreaks vary and can return as often as every month or as rarely as once a year or longer. Initial infection is often extensive, whereas recurrent infection is usually confined to a small localized patch on the vulva, perineum, vagina, anus, or cervix.	

VAGINAL DISCHARGES AND INFECTIONS				
Name	Discharge	Erythema/Itching	Associated symptoms	Pictures
Gonorrhea	Often women will be asymptomatic. Thick yellow/green discharge or discharge may be absent. May manifest with urethritis, cervicitis, and pelvic inflammatory disease (PID).	Cervix and vulva may be inflamed. May have cervical friability (bleeding when the first swab is taken) and/or erythema or edema.	Dysuria, frequency, abnormal vaginal bleeding, lower abdominal pain, deep dyspareunia, Bartholin gland inflammation and discharge. If left untreated may result in infertility.	
Chlamydia	Often asymptomatic. Color of discharge may vary greatly (eg. may see yellow mucopurulent discharge from cervical os). May manifest with urethritis, cervicitis, and PID.	Hypertrophic, edematous, may have cervical friability and/or erythema or edema.	Intermenstrual spotting, spotting after intercourse, asymptomatic urethritis, deep dyspareunia, abnormal vaginal bleeding, lower abdominal pain. If untreated may result in infertility.	
Bacterial Vaginosis	Scant or moderate discharge. May be grey with foul odor.	Usually no edema or erythema of vulva or vagina. Vaginal epithelium may be red, swollen, tender, and the client complains of burning and itching.	Strong fishy vaginal odor, particularly after intercourse.	
Candidiasis	Scant to moderate discharge. May be thin but usually thick, white, curdy cheese like discharge which is adherent to vaginal wall/cervix.	Mild to severe itching and erythema of labia, thighs, perineum. Cervix may be red and edematous. Erythema and edema of vulva, vagina or introitus. Vagina may have white patches, some which may detach.	Dysuria, frequency, dyspareunia.	
Trichomoniasis	Copious, frothy, grey, green, yellow white or yellow brown, strong foul odor.	Severe itching of vulva, with or without erythema. Petechiae of cervix and vagina ("strawberry spots"). The cervix may be inflamed and friable.	Dysuria and dyspareunia with severe infection.	

PAPULAR GENITAL LESIONS				
Name	Discharge	Erythema/Itching	Associated symptoms	Pictures
Genital warts (caused by certain types of HPV).	None.	Warts may be round, flat or raised painless small, cauliflower-like bumps. They are generally flesh-colored, whitish pink to reddish brown, soft growths. Warts may be single or in clusters.	The woman may present with a lump in vulva area before the wart actually appears. May spread to urethra, vagina, cervix, or anus area.	
Molluscum Contagiosum	None.	Painless genital lesions that have a smooth waxy appearance often with a white central umbilication.	This is usually a benign condition with few complications.	
OTHER STI				
Pubic lice/crabs	None.	Evident by excoriations or itchy small red maculopapules in pubic hair and surrounding area. Look for nits or lice attached to base of pubic hair.		

Source: Centers for Disease Control and Prevention. (2003). STD Clinical Slides. National Center for HIV, STD and TB Prevention Division of Sexually Transmitted Diseases. Reprinted with permission.

STI Guidelines and Treatment

[Canadian Guidelines on Sexually Transmitted Infections](#)

Sexuality Education Resource Centre

[A Culturally Sensitive Approach: Working with Women and Girls Who Have Experienced Female Genital Cutting \(FGC\)](#)

CervicalCheck, The National Cervical Screening Programme, Ireland

[Cervix Image Gallery](#)

The College of Physicians and Surgeons of Manitoba (p46)

<http://cpsm.mb.ca/cj39alckF30a/wp-content/uploads/ByLaws/By-law%2011.pdf>

1. Describe normal and abnormal uterine bleeding.
2. Describe normal developmental changes associated with the female genitalia.
3. Describe the female external and internal anatomy and physiology.
4. Identify abnormal findings and indications of STI, and when referral is necessary
5. Describe the variations of FGC.

References

¹ Seidel, H.M., Ball, J.W., Dains, J.E., & Benedict, G. W. Mosby’s guide to physical examination. (6th ed.). Missouri: St. Louis.

² This section is adapted from Faculty of Primary Care Nurse Practitioner Program, Saskatchewan Institute of Applied Science and Technology (2000) & Cervical Screening Initiatives Program of Newfoundland and Labrador (2001).

³ Canadian Cancer Society. (2004). Signs and symptoms of uterine cancer. Retrieved on March 2, 2009 from: http://www.cancer.ca/Canada-wide/About%20cancer/Types%20of%20cancer/Signs%20and%20symptoms%20of%20uterine%20cancer.aspx?sc_lang=en

⁴ Canadian Cancer Society. (2004). Signs and symptoms of ovarian cancer. Retrieved on March 2, 2009 from: http://www.cancer.ca/Canada-wide/About%20cancer/Types%20of%20cancer/Signs%20and%20symptoms%20of%20ovarian%20cancer.aspx?sc_lang=en

⁵ Saskatchewan Institute of Applied Science and Technology, Faculty of Primary Care Nurse Practitioner Program. (2000). Pap testing and bimanual exam. Adapted with permission.

⁶ National Health Services Cervical Screening Program. (1998). Resource pack for training smear takers. United Kingdom.

⁷ Images from: Burghart, E. (1991). Colposcopy, Cervical Pathology: Textbook and Atlas, 2nd Ed.

⁸ Images from: Lotocki, Dr. R. Pap Test Learning Module: Carcinoma of the Cervix [Video] (1997). Accessed at www.TellEveryWoman.ca/module on October 16, 2014.

⁹ World Health Organization. (1996). Female Genital Mutilation: Information Pack. Retrieved on June 1, 2004 from the World Health Organization website: http://www.who.int/docstore/frh-whd/FGM/infopack/English/fgm_infopack.htm

¹⁰ Cervical Screening Initiatives Program of Newfoundland and Labrador. (2001). Papanicolaou smear: A clinic manual. Newfoundland: Canada.

¹¹ This section is adapted from Faculty of Primary Care Nurse Practitioner Program, Saskatchewan Institute of Applied Science and Technology, (2000), Cervical Screening Initiatives Program of Newfoundland and Labrador (2001), & Health Canada (1998).