L. URINARY SYSTEM, REPRODUCTIVE SYSTEM AND EMERGENCY CHILDBIRTH

In this chapter you will learn about:

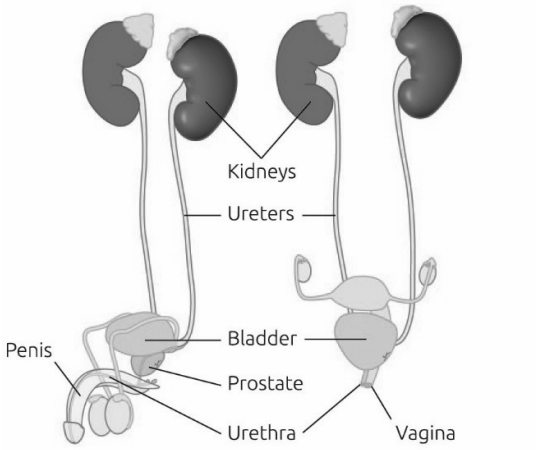
- Urinary system.
- Reproductive system.
- Prevention of sexually transmitted diseases.
- Emergency childbirth.

L.1 URINARY SYSTEM

The body takes nutrients from food and converts them to energy. After the body has taken the food components that it needs, waste products are left behind in the bowel and in the blood.

The kidney and urinary systems help the body to eliminate liquid waste called urea, and to keep chemicals, such as potassium and sodium, and water in balance. Urea is produced when foods containing protein, such as meat, poultry, and certain vegetables, are broken down in the body. Urea is carried in the bloodstream to the kidneys, where it is removed along with water and other wastes in the form of urine.

Other important functions of the kidneys include blood pressure regulation and the production of erythropoietin, which controls red blood cell production in the bone marrow. Kidneys also regulate the acid-base balance and conserve fluids.

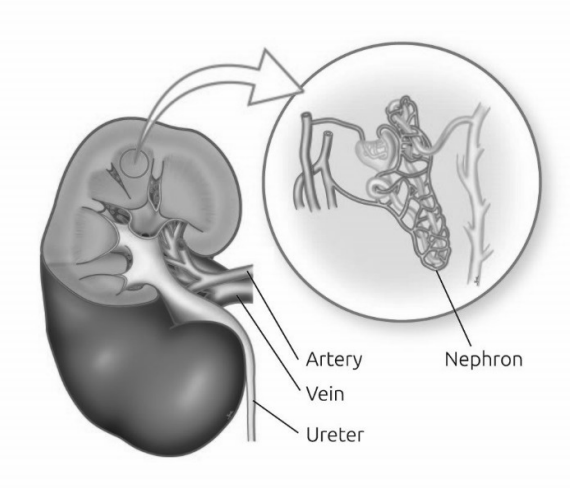


URINARY SYSTEM MALE URINARY SYSTEM FEMALE

A pair of purplish-brown organs, the kidneys, are located below the ribs toward the middle of the back. The functions of the kidneys are to:

- Remove waste products and drugs from the body.
- Balance the body's fluids.
- Release hormones to regulate blood pressure.
- Control production of red blood cells.

The kidneys remove urea from the blood through tiny filtering units called *nephrons*. Each nephron consists of a ball formed of small blood capillaries, called a glomerulus, and a small tube called a renal tubule. Urea, together with water and other waste substances, forms the urine as it passes through the nephrons and down the renal tubules of the kidney



Two narrow tubes (one on each side), called *ureters*, carry urine from the kidneys to the bladder. Muscles in the ureter walls continually tighten and relax forcing urine downward, away from the kidneys. If urine backs up, or is allowed to stand still, an infection can develop. About every 10 to 15 seconds, small amounts of urine are emptied into the bladder from the ureters.

The bladder, a triangle-shaped, hollow organ, is located in the lower abdomen. It is held in place by ligaments that are attached to other organs and the pelvic bones. The bladder's walls relax and expand to store urine, and contract and flatten to empty urine through the *urethra*. The typical healthy adult bladder can store up about 500-600 ml (ca. two cups) of urine for two to five hours.

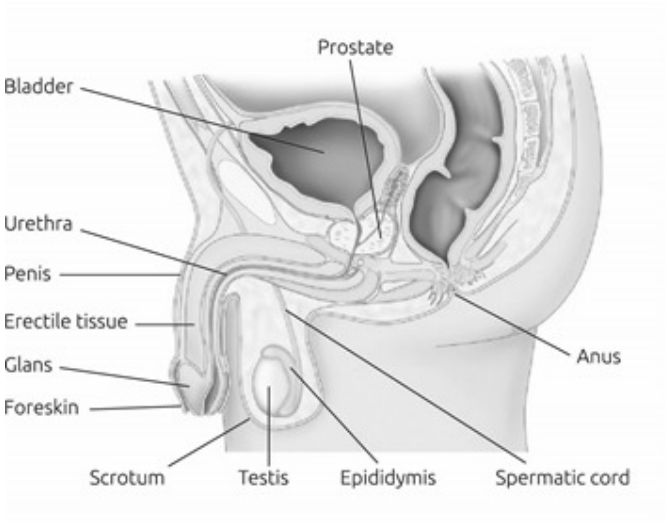
Two sphincter muscles (circular muscles) help keep urine from leaking by closing tightly like a rubber band around the opening of the bladder. Nerves in the bladder alert a person when it is time to urinate, or empty the bladder.

The urethra allows urine to pass outside the body. The brain signals the bladder muscles to tighten, which squeezes urine out of the bladder. At the same time, the brain signals the sphincter muscles to relax to let urine exit the bladder through the urethra. When all the signals occur in the correct order, normal urination occurs.

Urine in a healthy person is of a pale straw or transparent yellow colour.

L.2 REPRODUCTIVE SYSTEM

L.2.1 MALE REPRODUCTIVE SYSTEM



The external reproductive organ of the male is the *penis*. The penis is made up of two parts, the shaft and the glans. The *glans* is the tip of the penis, while the shaft is the main part of the penis and contains the tube (*urethra*) that drains the bladder. All boys are born with a foreskin, or a covering over the tip of the penis. Some boys are *circumcised*, which means that this covering of skin is removed. Other boys are not circumcised and may have skin that covers the tip of the penis.

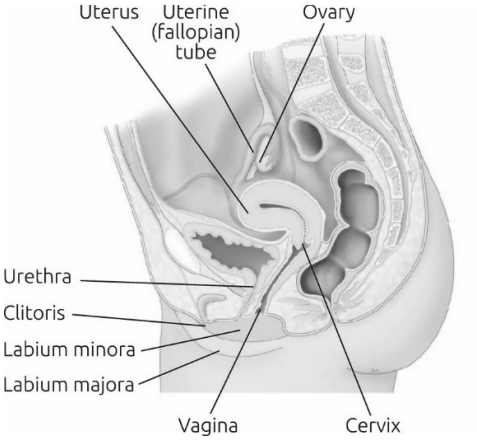
The *scrotum* is a bag of skin which holds and helps to protect the *testicles.* The *testicles* (or testes) are the male sex glands and are part of the male reproductive system. They are located in the scrotum. To make *sperm* the temperature of the testicles needs to be cooler than the inside of the body. This is why they are located in the scrotum outside body. The testes are also involved in producing a hormone called testosterone. Testosterone is an important hormone during male development and maturation for developing muscles, deepening the voice, and growing body hair.

A long tube, the *epididymis,* is located near each testicle. The epididymis is a collection of microscopic tubes in which the sperms are stored. The *vas deferens* is the tube which moves the sperms from the testicles out of the scrotal sac to the urethra and connects these together. *Seminal vesicles*, the sac-like glands, lie behind the bladder and release a fluid that forms part of *semen*.

The *prostate* gland is about the size of a walnut, and surrounds the neck of the bladder and urethra. The prostate gland secretes a slightly alkaline fluid that forms part of the seminal fluid, a fluid that carries sperms. During male climax (orgasm), the muscular glands of the prostate help to propel the prostate fluid, in addition to sperms that were made in the testicles, into the *urethra*.

The urethra is the tube that allows urine to flow outside the body. It is also the channel for semen to pass during ejaculation.

L.2.2 FEMALE REPRODUCTIVE SYSTEM



Although a woman's external genitals are commonly referred to as the "*vagina*," the vagina is actually one of several organs that comprise this section of a woman's body.

The vagina is a muscular tube about three to four inches long that ends the birth canal. This is where a man's penis enters the woman during sexual intercourse. The vaginal opening is visible from the outside but it is protected by the *labia*

The *labia majora* are two folds of skin that extend from the front of the vaginal opening to the back of it. The outer surfaces of the folds have darker-colored skin and thick hairs, while the inner folds are smoother. The *labia majora* join to form the cleft shape of the female genitals.

The *clitoris* is a crucial element for sexual arousal in most women. This small sexual organ at the junction of the labia minora appears outside the folds of skin like a small pink button. During sexual stimulation, the clitoris functions much like a man's penis in that it becomes erect due to the signals from the brain. The clitoris is a very sensitive area when stimulated.

Between the labia majora are the labia minora, two folds of skin that also extend down from the clitoris and around the vaginal opening. These vary in size from woman to woman. They are joined together by a small fold of skin known as the *fourchette*.

The outer female genitals also include the *urethra*. Located between the vaginal opening and the frontal connection of the labia minora, the urethral opening is where a woman expels urine from her body.

The womb or *uterus* is located between the bladder and the rectum, in the pelvic area. The uterus is connected to the fallopian tubes, the *cervix,* and (via the cervix) the vagina.

In menstruating females, the *ovaries* release eggs that travel via the fallopian tubes to the uterus. If fertilized, the egg will bind to the wall of the uterus and the foetus will develop. The uterus nourishes and protects the foetus until birth.

The cervix of the uterus, also known as the cervix or *uterine cervix*, attaches the vagina to the uterus. It is approximately four centimetres long. The uterine cervix produces a mucus that aids in carrying sperm from the vagina to the uterus, where it can fertilize an egg if the woman is ovulating. When the woman isn't ovulating, the cervical mucus thickens and serves as a barrier to keep sperm out of the uterus.

During childbirth, the cervix thins out and eventually dilates (expands) to 10 centimetres to allow the baby to pass through the birth canal. Once the baby is born and the placenta is expelled, the cervix begins to thicken and close.

The *ovary* is the ductless female reproductive gland in which the female reproductive cells are produced. Females have a pair of ovaries, held by a ligament beside the uterus on each side of the lower abdomen.

During *ovulation*, a *follicle* (a small egg in the ovary) expels an egg under the stimulation of *gonadotropic hormones*. The rest of the follicle, or the corpus luteum, secretes the sex hormones *oestrogen* and *progesterone*, which regulate menstruation and control the development of the sex organs. The sex hormones and the gonadotropic hormones interact with each other to control the menstrual cycle.

When an egg matures, it is released and passes into *the fallopian tube* toward the uterus. If the ovum is fertilized by the male reproductive cell, or sperm, conception happens and pregnancy begins.

L.3 PREGNANCY

The signs of pregnancy vary from woman to woman. Usually the most obvious sign is the absence of menstruation (*amenorrhea*). However, some women may continue to have some bleeding even while pregnant. The following are the most common initial signs of pregnancy. However, each woman may experience the signs of pregnancy differently. These may include:

- fatigue,
- sore and swollen breasts,
- nausea or vomiting (also called morning sickness),
- frequent urination,
- certain food cravings or aversions,
- bloating of the abdomen, and
- darkening of the skin around the breast nipples (also called the areola).

These early signs may not always indicate pregnancy, but may signal another process occurring within the body

A pregnancy is divided into three phases, called trimesters. Each trimester has its own significant milestones. The first trimester is the most fragile period, during which all major organs and systems are formed. Most birth defects and miscarriages occur during the first trimester. During the second and third trimesters, the foetus is fully formed and grows and matures rapidly.

After nine months of incredible growth and changes both in the mother and the foetus, labour (contractions) may finally start, signalling the pending birth of the baby. Some women may fear the prospect of delivering their child. Part of this fear may be attributed to the unknown, especially in first pregnancy.

Labour is a series of continuous, progressive contractions of the uterus which help the cervix to open (dilate) and to thin (efface), allowing the foetus to move through the birth canal. Signs of labour vary from woman to woman, as each woman experiences labour differently.

Some common signs of labour may include:

- A small amount of mucus, slightly mixed with blood, may be expelled from the vagina indicating a woman is in labour.
- Contractions (uterine muscle spasms) occurring at intervals of less than ten minutes are usually an indication that labour has begun. Contractions may become more frequent and severe as labour progresses.
- Labour sometimes begins with *amniotic fluid* gushing or leaking from the vagina. Women who experience a rupture of the amniotic sac should go to the healthcare facility immediately. The majority of women go into labour within hours after the amniotic sac breaks. If labour still does not begin, it needs to be induced.

L.3.1 STAGES OF LABOUR AND GIVING BIRTH

There are three stages of labour:

1. The first stage, when the contractions make the cervix gradually open up (dilate). This is usually the longest stage.
2. The second stage of labour is when the cervix is fully open and birth is given. This is the part of labour where the baby moves through the vagina by the woman in labour pushing with the contractions.
3. The third stage of labour is after the birth, when the womb contracts and causes the placenta to come out through the vagina.

L.3.1.1 THE FIRST STAGE OF LABOUR – DILATION

The cervix needs to open about ten cm for a baby to pass through. This is what's called being "*fully dilated*". Contractions at the start of labour help to soften the cervix so that it gradually opens.

The woman in labour should attempt to get comfortable and relaxed, and if possible try to sleep. A warm bath or shower may help to relax.

During the day, the woman in labour can keep upright and be gently active. This helps the baby move down into the pelvis and helps the cervix to dilate.

Once labour is established, the cervix reaches an opening of more than three centimetres; the time to full dilation is usually between 6 and 12 hours. It is often quicker in subsequent pregnancies. The woman in labour will be asked not to try to push until the cervix is fully open and the baby's head can be seen. To help to overcome the urge to push, breathing out slowly and gently or, if the urge is too strong breathing in small puffs may help. Some women find this easier lying on their side, or on their knees and elbows, to reduce the pressure of the baby's head on the cervix.

L.3.1.2 THE SECOND STAGE OF LABOUR

This is the "pushing" stage. It begins when the cervix is fully dilated and lasts until the birth of the baby. When the cervix is fully dilated the woman in labour will be asked to push when she feels the need to do so during contractions.

This stage of labour is hard work. This stage may take 1-2 hour.

WHAT HAPPENS AT THE ACTUAL BIRTH?

During the second stage, the baby's head moves down the vagina until it can be seen. When the head is almost ready to come out, the woman in labour will be asked to stop pushing and to do a couple of quick short breaths, blowing out through the mouth. This is done so that the baby's head can be born slowly and gently, giving the skin and muscles of the *perineum* (the area between the vagina and anus) time to stretch without tearing. The skin of the perineum usually stretches well, but it may tear. Afterwards, the cut or tear may be stitched up to help the healing process.

Once baby's head is born, most of the hard work is over. With one more gentle push, the body is born quite quickly and easily. The baby may be born covered with a white, greasy substance known as *vernix*, which has acted as protection in the uterus.

L.3.1.3 THE THIRD STAGE OF LABOUR – THE PLACENTA

After the baby is born, more contractions will push out the placenta.

The baby should be presented to the mother to be breastfed as soon after birth as possible. This helps with breastfeeding later on and it also helps the womb to contract. Babies start sucking immediately. However, this sometimes occurs just for a short period of time – they may just like to feel the nipple in their mouth.

L.4 AFTERCARE OF THE MOTHER

The mother will be taken care of to recover from the labour as soon as possible. As the mother recovers after giving birth, following symptoms are not uncommon:

- Bloody vaginal discharge that changes to brown, then whitish over the next few weeks after delivery.
- Pain in perineal region.
- Painful contractions that may continue after delivery (as the uterus returns to its original size).
- Breast engorgement (as milk production begins).
- Fatigue, sorebreast and backache are common in the first few weeks.
- Piles (*haemorrhoids*) are common, but usually disappear after a few days.

It is not uncommon for women to experience a "*baby blues*" period during the first days or weeks after delivery (most commonly seen occurring suddenly on the third or fourth day after delivery). These "baby blues" are characterized by the following symptoms, although each woman may experience symptoms differently:

- feelings of disappointment,
- crying with no known reason,
- irritability,
- impatience,
- anxiety, and
- restlessness

It is common for these "baby blues" feelings to go away soon after onset and, in most cases, without treatment.

These symptoms may also be present in case of a *postpartum depression*. Postpartum depression is a more severe form of "baby blues". Women with postpartum depression may have trouble coping with their daily tasks.

The following are the most common symptoms of postpartum depression; however, each woman experiences these symptoms differently:

- sadness,
- anxiety,
- hopelessness,
- fatigue or exhaustion,
- poor concentration,
- confusion,
- a fear of harming the new-born or herself,
- mood swings characterized by exaggerated highs and/or lows,

- diminished libido (sex drive),
- feelings of guilt,
- low self-esteem,
- uncontrolled crying and with no known reason,
- over concern/over attentiveness for the new-born or a lack of interest for the new-born,
- appetite changes,
- sleep disturbances,
- resentment,
- memory loss, and
- feelings of isolation.

While the exact cause for postpartum depression is unknown, it is likely that a number of different factors, such as the following, are involved:

- the changing of roles (as a spouse and new parent),
- hormonal changes during and after delivery,
- stress,
- personal or family history of mental illness, particularly postpartum depression, and
- marital strife.

If you think someone may have postpartum depression, or if partner or family members are concerned about what the person does, it is important to refer the mother to her healthcare provider or healthcare facility as soon as possible. Do not let her wait until her next postpartum check-up.

L.5 MEDICAL CONDITIONS AND PREGNANCY

Certain medical conditions may complicate a pregnancy. However, with proper medical care, most women can enjoy a healthy pregnancy, despite their medical challenges. It is important that the pregnant woman contacts her healthcare provider early.

L.5.1 DIABETES

Diabetes in pregnancy can have serious consequences for the mother and the growing foetus. The severity of problems often depends on the severity of the mother's diabetic disease, especially if she has vascular (blood vessel) complications and poor blood glucose control.

Gestational diabetes mellitus (GDM) is the condition in which the glucose level is elevated and other diabetic symptoms appear during pregnancy in a woman who has not previously been diagnosed with diabetes. In most cases of GDM, all diabetic symptoms disappear following delivery. However, women with gestational diabetes have an increased risk of developing diabetes later in life, especially if they were overweight before pregnancy. Unlike other types of diabetes, gestational diabetes is not caused by a lack of insulin, but by other hormones that block the insulin that is produced, a condition referred to as insulin resistance.

L.5.2 HIGH BLOOD PRESSURE

High blood pressure can occur in pregnancy in two forms. It may be a pre-existing condition, called *chronic hypertension*, or it can develop during pregnancy -- a condition known as *gestational hypertension*. It is also called *toxemia* or *preeclampsia/eclampsia* and occurs most often in young women with the first pregnancy. It is more common in twin pregnancies, and in women who had blood pressure problems in a previous pregnancy.

High blood pressure can lead to placental complications and slowed foetal growth. If untreated, severe hypertension may cause dangerous seizures and even death in the mother and foetus.

Women who have high blood pressure before pregnancy often need to continue taking their antihypertensive medication. Such patients need to be managed by joint physician and gynaecologist care before conception and during pregnancy. Only the treating physician and the gynaecologist can give the correct advice on this.

L.5.3 INFECTIONS

Infections during pregnancy can pose a threat to the foetus. Even a simple urinary tract infection or vaginal infection which is common during pregnancy, should be treated immediately. An infection that goes untreated can lead to preterm labour and rupture of the membranes surrounding the foetus.

L.5.3.1 FOOD POISONING (E.G. LISTERIOSIS)

A pregnant woman should avoid eating undercooked or raw foods because of the risk of food poisoning. Food poisoning can dehydrate a mother and deprive the foetus of nourishment.

L.5.3.2 CHLAMYDIA

Chlamydia is a common *sexually transmitted disease* (*STD*) that can infect both men and women. It can cause serious, permanent damage to a woman's reproductive system, making it difficult or impossible for her to get pregnant later on. Chlamydia infection is associated with tubal disease and tubal pregnancy (pregnancy that occurs outside the womb) which can be fatal.

Chlamydia--infections may be associated with premature labour and rupture of the membranes. New-borns can develop a chlamydia eye infection during childbirth, which may lead to blindness.

The only way to avoid STDs is to not to have vaginal, anal, or oral sex. If sexually active, the following things lower the chances of getting chlamydia:

- Being in a long-term mutually monogamous relationship with a partner who has been tested and has negative STD test results;
- Using condoms the right way every time having sex.

L.5.3.3 HEPATITIS

Hepatitis is an inflammation of the liver resulting in liver cell damage and destruction. Several types of the hepatitis virus have been identified.

The most common type that occurs in pregnancy is hepatitis B (HBV). This type of hepatitis spreads mainly through contaminated blood and blood products, sexual contact, and contaminated needles and syringes. Although HBV resolves in many people, some will develop chronic HBV infection.

Hepatitis B virus can lead to chronic hepatitis, cirrhosis, liver cancer, liver failure, and death. Infected pregnant women can transmit the virus to the foetus during pregnancy and at delivery. The later in pregnancy a mother contracts the virus, the greater the chance for infection in her baby. A very safe and effective vaccine is available against HBV infection. Using safe blood and safe needles and syringes will also prevent viral hepatitis B.

The only way to avoid sexual transmission is to not to have vaginal, anal, or oral sex. If sexually active, the following things lower the chances of getting HBV:

- Being in a long-term mutually monogamous relationship with a partner who has been tested and found negative for HBV;
- Using latex condoms the right way every time having sex.

L.5.3.4 HIV AND AIDS

A woman with *human immunodeficiency virus* (*HIV*) has about one in four chance of infecting her foetus. *AIDS* (*acquired immune deficiency syndrome*) is caused by the human immunodeficiency virus (HIV), which kills or impairs cells of the immune system and progressively destroys the body's ability to fight infections and certain cancers.

HIV is spread most commonly by sexual contact with an infected partner. HIV may also be spread through contact with infected blood, especially by sharing needles, syringes, or drug use equipment with someone who is infected with the virus.

Some people may develop a flu-like illness within a month or two after exposure to the HIV virus, although many people do not develop any symptoms at all when they first become infected. Persistent or severe symptoms may not surface for 10 years or more, after HIV first enters the body in adults, or within two years in children born with an HIV infection. The term AIDS applies to the most advanced stages of an HIV infection.

Using safe blood and safe needles and syringes will also prevent HIV/AIDS. The only way to avoid sexual transmission of STDs including HIV/AIDS is to not to have vaginal, anal, or oral sex. If sexually active, the following things lower the chances of getting HIV:

- Being in a long-term mutually monogamous relationship with a partner who has been tested and found negative for HIV and other Sexually transmitted infections (STIs);
- Using latex condoms the right way every time having sex
- If a woman with HIV becomes pregnant she should be referred to concerned specialist and should be encouraged to get her viral loads and CD4 counts checked and should continue with medications.

L.5.3.5 GENITAL HERPES

Herpes is a sexually transmitted disease caused by the *herpes simplex virus* (*HSV*). *Genital herpes* can be spread to the baby during delivery, if a woman has an active infection at that time.

Herpes infections can cause blisters and ulcers on the mouth or face (*oral herpes*), or in the genital area (*genital herpes*). HSV is a life-long infection. Symptoms of HSV may include painful blisters or open sores in the genital area, which may be preceded by a tingling or burning sensation in the legs, buttocks, or genital region. The herpes sores usually disappear within a few weeks, but the virus remains in the body and the lesions may recur from time to time.

It is important that women avoid contracting herpes during pregnancy, because a first episode during pregnancy creates a greater risk of transmission to the new-born. Genital herpes can cause potentially fatal infections in babies if the mother has active genital herpes (shedding the virus) at the time of delivery. Fortunately, infection of an infant is rare among women with genital herpes infection. Protection from genital herpes includes abstaining from sex when symptoms are present, and /or using latex condoms the right way every time having sex.

L.5.3.6 CMV (CYTOMEGALOVIRUS)

Cytomegalovirus (CMV) is one of the herpesviruses. CMV is spread by close contact with a person who has the virus in his or her saliva, urine, or other body fluids.

CMV can be transmitted from a pregnant woman to her foetus during pregnancy. The virus in the mother's blood crosses over the placenta and infects the fetus' blood. Most babies with *congenital* (meaning present at birth) CMV infection never have health problems. But in some babies, congenital CMV infection causes health problems that may be apparent at birth or may develop later during infancy or childhood.

A few simple steps can help to avoid exposure to saliva and urine that might contain CMV:

- Washing the hands often with soap and water for 40-60 seconds, especially after
  - changing diapers,
  - feeding a young child,
  - wiping a young child's nose or drool, or
  - handling children's toys.
- Do not share food, drinks, or eating utensils used by young children.
- Avoid contact with saliva when kissing a child.
- Clean toys, countertops, and other surfaces that come into contact with children's urine or saliva.

L.5.3.7 TOXOPLASMOSIS

Toxoplasmosis is an infection caused by a single-celled parasite named T*oxoplasma gondii*. Although many people may have toxoplasma infection, very few have symptoms because the immune system usually keeps the parasite from causing illness. Babies who became infected before birth can be born with serious mental or physical problems. Toxoplasmosis often causes flu-like symptoms, swollen lymph glands, or muscle aches and pains that last for a few days to several weeks.

The following measures can help prevent toxoplasmosis infection:

- Wear gloves when you garden or do anything outdoors that involves handling soil. Cats who may pass the parasite in their faeces, often use gardens. Avoid any contact with cat faeces. Wash your hands well with soap and warm water after outdoor activities, especially before you eat or prepare any food.
- Have someone who is healthy and not pregnant handle raw meat for you. If this is not possible, wear clean gloves when you touch raw meat and wash any cutting boards, sinks, knives, and other utensils that might have touched the raw meat. Wash your hands well with soap and warm water afterward.
- Cook all meat thoroughly, that is, until it is no longer pink in the center or until the juices run clear. Do not sample meat before it is fully cooked.

L.6 PREVENTION OF SEXUALLY TRANSMITTED DISEASES (STD)

L.6.1 SEXUAL TRANSMITTED INFECTIONS

Sexually transmitted infections (STIs) are passed from one person to another through unprotected sex.

Some frequent STIs and STDs, in alphabetical order:

L.6.1.1 CHANCROID

Chancroid is a small bump in the genital area which is infected with a bacteria known as *Haemophilus ducreyi*. The bump is painful, soft and usually bursts and forms an ulcer within a day of its appearance. Along with this bump (or ulcer), small rubbery bumps (but different from the former) may also be felt in the crease between the belly and thigh.

People infected with this bacteria spread it to others through sexual contact.

L.6.1.2 CHLAMYDIA

Chlamydia is common and is easily passed on during sex. Most people don't experience any symptoms, so they are unaware they're infected.

In women, chlamydia can cause pain or a burning sensation when urinating, a vaginal discharge, pain in the lower abdomen during or after sex, and bleeding during or after sex or between periods. It can also cause heavy periods.

In men, chlamydia can cause pain or a burning sensation when urinating, a white, cloudy or watery discharge from the tip of the penis, and pain or tenderness in the testicles.

It's also possible to have a chlamydia infection in the rectum (bottom), throat or eyes.

You can get chlamydia through unprotected vaginal, oral or anal sex or by contact with partner's genitals, or sharing sex toys when they are not washed or covered with a new condom between each person who uses them. Sexual fluid from the penis or vagina can pass chlamydia from one person to another even if the penis does not enter the vagina, anus or mouth. This means you can get chlamydia from genital contact with someone who has the infection even if there is no penetration, orgasm or ejaculation. It isn't clear if chlamydia could be passed on by transferring infected semen or vaginal fluid on the fingers, or by rubbing female genitals together. Chlamydia cannot be passed on through casual contact, including kissing and hugging, or from sharing baths, towels, swimming pools, toilet seats or cutlery.

L.6.1.3 DONOVANOSIS

Donovanosis is a sexually transmissible genital ulcer disease. The bacterium that causes it is *Klebsiella granulomatis*. It infects the skin around the genitals, groin or anal area and causes ulcers and destruction of the skin. After infection, one or more initially painless ulcers (sores) or lumps develop on the genitals, or around the anus or mouth.

Without treatment the ulcers will increase in size and can form a raised red fleshy lump that progressively destroys normal skin. Other bacteria can infect these sores, causing them to become painful and distressing with an unpleasant smell.

Donovanosis is spread by sexual contact. Symptoms generally appear from 1-4 weeks after infection but occasionally may take as long as a year to develop. A very small proportion of people may be infected through direct, nonsexual contact (skin-to-skin contact).

L.6.1.4 GENITAL WARTS – HUMAN PAPILLOMA VIRUS (HPV)

Genital warts are small fleshy growths, bumps or skin changes that appear on or around the genital or anal area. They're caused by the human papilloma virus (HPV). The warts are usually painless, but they may give some itching or redness. Occasionally, they can cause bleeding.

Genital warts can be spread during vaginal or anal sex, and by sharing sex toys. A person does not need to have penetrative sex to pass the infection on because HPV is spread by skin-to-skin contact.

L.6.1.5 GENITAL HERPES

Genital herpes is a common infection caused by the *herpes simplex virus* (HSV), which is the same virus that causes cold sores.

Some people develop symptoms of HSV a few days after coming into contact with the virus. Small, painful blisters or sores usually develop, which may cause itching or tingling, or make it painful to urinate. After a person is infected, the virus remains dormant (inactive) most of the time. However, certain triggers can reactivate the virus, causing the blisters to develop again, although they're usually smaller and less painful.

Genital herpes is usually transmitted by having sex (vaginal, anal or oral) with an infected person. Even if someone with genital herpes doesn't have any symptoms, it's possible for them to pass the infection to a sexual partner.

L.6.1.6 GONORRHOEA

Gonorrhoea is a STI easily passed on during sex caused by bacteria called *Neisseria gonorrhoeae* or *gonococcus*. About 50% of women and 10% of men don't experience any symptoms and are unaware that they are infected.

In women, gonorrhoea can cause pain or a burning sensation when urinating, a vaginal discharge (often watery, yellow or green), pain in the lower abdomen during or after sex, and bleeding during or after sex or between periods, sometimes causing heavy periods.

In men, gonorrhoea can cause pain or a burning sensation when urinating, a white, yellow or green discharge from the tip of the penis, and pain or tenderness in the testicles.

It's also possible to have a gonorrhoea infection in the rectum, throat or eyes.

Gonorrhoea is easily passed between people through unprotected vaginal, oral or anal sex or by sharing sex toys that haven't been washed or covered with a new condom each time they are used. Gonorrhoea is not spread by kissing, hugging, sharing baths or towels, swimming pools, toilet seats, or sharing cups, plates and cutlery, because the bacteria can't survive outside the human body for long.

L.6.1.7 HEPATITIS B

Hepatitis B is a type of virus that can infect the liver.

Symptoms can include feeling sick, lack of appetite, flu-like symptoms, such as tiredness, general aches and pains, and headaches, and yellowing of the skin and eyes (jaundice). However, many people don't realise they have been infected with the virus because the symptoms may not develop immediately, or even at all. A mother can also pass on the hepatitis B infection to her new-born baby.

Hepatitis B can be spread through blood and body fluids such as semen and vaginal fluids, so it can be caught during unprotected sex, including anal and oral sex and by sharing needles and syringes.

L.6.1.8 HIV

The HIV virus attacks and weakens the immune system, making it less able to fight infections and disease. There's no cure for HIV, but there are treatments that allow most people to live a long and otherwise healthy life.

AIDS is the final stage of an HIV infection, when your body can no longer fight life-threatening infections.

Most people with HIV look and feel healthy and have no symptoms. When you first develop HIV, you may experience a flu-like illness with a fever, sore throat or rash. This is called a *seroconversion illness*.

HIV is most commonly passed on through unprotected sex. It can also be transmitted by coming into contact with infected blood – for example, and sharing needles and syringes.

L.6.1.9 PUBIC LICE

Pubic lice ("crabs" (because they look similar to crabs.)) are easily passed to others through close genital contact. They're usually found in pubic hair, but can live in underarm hair, body hair, beards and occasionally eyebrows or eyelashes.

It may take several weeks for you to notice any symptoms. Most people experience itching, and you may notice the lice or eggs on the hairs. Pubic lice are sometimes called crab lice because they look similar to crabs.

Pubic lice spread through close body contact with someone who has them. The lice crawl from hair to hair, but cannot fly or jump. They need human blood to survive, so generally leave the body to move from one person to another. They are most commonly passed on during sexual contact. Condoms will not prevent them being passed to another person. It is also possible for pubic lice to be spread through sharing clothes, towels and bedding.

L.6.1.10 SCABIES

Scabies is caused by tiny mites that burrow into the skin. It can be passed on through close body or sexual contact, or from infected clothing, bedding or towels.

If a person develops scabies, he may experience an intense itching that's worse at night. The itching can be in the genital area, but it also often occurs between the fingers, on wrists and ankles, under the arms, or on the body and breasts.

The infected person may have a rash or tiny spots. In some people, scabies can be confused with eczema. It's usually very difficult to see the mites.

Scabies mites can be passed on through close body or sexual contact, or from infected clothing, bedding or towels.

L.6.1.11 SYPHILIS

Syphilis is a bacterial infection (*Treponema pallidum*) that in the early stages causes a painless, but highly infectious, sore on the genitals or around the mouth. The sore can last up to six weeks before disappearing.

Secondary symptoms such as a rash, flu-like illness or patchy hair loss may then develop. These may disappear within a few weeks, after which you'll have a symptom-free phase.

The late or tertiary stage of syphilis usually occurs after many years, and can cause serious conditions such as heart problems, paralysis and blindness.

The syphilis bacteria can enter your body if you have close contact with an infected sore, normally during vaginal, anal or oral sex, or by sharing sex toys with someone who is infected. It may also be possible to catch syphilis by sharing needles for drug use with somebody who is infected. Pregnant women can pass the infection to their unborn baby. Syphilis also cannot be spread by using the same toilet, clothing, cutlery or bathroom as an infected person, as the bacteria cannot survive for long outside the human body.

L.6.1.12 TRICHOMONIASIS

Trichomoniasis is an STI caused by a tiny parasite called *Trichomonas vaginalis* (TV). It can be easily passed on through sex and most people don't know that they're infected.

In women, trichomoniasis can cause a frothy yellow or watery vaginal discharge that has an unpleasant smell, soreness or itching around the vagina, and pain when passing urine.

In men, trichomoniasis rarely causes symptoms. You may experience pain or burning after passing urine, a whitish discharge, or an inflamed foreskin.

The parasite is usually spread by having unprotected sex (without using a condom), although it can also be spread by sharing sex toys. You do not have to have many sexual partners to catch trichomoniasis. Anyone who is sexually active can catch it and pass it on. Trichomoniasis cannot be passed on through oral or anal sex, kissing, hugging, sharing cups, plates or cutlery, toilet seats or towels.

L.6.2 WHEN TO REFER TO A HEALTHCARE FACILITY?

Any person who is at risk and doubts he might be infected, if had unprotected sex with a potentially infected person or has been exposed to multiple sex partners should always be referred to the nearest sexual health clinic or healthcare facility for a check-up as soon as possible.

Sex workers should always be advised to have frequent regular check-ups.

L.6.3 REDUCING THE RISK OF STDS/STIS

Effective strategies for reducing STD risk include:

L.6.3.1 ABSTINENCE SEX

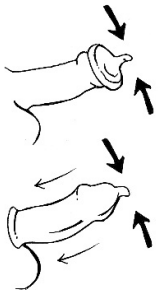
The most reliable way to avoid infection is to not to have sex, especially anal and oral sex.

L.6.3.2 MUTUAL MONOGAMY

Mutual monogamy means to agree to be sexually active with only one person, who has agreed to be sexually active only with the same person.

Being in a long-term mutually monogamous relationship with an uninfected partner is one of the most reliable ways to avoid STDs.

L.6.3.3 CONDOMS



Correct and consistent use of the male latex condom is highly effective in reducing STD transmission. Use a condom every time you have sex.

L.6.3.4 REDUCED NUMBER OF SEX PARTNERS

Reducing the number of sex partners decreases the risk of STDs. It is important to get tested for STDs regularly.

L.6.3.5 VACCINATIONS

Vaccines are safe, effective, and recommended ways to prevent hepatitis B and HPV. HPV vaccines for males and females can protect against some of the most common types of HPV. The person can discuss this option with his healthcare provider.

L.7 EMERGENCY CHILDBIRTH

Pregnant women should always visit a health centre or another healthcare facility for pregnancy follow-up from the moment the woman notices she is pregnant.

Expectant mothers usually reach the health centre on time, but there may be some situations where this is not possible, for instance in the last stages of pregnancy when an expectant mother can go into labour at any time.

As a first aider you might be required to assist with the delivery of the baby during emergency childbirth.

L.7.1 WHAT DO I SEE AND ENQUIRE?

The following signs indicate that labour has started and the baby is about to be born:

- painful contractions occurring at increasingly shorter intervals,
- the waters break,
- blood mixed sticky discharge,
- abdominal discomfort,
- urge to push, or
- localised back pain.

L.7.2 WHAT DO I DO?

ALL PREGNANT WOMEN MUST BE ENCOURAGED TO OPT FOR

AN INSTITUTIONAL DELIVERY.

L.7.2.1 WHEN TO GO IMMEDIATELY TO A HEALTHCARE FACILITY DURING PREGNANCY?

If at any time the mother feels the loss of foetal movement, feels sick or has concerns about her or the baby's health, she should visit the healthcare facility and consult a doctor.

If any of the following symptoms show, the mother should go to the healthcare facility without any delay:

- fever and weakness or unable to get out of bed,
- pain in the belly and/or bad smelling discharge from the vagina,
- sudden bleeding or increasing loss of blood,
- fits,
- difficulty in breathing, fast breathing or chest pain,
- irregular heartbeat, palpitations,
- terrible headache and blurry vision,
- nausea and vomiting,
- faintness or dizziness,
- swelling of the feet,

- labour that starts before 34 weeks of gestation,
- labour that lasts longer than 12 hours.

If there is a healthcare facility in the area, it is best to arrange immediate transportation to take the woman there. If not, send for a trained birth attendant or health worker to help.

L.7.2.2 WHAT DO I DO IF THE WOMAN IS IN LABOUR OR IF THE WATERS HAVE BROKEN?

If there is a healthcare facility in the area, it is best to arrange immediate transportation to take the woman there. If not, send for a trained birth attendant or health worker to help.

L.7.2.3 WHAT DO I DO WHEN I HAVE TO ASSIST IN AN EMERGENCY BIRTH?

1. Encourage the expectant mother's companions and relatives to be involved.
2. Praise and encourage the mother.
3. Protect and respect her privacy and the local or religious customs.
4. Wash your hands before assisting. Use soap and water to wash your hands. If no soap is available, you can use ash to wash your hands. Alcohol-based sanitizers can also be used, if available.
5. Provide a reassuring touch to reduce anxiety

6. Encourage the woman to move around and find the most comfortable position.
7. Let her urinate often. A full bladder delays the process of labour and increases the chances of tearing and bleeding.
8. Permit sips of water to moisten the lips during labour.
9. Encourage her to breathe out calmly and to relax with each breath.
10. Seek immediate help if you notice the following complications:
    - The baby is coming out with the hips or feet first, instead of his head.
    - There are no contractions six hours after the waters break.
    - The contractions continue for more than 12 hours.
    - The woman is bleeding and/or she has fever.

L.7.2.4 WHAT DO I DO DURING THE PUSHING STAGE?

1. Support the woman in a comfortable position.

   An upright position is the best, but a lying position is the least challenging to assist with delivery.

   You can put a pillow under the right hip.

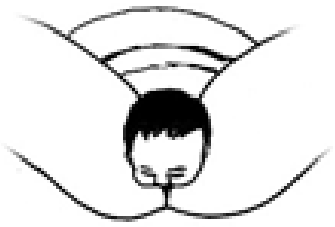
2. Wash your hands with water and soap. If no soap is available, you can use ash to wash your hands. Alcohol-based sanitizers can also be used, if available.

3. Put on (disposable) gloves or use a clean plastic bag to avoid contact with the bodily fluids.

4. Naturally, at this stage, the mother feels the urge to push.

   If the pushing is not working, tell her to change position and to empty her bladder.

   Tell the mother not to push when the baby's head is out.



5. Watch the baby come out while supporting the baby's head and shoulders.

   Do not pull the baby out.

   Do not push on the woman's belly during labour or after the delivery.

L.7.2.5 WHAT DO I DO WHEN THE BABY IS BORN?

1. Immediately after birth, place the baby on the mother's bare chest or abdomen so that they can have skin-to-skin contact.

2. To sterilise the cutting equipment, boil it for ten minutes or run it through a flame a few times and let it cool down.
3. Cut the baby's cord:

   a. Create two knots/ties:
      1. The first knot/tie is two cm (about three fingers) away from the baby's abdomen.
      2. The second knot/tie is four cm (about five fingers) away from the first knot/tie.
   b. Cut between the two knots/ties with a clean razor blade, scissors or a knife.
   c. Create another knot/tie on the side of the baby's abdomen if the cord continues to bleed after it has been cut.
   d. Keep the cord dry and clean.
4. Wipe the baby's skin clean and dry and ensure that the baby is kept warm and close to the mother.
5. The baby can be dressed or wrapped.

6. The placenta or afterbirth will come out naturally on its own. When it is out, put it somewhere safe until it can be disposed of properly.

Do not pull on the umbilical cord to remove the placenta and afterbirth. If the cord rips, it may cause infection or severe bleeding.

7. Wash your hands after taking care of the patient. Use soap and water to wash your hands. If no soap is available, you can use ash to wash your hands. Alcohol-based sanitizers can also be used, if available.

8. Encourage the mother to breastfeed the newborn. Although there is no breast milk at that moment, the baby's sucking will stimulate the production of milk.

   Immediate breast-feeding also helps the placenta to come out and prevents bleeding of the mother after delivery.

9. Encourage the mother to move around as soon as she feels able and ready to do so.
10. Do not leave the mother unattended during the first 24 hours after giving birth.
11. The mother should go to a healthcare facility for further check-up and management.

L.7.2.6 WHAT DO I DO WHEN THE BABY IS NOT BREATHING OR NOT BREATHING NORMALLY?

1. Tell the mother that the baby is having problems breathing and that you will help.
2. Move the baby on to a clean, dry and warm surface.
3. Keep the baby wrapped and warm.
4. Start CPR for the baby.
5. Stop resuscitating after 20 minutes if the baby is not breathing or gasping for air and explain to the mother what has happened and offer her support.

L.7.2.7 WHAT DO I DO WHEN THE MOTHER IS BLEEDING HEAVILY AFTER GIVING BIRTH?

1. Call for help and arrange urgent transport to the nearest healthcare facility or hospital.
2. Massage the mother's belly firmly below the navel. This might slow down the bleeding.
3. Ask the mother to urinate if possible. This might slow down the bleeding.

L.7.2.8 WHAT DO I DO AFTER ASSISTING THE EMERGENCY BIRTH?

	After birth, mother and baby should always be transported to a healthcare facility for further checkup and follow up.