Anatomy Review - Teacher Guide

Teachers often feel nervous before they talk with students about reproductive anatomy and sexuality. Part of this apprehension may stem from a lack of familiarity with the subject matter. One of the best ways to increase your comfort level is to consult various resources to ensure that you have a clear understanding of the content prior to teaching about it. This guide is designed to provide you with some background information on reproductive anatomy and function. It is written for a student audience. If you wish to conduct further research, please consult the list of resources at the end of this document (page # 81), including the websites we consider especially helpful.

Learning about reproductive anatomy may seem embarrassing or awkward to many of us, but it is just as important as learning about all the other parts of our bodies. If you had concerns or questions about your heart, lungs or eyes you would probably feel comfortable asking your parents, a teacher or your family doctor for help. Yet, somehow, when the questions concern sexuality or reproductive anatomy, we feel less comfortable. This is troubling because we know that taking care of your reproductive health as a young person is so important: It can limit the possibility that you will experience problems should you decide to have children later in life. When you protect your reproductive system, you are making a wise, responsible decision.

The reproductive system gets its name from the fact that its parts allow a person to reproduce – that is, to have a child. The parts of the female and male systems are described and explained below.

WOMEN

When a baby girl is born, she has all the parts of her reproductive system in place, but it is not until puberty that she is able to reproduce. A woman's reproductive system is made up of the vagina, vulva, cervix, uterus, Fallopian tubes and ovaries.

Vagina

The vagina is a muscular, hollow tube that is about 7 to 12 centimetres long in an adult woman. Since it is made of muscle, it can expand and contract. Its ability to become wider or narrower allows the vagina to accommodate something as slim as a tampon or as wide as a baby.
Anatomy Review - Teacher Guide

The opening of the vagina is completely or partially covered by the hymen, a thin piece of tissue that has one or more tiny holes in it. Hymens are different from person to person. Some women have their hymens stretched or torn during vigorous physical activity as children or as young women, or when they insert tampons after they begin having their periods. Others find their hymens have torn after their first sexual experience. Either situation is completely normal. When the hymen is stretched or torn, it may bleed a little, but this usually causes little, if any, pain. Some people still believe that the existence of a woman’s hymen is proof of her virginity: This is a myth.

Vulva

Although many people use the word vagina to describe the part outside the body, the vagina is actually completely inside the body - you cannot see it at all. The entire outside area that shields the vagina is called the vulva. The vulva is made up of the mons pubis, the labia, the clitoris and the urinary and vaginal openings.

The mons pubis (pronounced: monz pew-bis) is the mound just below the abdomen. This is the area of the vulva that becomes covered with pubic hair when a girl goes through puberty.

At the bottom of the mons pubis, there are two folds of skin on both sides of the opening of the vagina. These are called labia (sometimes called lips). There are actually two sets of folds: the labia majora (or outer lips) and the labia minora (or inner lips).

In the space where the labia minora (inner lips) meet at the bottom of the mons pubis, the lips cover a small sensitive bump called the clitoris. Below the clitoris is the urethral (pronounced: you-ree-thrul) or urinary opening, which is part of the urinary system. This is where urine leaves the body. Finally, below the urinary opening is the vaginal opening, the entryway to the vagina.

Something worth mentioning

While the anus is not a part of the reproductive system, it is included in the anatomy diagrams and is therefore worth talking about with your students. The anus is the opening found in-between the buttocks and behind the vaginal opening. It is the opening of the rectum where the body gets rid of feces at the end of the digestive system.
Anatomy Review - Teacher Guide

**Cervix**

The cervix (pronounced: sur-vix) is the narrow bottom part of the uterus that extends into the vagina. It has strong, thick walls. The opening of the cervix, which is very small - no wider than a straw - provides an entryway to the uterus. This is why a tampon can never get "lost" inside a girl. During labour and delivery, the cervix temporarily expands in order to allow for the birth of a baby.

**Uterus**

The uterus (pronounced: you-tuh-rus) has thick muscular walls and looks like an upside-down pear. Normally, the size of a woman's uterus is about the same as her closed fist. The inside walls of the uterus touch one another. The uterus contains some of the strongest muscles in a woman's body. These powerful muscles are able to expand and contract in order to accommodate a growing baby and then to help push the baby out during labour. The uterus is also where menstruation begins each month - it builds up its inner lining, known as the endometrium (pronounced: en-doe-mee-tree-um), with extra blood and tissue, anticipating that an egg might be fertilized by sperm entering the woman's body. The fertilized egg can then attach to the endometrium and pregnancy occurs. If an egg is not fertilized, the uterus sheds this extra blood and tissue, which comes through the cervix and out of the vagina as a menstrual period.

**Fallopian Tubes**

The Fallopian (pronounced: fah-loh-pee-un) tubes are attached on one end to either side of the uterus, and they extend out and back from the uterus. Each Fallopian tube is about 10 centimetres long and is about as wide as a piece of spaghetti. Within each tube is a tiny passageway no wider than a sewing needle. At the other end of each Fallopian tube is a fringed area that looks like a funnel. This fringed area wraps around the ovary, but is not completely attached to the ovary. When an egg leaves from the ovary, it enters the Fallopian tube. Once the egg is in the Fallopian tube, tiny hairs in the tube's lining help push the egg down the narrow passageway toward the uterus.

**Ovaries**

The ovaries (pronounced: oh-vur-eez) are located about 10 to 12 centimetres down from a woman's waist. Each one is about the size of an almond in its shell. They are oval-shaped and measure about 4 to 5 centimetres in length in an adult woman. The ovaries sit on either side of the uterus, and special tissue keeps them connected to the Fallopian tubes. Each woman's ovaries contain about 1 million ova (eggs). A baby girl is born with all these eggs, but it is not until puberty that the eggs begin to be released.
Anatomy Review - Teacher Guide

Once a young woman reaches puberty, one ovum (or egg) will be released from an ovary each month until she begins menopause. An egg exits the ovary and enters the Fallopian tube, where it makes its journey to the uterus. If the egg joins with sperm in the Fallopian tube and is fertilized, it will attach to the inner lining (endometrium) of the uterus and begin to develop into a baby. If the egg is not fertilized, it is washed away along with the blood and tissue of the endometrium that grows on the inside walls of the uterus each month: This is a menstrual period. The ovaries are also responsible for making hormones, such as estrogens and progesterone. Estrogens are a group of female hormones (estradiol, estriol and estrone) that are responsible for the development of breasts, female body shape, and other changes that girls experience during puberty.

Ovulation And Menstruation

As previously mentioned, after a young woman reaches puberty, her ovaries begin to release estrogens, which in turn lead to the release of ova or eggs – female reproductive cells. This process is called ovulation and it occurs about once every month. Once ovulation occurs, the egg is caught by the Fallopian tube that helps to move the egg down to the uterus. The uterus (or womb) is a pear-shaped muscular organ where a fertilized egg can develop into a foetus. A mother’s uterus is where a foetus grows.

During the month, the endometrial lining inside the uterus thickens. If a woman’s egg cell is fertilized by a man’s sperm cell, it implants itself in this nourishing lining in the uterus. A fertilized egg takes about 40 weeks to develop into a baby. However, most of the time the egg will not be fertilized, the thick lining will not be needed, and the lining will slough off the sides of the uterus and out of the body through the cervix – the mouth of the uterus leading to the vagina - and then through the vaginal opening. This process is called menstruation.

Menstruation usually lasts between three and seven days. The blood that is lost during menstruation can be easily absorbed with a tampon or a sanitary pad.

Some girls and women experience P.M.S. – pre-menstrual syndrome. Some of the symptoms of P.M.S. include abdominal cramping, bloating and backache. These symptoms can normally be relieved by limiting salt intake, drinking plenty of water, getting light exercise (stretching or walking), applying heat through a hot water bottle or heating pad, or taking an over-the-counter pain reliever. It is also common for girls and women to experience a variety of moods during P.M.S. including feeling irritable or gloomy.
MEN

When a baby boy is born, he has all the parts of his reproductive system in place, but it is not until puberty that he is able to reproduce. A man’s reproductive system is made up of the penis, scrotum, testicles, vas deferens, epididymis, seminal vesicles and prostate gland. Some of these parts are visible, whereas others are hidden inside the body.

**Penis**

The penis is actually made of two parts: the shaft and the glans (pronounced: glanz). The shaft is the main part of the penis, and the glans is the tip (sometimes called the head). At the end of the glans, there is a small slit or opening.

All boys are born with a foreskin, a fold of skin that covers the glans. Some boys are circumcised which means that a doctor or a clergy member cuts away the foreskin. Whether a boy is circumcised can depend on the preference of the individual family, the part of the world he lives in or his family’s religion.

The inside of the penis is made of spongy tissue that can expand and contract. When a boy or man is sexually aroused, special tube-like passageways in the tissue fill up with blood and cause an erection. (Sometimes, especially during puberty, this can happen for no apparent reason.) When this occurs, the penis becomes hard and straight and stands away from the body.

Inside the penis, there is also a urethra (pronounced: you-ree-thruh). The urethra is part of the urinary system. The urethra carries urine from the bladder, through the length of the penis, and out of the small opening in the glans.

**Scrotum**

The scrotum is a loose pouch of skin that hangs behind the penis. It is also sometimes called the scrotal sac. The scrotum holds and protects the testicles. The testicles make sperm, and to produce sperm the right way, their temperature must be lower than it is inside of the body. The scrotum is designed to keep the testicles on the outside of the body and therefore at a lower temperature (at 33 degrees Celsius which is about 4 degrees lower than normal body temperature). The scrotum even changes size to maintain the right temperature. In cold weather, the scrotum shrinks and becomes tighter to hold in body heat. In warm weather, it becomes larger and more floppy to get rid of extra heat. This happens involuntarily – a boy’s brain and nervous system give the scrotum the cue. The boy never even has to think about it.
Anatomy Review - Teacher Guide

**Testicles**

The testicles are two egg-shaped organs that are each about 5 centimetres in length in an adult man – about the size of a large walnut. They are also called “testes”. The testicles are contained in a small bag of skin called the scrotum. When the testicles are about 4 degrees Celsius cooler than normal body temperature, they will successfully produce sperm. When a boy reaches puberty, his testicles begin to produce and store millions of sperm cells. From this point on, the testicles continue producing sperm for the rest of a man's life at the rate of hundreds of millions each day. The testicles are also responsible for making the hormone testosterone. Testosterone plays a major part in puberty for boys. When a young man makes his way through puberty, his testicles produce more and more of it. Testosterone is the hormone that causes boys to develop deeper voices, larger muscles, and body and facial hair, among other things.

**Epididymis**

The epididymis (pronounced: eh-puh-dih-duh-miss) is a long, coiled tube that sits on top of and behind each testicle – it measures about 6 metres in length. As the testicles produce sperm, the sperm are continuously being transported away from the testicles through the epididymis. Sperm take about 4 to 6 weeks to travel all the way through it.

**Vas Deferens**

After travelling through the epididymis, the sperm then make their way out of the scrotal sac via the vas deferens (pronounced: vas deh-feh-rinz). Millions of sperm enter the vas deferens each day. The vas deferens extends from the epididymis to the urethra (the tube that carries semen and urine out of the penis) and connects the two parts. The vas deferens is also the reproductive system's storehouse for sperm. The seminal vesicles (pronounced: seh-mih-nuhl vess-ick-uls) and prostate (pronounced: prahs-tate) gland are responsible for producing fluids that mix with sperm to create semen.

Semen is the fluid that leaves a man's penis when he ejaculates. It is a combination of fluid produced from three glands: the prostate, the seminal vesicles, and the Cowper's glands. Sperm only make up about 1% of the ejaculatory fluid; the rest of the fluid is semen. During an ejaculation, sperm from the epididymis move through the vas deferens, collect semen from the seminal vesicles and prostate gland, and travel out through the urethra. The urethra is the same tube that allows for urination. A male cannot ejaculate and urinate at the same time. Nature devised a special valve that shuts off the possibility of urination during ejaculation. Each time a man ejaculates, the semen released – approximately one tablespoonful – contains up to 500 million sperm.
Resources:


