



Human Reproduction

Probe 9 textbook
Chapter 4

Disclaimer

As we have learned earlier in the semester, there is much variation in sexual characteristics and sexual anatomy. Here, we will be presenting the most common sexual characteristics of AMAB (assigned male at birth) and AFAB (assigned female at birth) people. We acknowledge that intersex people will have a combination of these characteristics.

Sexuality is a spectrum. This mini-unit will focus on heterosexual intercourse, since this is the only kind of sexual intercourse that can result in fertilization and pregnancy. Other types of sexual intercourse (e.g. oral, anal) cannot result in pregnancy, but can transmit STIs → see slides on STI prevention.

I am not a licensed health care practitioner. I will do my best to present this information in an educational, accurate, and inclusive manner.

Question Slips

Questions are strongly recommended during this unit. ***No question is 'stupid'.***

Everyone is coming from a different background and will have different background knowledge to start. Please respect the questions of others.

If you are not comfortable putting your hand up, please write down all your questions on the provided paper slips. They will be submitted and addressed at the end of each class.

Outline

1. Human Reproductive Anatomy
2. Menstrual Cycle + Tampon Demo
3. Sexual Intercourse
4. Birth Control + Condom Demo
5. Consent
6. Sexually Transmitted Infections and Prevention
7. Resources
8. Q + A

General Vocabulary

Gametes:

- **Sperm** in males
- **Egg** in females



Primary sexual characteristics:

- Structures that **produce gametes** (e.g. ovary, testes)
- Structures that **enable gametes to meet** (e.g. penis, vagina, vas deferens, etc.)

General Vocabulary

Secondary sexual characteristics:

- **Not necessary** for sexual reproduction
- Develop alongside primary characteristics during **puberty**
- **Puberty**: developmental period where human becomes **sexually mature** and able to reproduce (usually begins age **11-13**; continues until age 18)

General Vocabulary

Secondary sexual characteristics:

| Males | Females |
|---|--|
| <ul style="list-style-type: none">• Growth spurt• Facial, underarm, pubic hair• Deepening voice | <ul style="list-style-type: none">• Growth spurt• Breasts (mammary glands)• Underarm and pubic hair• Widening of hips |

BOY



GIRL

11 to 13 years old & approximately until 15 or 16.

9-13 Years Old

- testosterone and other hormones cause physical changes.
- The sexual organs start growing and preparing for reproduction.
- increase in height and weight.
- Hair grows in the pubic area, the underarms, the face, and the legs.
- The vocal chords change, so the voice grows deeper.
- Some develop acne.
- The reproductive system starts working & they can procreate.



- Hair growth in underarms & the pubis
- Breast development
- Ovaries grow larger and start producing hormones.
- Menstrual cycles start
- Hips widen
- Height and weight increase due to changes in the body's structure
- Sweat glands become more active.
- Problems with acne may arise.
- Mood swings become more frequent due to hormone production.

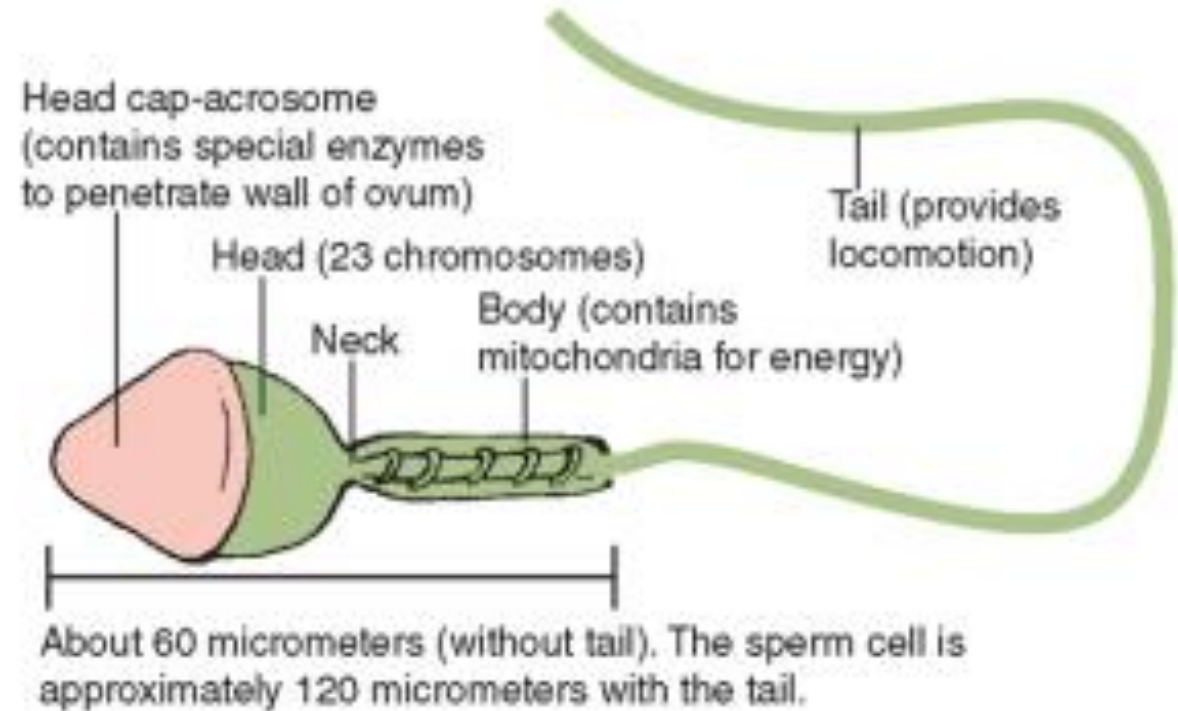
**Is there a big
difference
between male
and female
anatomy?**



**Yes, a vas
deferens.**

Sperm Structure

- Very **small: 120 μm**
- Specialized for swimming
 - **Flagellum** is a whip-like tail that allows sperm to swim
 - Each sperm has 50-75 mitochondria; swimming takes a lot of **energy!**

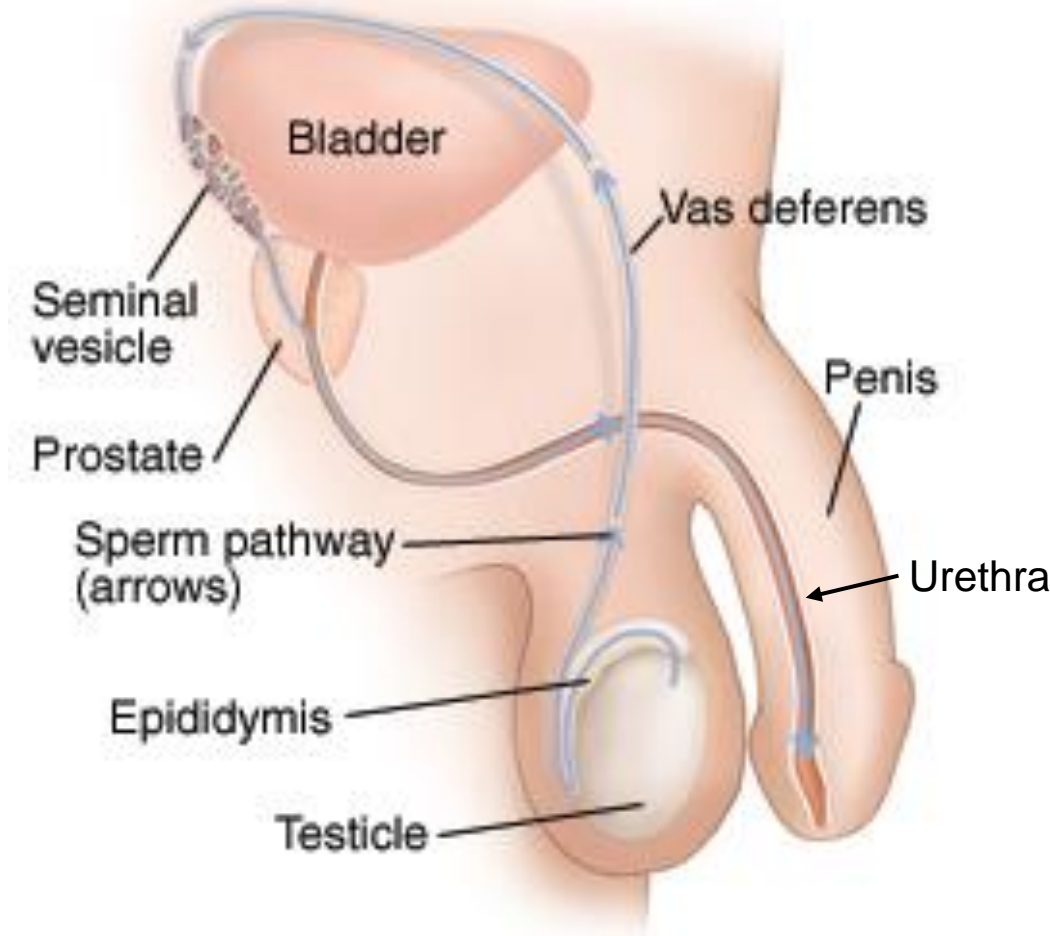


Male Primary Reproductive Structures

Testicle (aka testis or pl. testes):
produces and **nourishes**
developing sperm

Epididymis: where mature sperm
are **stored**

Vas deferens: tube that carries
sperm to **urethra**



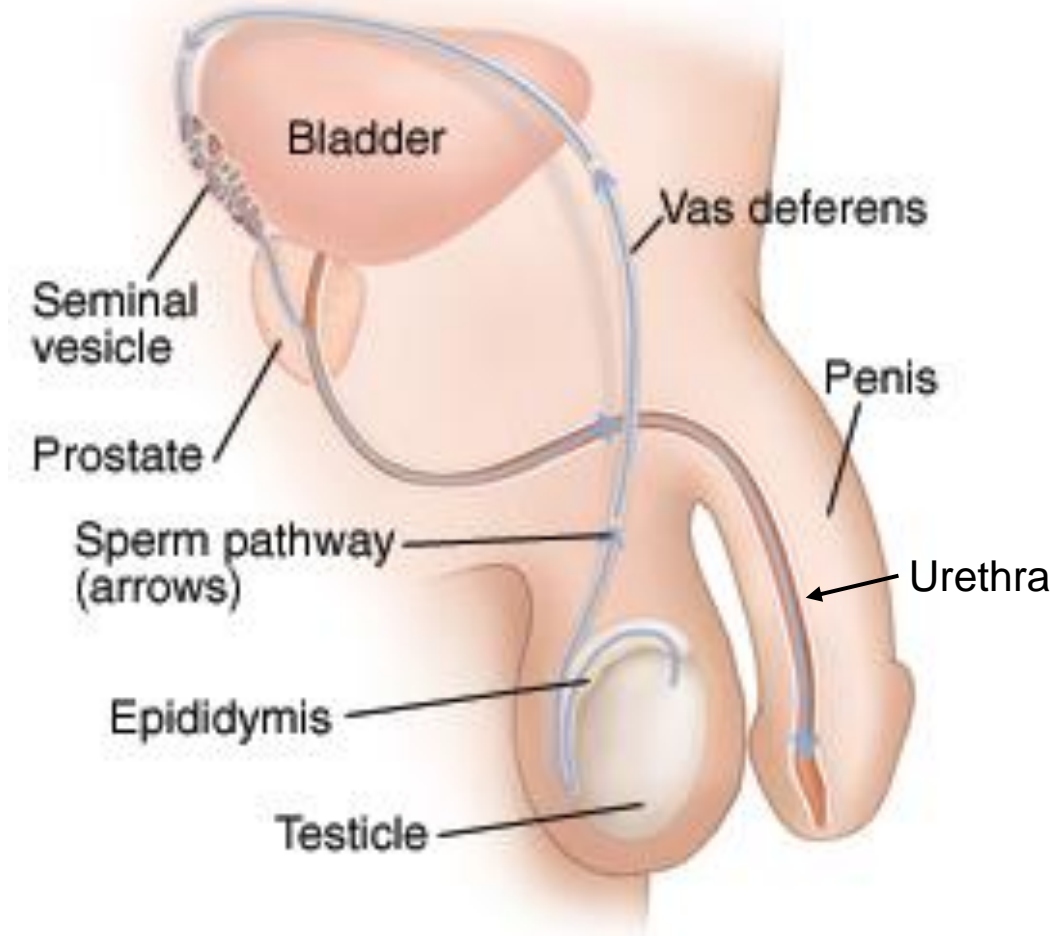
Male Primary Reproductive Structures

Seminal vesicle: secretes seminal fluid

- **Seminal fluid:** Provides **sugar** for energy, protects the sperm, provides fluid for sperm to swim

Urethra: transports sperm (and urine) **outside the body**

Penis: organ that contains the urethra; enters the female during sexual intercourse

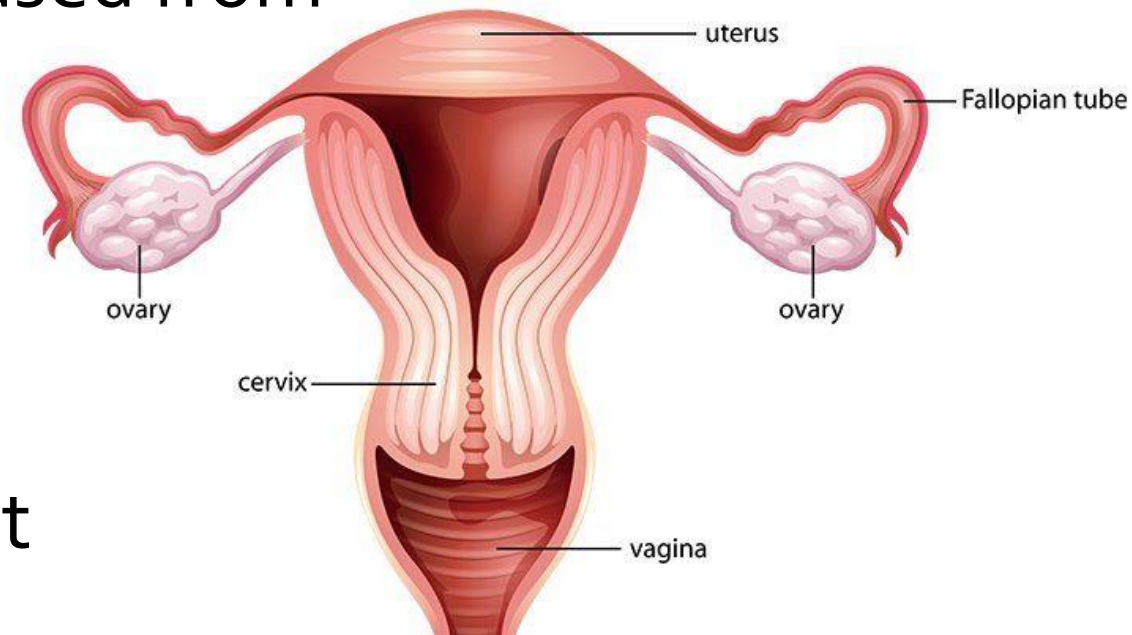


Female Primary Reproductive Structures

Ovary:

- Where **eggs** develop and are released from
- Produces **estrogen** and **progesterone** (female sex hormones)

Oviduct (Fallopian Tube): Tube that transports the **egg to the uterus**



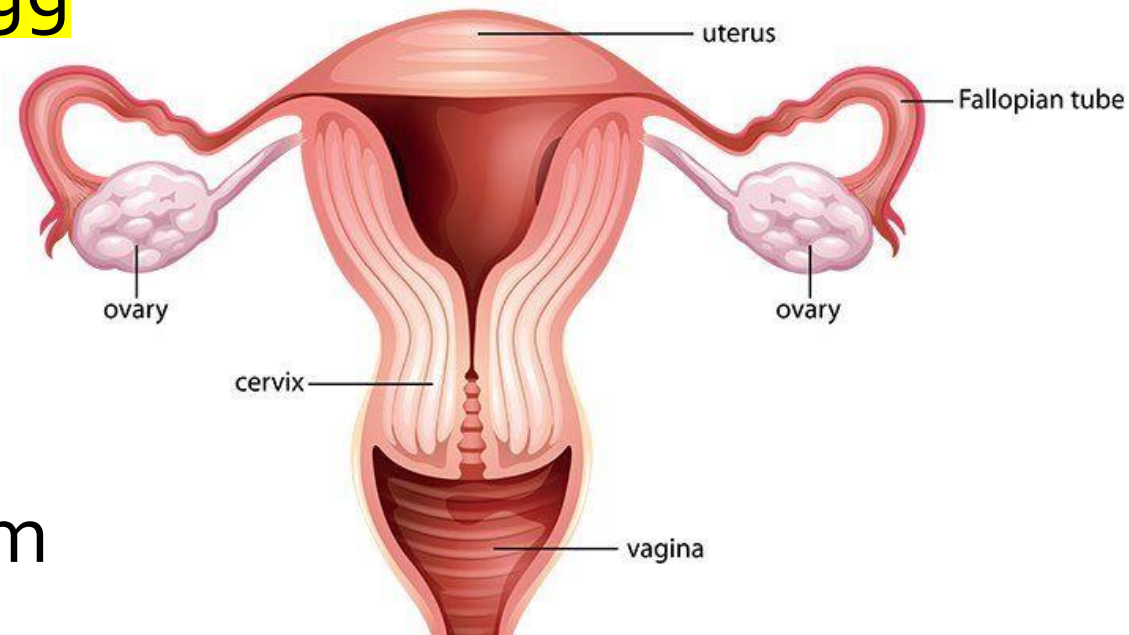
Female Primary Reproductive Structures

Uterus (womb): Organ that will receive and nurture the fertilized egg

Endometrium: lining of the uterus, which is shed during menstruation

Vagina:

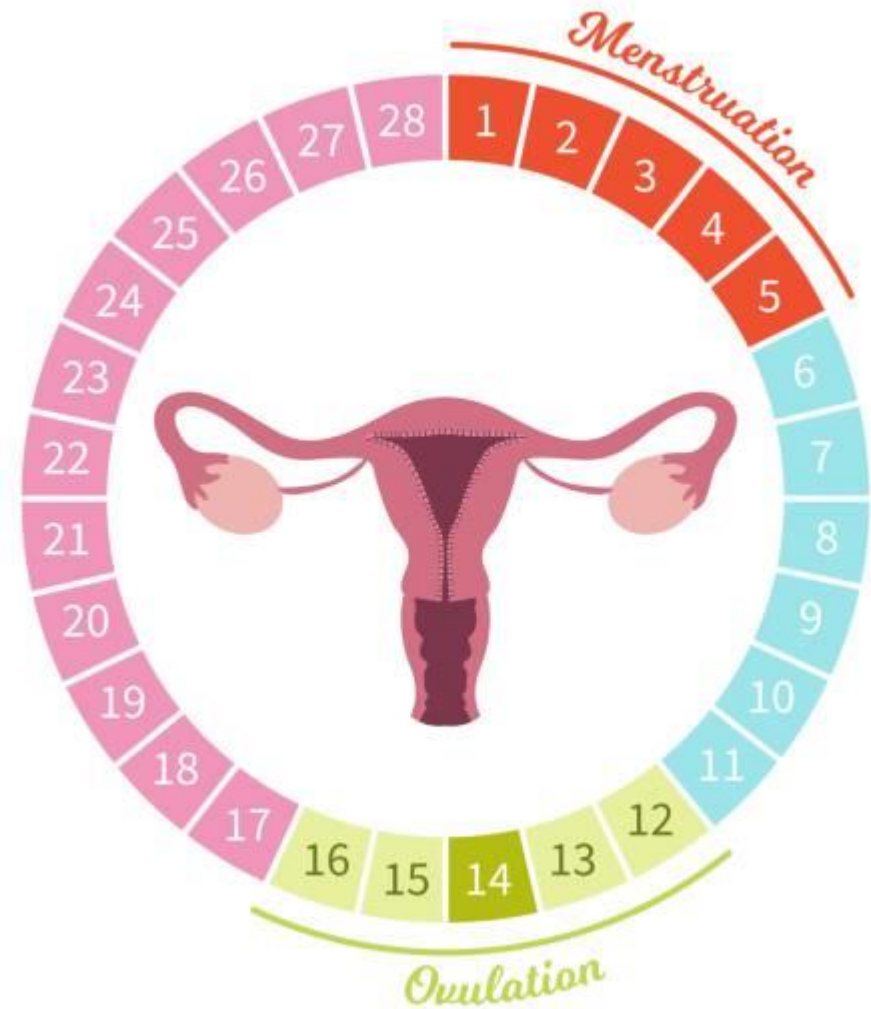
- Receives the male penis and sperm during sexual intercourse
- Is the birth canal for the baby



Menstrual Cycle: Simplified

Menstruation (period):
endometrium is shed; starts
on day 1 of cycle

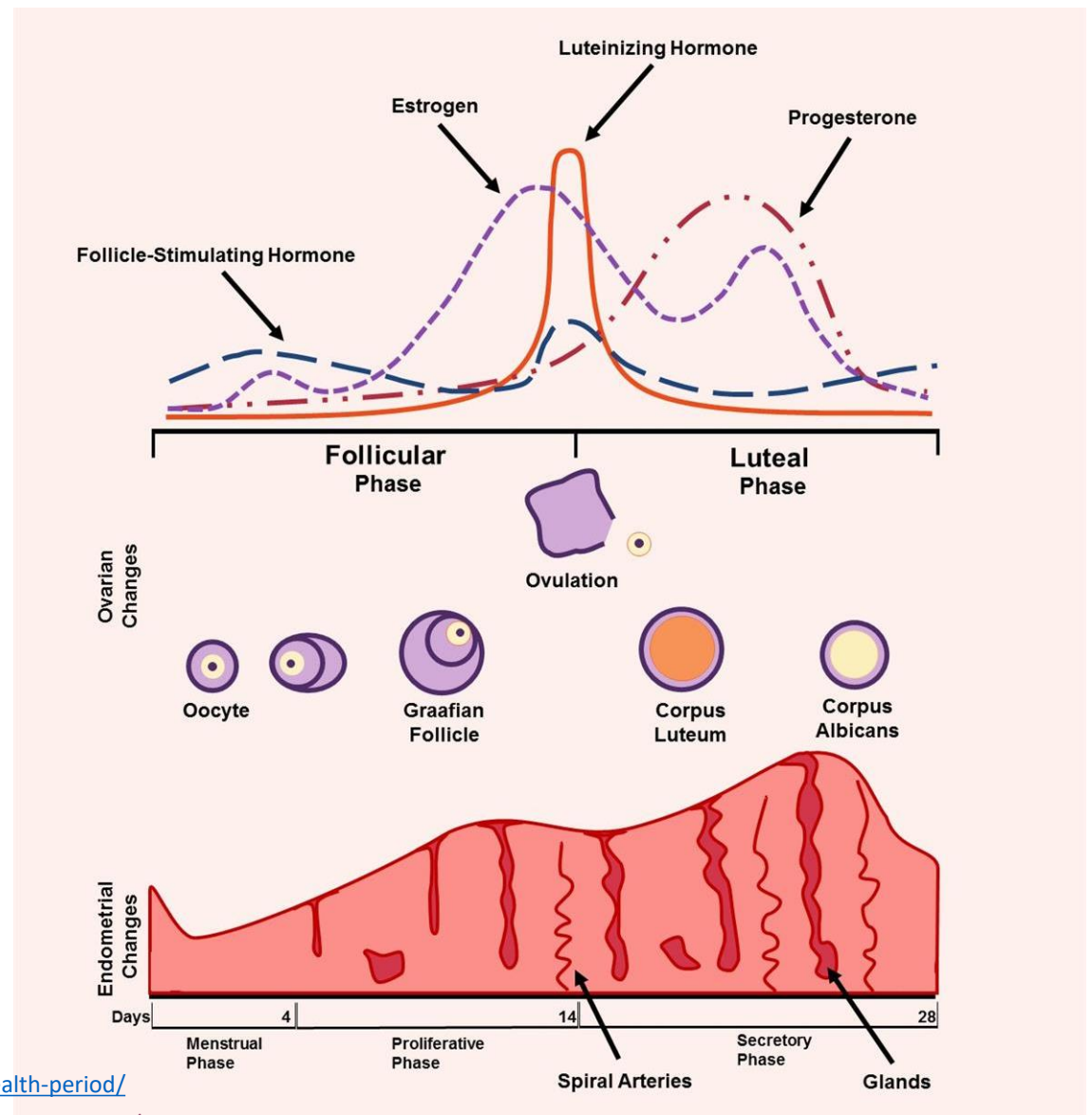
Ovulation: mature egg is
released from ovary and
travels towards uterus



Menstrual Cycle: More Details

The menstrual cycle is complicated and messy!

Hormones released from the brain (LH, FSH) and female sex hormones (estrogen and progesterone) all affect the timing and duration of the menstrual cycle.



THE MENSTRUAL CYCLE

OVARIAN CYCLE

LOW ESTROGEN AT THE END OF MENSES



FOLLICULAR PHASE



SMACK!



OVULATION!

PROGESTERONE



LUTEAL PHASE

CORPUS LUTEUM

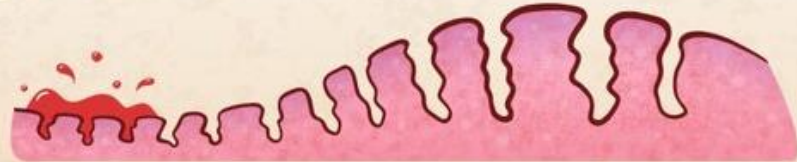


CORPUS ALBICANS

MENSES



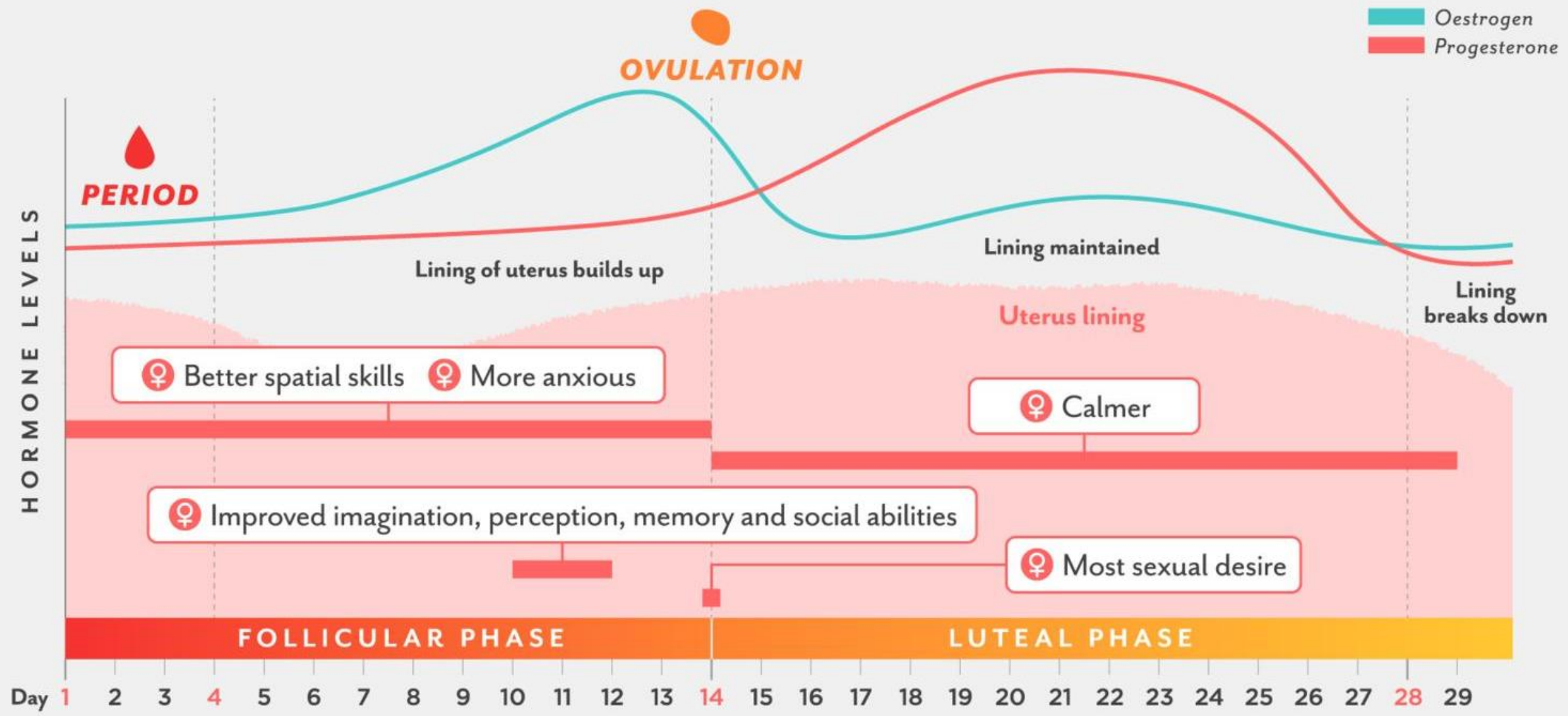
UTERINE CYCLE



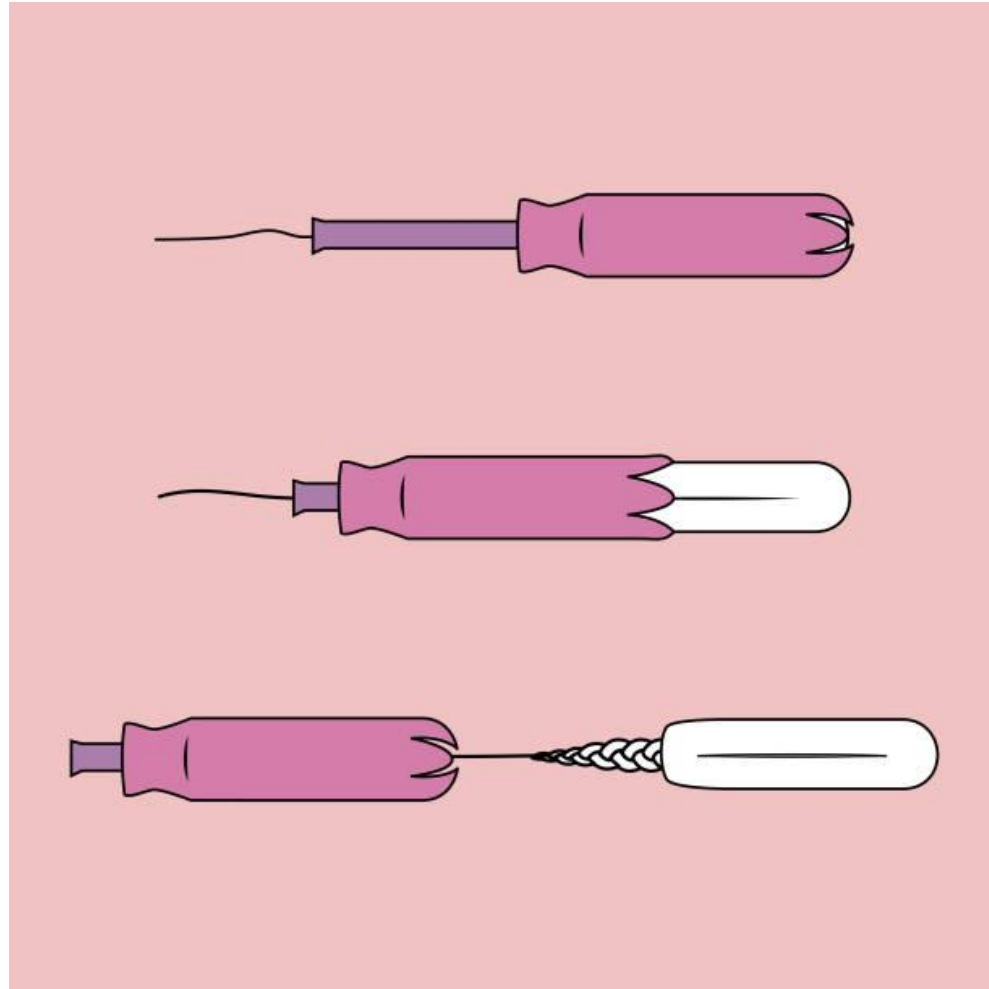
PROLIFERATIVE PHASE: INFLUENCED BY ESTROGEN, THE THICKNESS OF THE ENDOMETRIUM RAPIDLY INCREASES



SECRETORY PHASE: INFLUENCED BY PROGESTERONE, THE LINING BECOMES HIGHLY VASCULAR AND EDEMATOUS



Demo: How to Use a Tampon



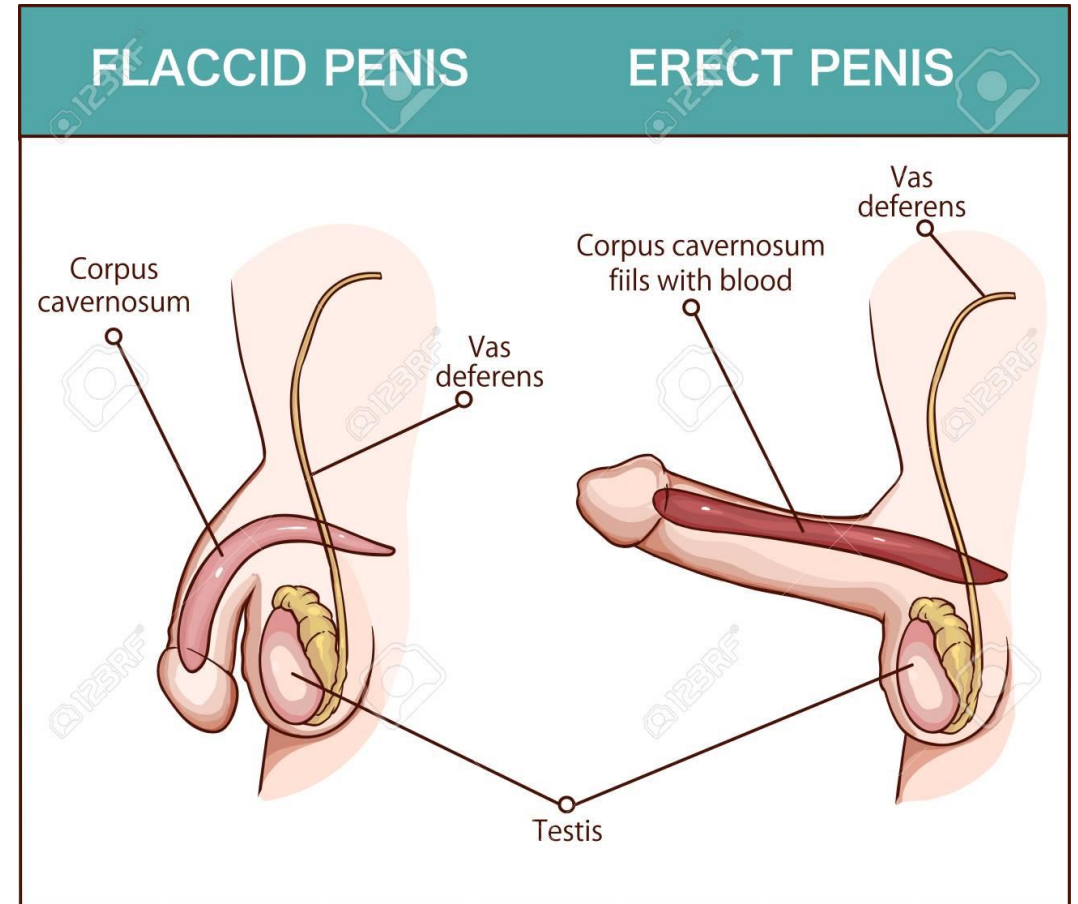
Sexual Intercourse

Sexual arousal increases blood flow to the genital area. Result:

- Male penis becomes erect.
- Female vagina produces natural lubrication.

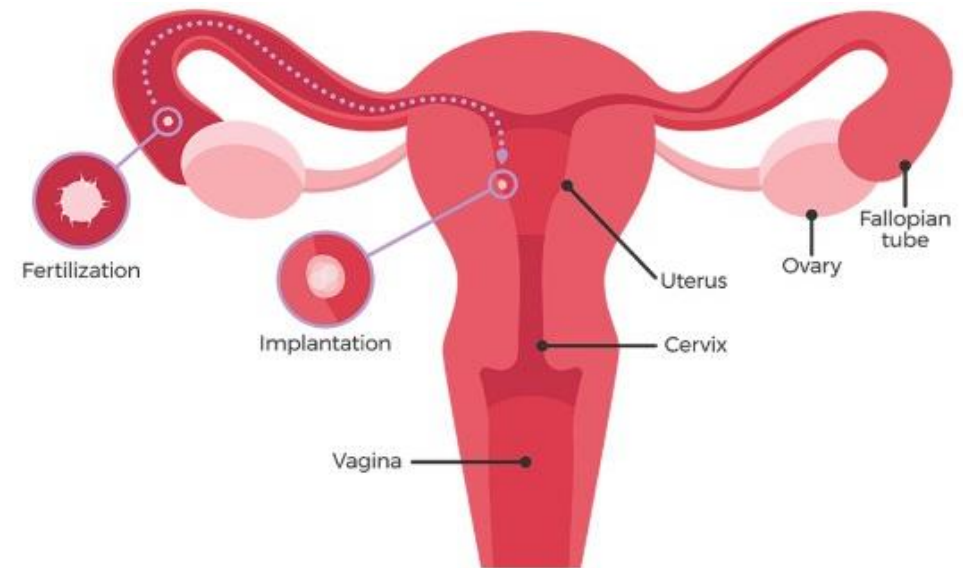
Ejaculation:

- Discharge of ***semen*** (containing seminal fluid and sperm) from the penis.



Fertilization and Pregnancy

- Fertilization occurs when a sperm cell meets an egg. Fertilization usually occurs within the oviduct.
- The fertilized egg then implants in the uterus. The individual is now pregnant.



Fertilization and Pregnancy

Random facts:

- Twins occur when one fertilized egg splits (mitosis) **or** two eggs are released and fertilized.
- 2% of the time, the fertilized egg implants in the wrong place and cannot develop properly (ectopic pregnancy). If not terminated, the mother's health is at risk.

Birth Control

Birth Control refers to a number of methods intended to prevent or reduce the chances of pregnancy.

Discuss: Given what you know about the reproductive system, sexual intercourse and pregnancy, brainstorm some ways to prevent pregnancy.

We will discuss the most common forms of birth control; however, if you are planning on becoming sexually active, you should consult a physician to determine which method is best for you.

Birth Control Summary

Barrier methods (condom, etc.): prevent male and female reproductive organs from coming into physical contact with each other

Copper IUD (intra-uterine device): inserted into uterus, makes uterus inhospitable (copper); lasts 3-5 years and is low-maintenance

Hormones: many methods that vary in ease of use, cost, and effectiveness

Surgery: cut or remove organs to make pregnancy impossible

Behavioural (pulling out, abstinence, cycle tracking)

Legend

- Highly effective
- Mostly effective
- Unreliable, not effective on its own
- Permanent, surgery

abstinence

don't have sex

male condom

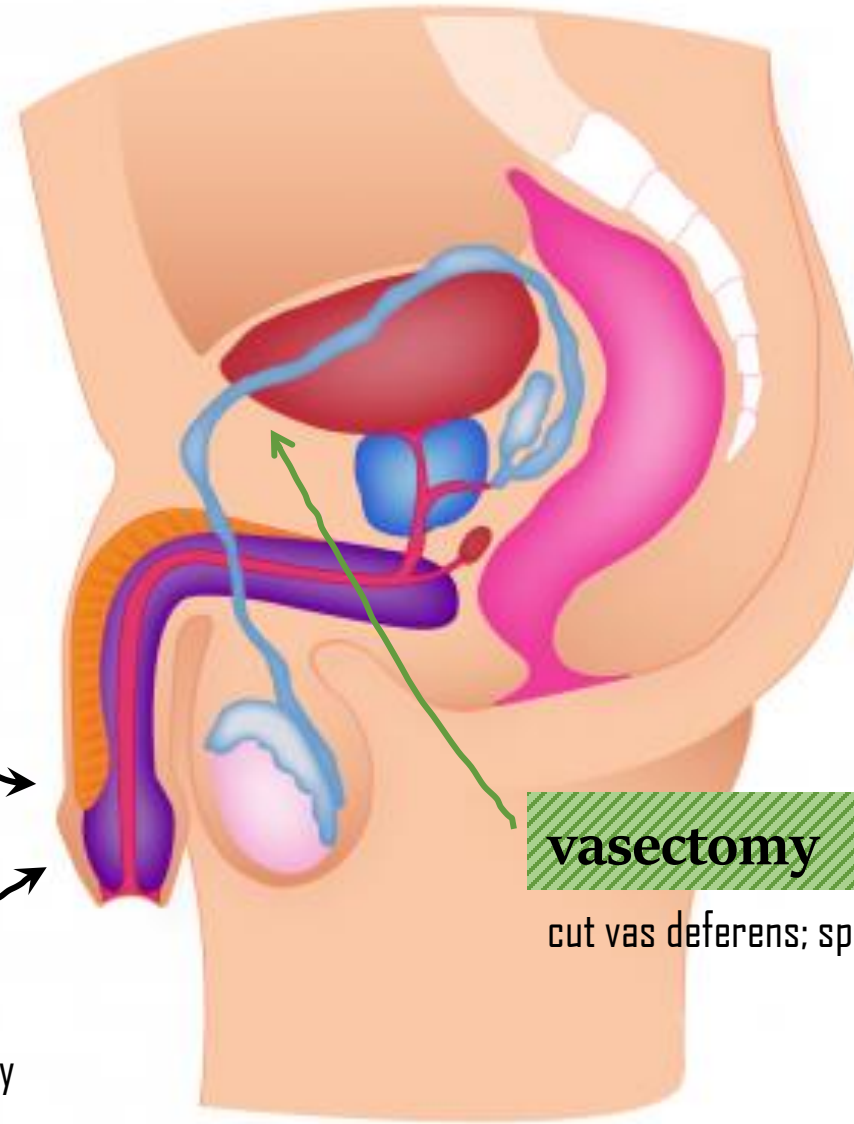
'contains' ejaculate; prevents sperm from entering female
(issues: condom may burst or leak)

pulling out

remove penis from vagina before ejaculation
(issues: precum can contain sperm; penis may not be removed quickly enough)

vasectomy

cut vas deferens; sperm cannot enter penis



Legend

- Highly effective
- Mostly effective
- Unreliable, not effective on its own
- Permanent, surgery

tubal ligation

cut oviduct; egg does not enter uterus

oophorectomy/ hysterectomy

remove ovary/uterus

female condom

'contains' ejaculate; prevents sperm from entering female
(issues: condom may burst or leak; difficult to use)

copper IUD

prevent implantation
(issues: risk of perforation and dislodgment)

abstinence

don't have sex

cycle tracking

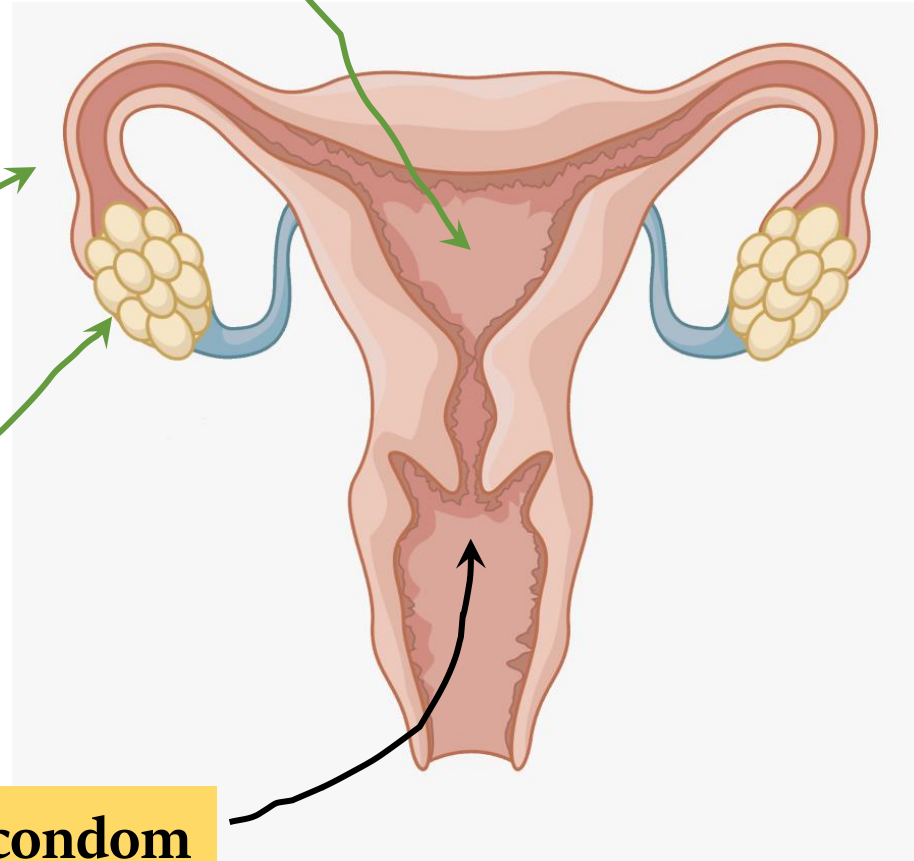
avoid sex during fertile periods
(issues: every woman is different; cycles can vary)

plan B

prevent ovulation, prevent implantation
(issue: not reliable; cost per use)

hormones (Mirena IUD, ring, patch, shot, pill)

prevent ovulation; prevent implantation
(issues: side effects; consistency)



Hormonal Birth Control

During real pregnancy, high levels of progesterone and estrogen prevent other eggs from maturing.

Many hormonal methods of birth control (e.g. “The Pill”) increase progesterone levels to mimic pregnancy hormone levels. If eggs don’t develop, then pregnancy cannot occur!



Demo: How to Use a Male Condom





Wait for your penis to become fully erect.



Check the expiry date.
Carefully tear open the condom package.



Place the condom on your penis while pinching the tip of the condom to remove air and leave space for semen.



Roll the condom all the way down your penis.
Smooth out any air bubbles.

Understanding Consent

Consent is required before and during any sexual activity.

The **legal age of consent in Canada is 16 years old.**

Exceptions: Persons under 16 years can have consensual sex with someone close in age.

- 12-13 year olds (two-year age difference)
- 14-15 year olds (five-year age difference)

These exceptions only apply if the older person is **not** in a position of authority or trust and there is no exploitation or dependency.

[Brochure about consent](#): next slides

Understanding Consent

| CONSENT IS FEELING... | CONSENT IS NOT FEELING... |
|---|--|
|  |  |
| Willing Certain Comfortable Sober Informed Respected | Pressured Confused Scared Drunk/High Ignored Disrespected |

**THE ABSENCE OF “NO”
DOES NOT MEAN “YES”**

THE LAW AND CONSENT

 The legal age of consent in Canada is 16 years old.

Exceptions: Persons under 16 years can have consensual sex with someone close in age:

- @ 12-13 year olds (two-year age difference)
- @ 14-15 year olds (five-year age difference)

These exceptions only apply if the older person is **NOT** in a position of authority or trust and there is no exploitation or dependency.

Individuals under 18 years old cannot consent to sex where:

- The other consenting party is in a position of trust, authority or there is a dependency on that person.
- There is an activity of exploitation (i.e pornography, sex work/prostitution).

Understanding Consent

YOU NEED TO ACTIVELY SEEK CONSENT!

The person initiating sexual activity needs to take reasonable steps to establish consent.

If you are unsure, stop and ask:



“Is this okay?”



Recognize nonverbal signs of refusal such as:

Avoiding eye contact, crying, pushing away, shaking head no, silence and/or not being responsive.

If someone doesn't give you consent for sexual activity **STOP!**

YOU HAVE THE RIGHT TO WITHDRAW CONSENT AT ANY TIME DURING SEXUAL ACTIVITY.

Even if you've consented to start a sexual act with someone, you have the right to stop it at any time.

Consenting to one kind of sexual activity does not automatically mean consenting to another.



If you don't want to do something, you have the right to say: **“STOP!”**

Understanding Consent



Sexual assault is ANY UNWANTED ACT of a sexual nature that is imposed on another person WITHOUT THEIR CONSENT.



WHAT TO DO IF YOU'VE BEEN SEXUALLY ASSAULTED

At any time following a sexual assault you can seek medical attention, access support, and/or report the assault to the police.

- Get to a safe place. If you are in danger, call 911 and/or a local sexual assault response program.

- Call someone you know and trust to be with you.
- If the sexual assault was recent and if possible, **AVOID** washing yourself, changing your clothes or combing your hair. Preserve any evidence you can, such as items you had with you. You can still report a sexual assault if you have been unable to preserve evidence.
- Write down, record, or tell someone you trust all the details you can remember.
- Seek medical help and emotional/practical assistance or support (e.g., family, friends, crisis centre).

Understanding Consent

WHAT THE POLICE WILL WANT TO KNOW:

- What happened, when, where and who else was there.
- A description of the person who sexually assaulted you (as detailed as possible).
- If you don't feel comfortable talking to the police, ask to be referred to a victim services unit, health care facility or a community-based service, like a sexual assault centre, for support and information around your options.

FOR MORE INFORMATION

**RCMP Centre for
Youth Crime Prevention**
rcmp-grc.gc.ca/cycp-cpcj



GETTING HELP

Kids Help Phone
1.800.668.6868 | kidshelpphone.ca

Ending Violence Association of Canada
endingviolencecanada.org/getting-help

**Canadian Resource Centre
for Victims of Crime**
1.877.232.2610 | crcvc.ca

Understanding Consent



Understanding Consent



Sexually Transmitted Infections (STIs)

What are STIs?

- Infections that are passed from one person to another during sex
- Transmitted through blood or other bodily fluids

Examples of STIs:

- Bacterial: gonorrhea, syphilis, chlamydia
- Viral: HPV, genital herpes, HIV
- Parasitic: trichomoniasis

Sexually Transmitted Infections (STIs)

You should see a doctor if you have any of the following signs and symptoms.

Note: It is a good idea to get a check-up before becoming sexually active.

Note: There are other ways STIs can be transmitted, not just through sex.

Some Signs and Symptoms:

- Painful or burning urination
- Unusual or smelly discharge from vagina or penis
- Sores or bumps in the genital, rectal, or oral regions
- Pain during sex

Sexually Transmitted Infections (STIs)

STI Prevention:

- Use a barrier protection method (e.g. condom).
- Get tested and make sure your partner is tested before having sex.
- Get vaccinated. (HPV, Hepatitis A, Hepatitis B)
- Know the signs and symptoms of the most common STIs. Don't be shy about going to see your doctor!!!

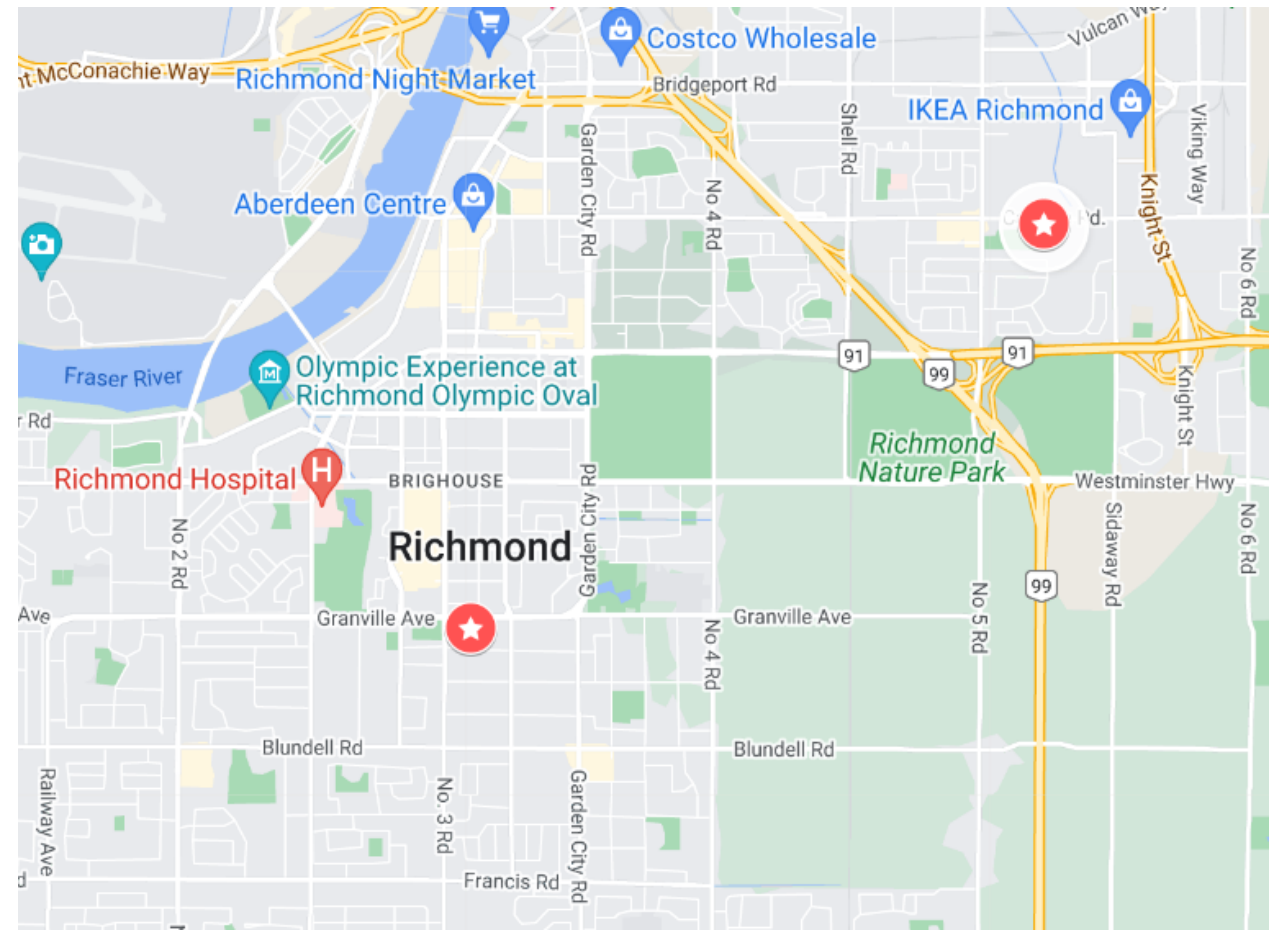
Resources

Richmond Youth Medical Clinic:

<https://youthinbc.com/2009/02/03/richmond-youth-clinic/>

Free, confidential services for youth (13-21)

- ✓ Counselling
- ✓ Free birth control
- ✓ Free emergency contraception
- ✓ STI testing and treatment
- ✓ Pregnancy tests
- ✓ Online chat with a trained crisis responder



Q&A