Human Sexual and Reproductive System: evolution, diversity, structure and function
Establish class values

- We will be talking about sexuality, gender, pleasure, abuse and safety in these sessions. What will make this class a safe space for everyone to share, express their views and discuss freely?
- How do we want others to behave?
- How will we behave?
Asexual organisms

Bacteria

Amoeba

Yeast reproducing by budding

Very little genetic variation
Limited diversity

Image Sources: 1 2 3
Hermaphroditic organisms

Earthworms (below) and flatworms (above and on the right) have both male and female systems in the same body.

Image sources: 1 2

Human evolution: hermaphroditic origins

Source

License
Evolution of life – shared origin

Image Sources: 1 2 3

Romanes, G. J. (1892). Darwin and After Darwin. Open Court, Chicago.
Group activity

A-Z of sexuality

- Participants break into groups of 4-6
- Each group lists as many scientific words as they can think of that are to do with the anatomy and function of the reproductive system.

Discussion:
- First group calls out the words on their list. Other groups cross out the words that are common.
- Groups take turns to call out the remaining words on their list.
- Any word that is not known/understood by the participants is discussed, and its correct meaning explained by a participant who knows this word or by referring to reliable websites.
Female and male systems

• In the presence of XY chromosomes the gonad develops into a testis and with appropriate hormone exposure, the male reproductive organs develop.

• In the presence of XX chromosomes the gonad develops into an ovary and the female reproductive system develops from the ducts.

Images Source: Suvidha Manual 2020, Enfold Proactive Health Trust
Female reproductive system

Images Source: Suvidha Manual 2020, Enfold Proactive Health Trust
Menstruation

Source
Fertilization and implantation

Source
## Male Reproductive System

<table>
<thead>
<tr>
<th>Organ</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testis</td>
<td>Production of testosterone and sperms</td>
</tr>
<tr>
<td>Epididymis</td>
<td>Transport, maturation and ejaculation</td>
</tr>
<tr>
<td>Vas Deferens</td>
<td>Transport and ejaculation</td>
</tr>
<tr>
<td>Seminal Vesicle</td>
<td>Secrete thick liquid to transport sperm</td>
</tr>
<tr>
<td>Prostate Gland</td>
<td>Secrete thin alkaline solution to neutralise urine</td>
</tr>
<tr>
<td>Cowper’s gland</td>
<td>Secretions may lubricate, flush out urine or form a gelatinous plug</td>
</tr>
<tr>
<td>Urethra</td>
<td>Passage for urine and sperm</td>
</tr>
<tr>
<td>Penis</td>
<td>Penetration</td>
</tr>
</tbody>
</table>

Image Source: Suvidha Manual 2020, Enfold Proactive Health Trust
Intersex variations

- Natural variations in reproductive anatomy and sexual characteristics
  - External genitals that cannot be easily classified as male or female at birth
  - Incomplete or unusual development of the internal reproductive organs
  - Inconsistency between the external genitals and the internal reproductive organs
  - Variations of the sex chromosomes (46XXY (Klinefelter syndrome), 46XO (Turner’s syndrome) Incomplete or unusual development of the testes or ovaries
  - Over- or underproduction of sex-related hormones (example Congenital Adrenale Hyperplasia)
  - Inability of the body to respond normally to sex related hormones (example Androgen Insensitivity Syndrome)

- Variations may be visible at birth, evident during puberty or not evident at all until a medical intervention is done for some other reasons.

- More common than thought - 1.3 in 1000 live births reported from Turkey (Aydin et al., 2019)
Pubertal changes

- Bodily features required for survival are present from birth. What develops at puberty is to do with reproduction - and signals sexual maturity.
- Changes happen in the brain and the body
- The sexual and reproductive organs develop further and begin to function under the influence of various factors - genetic, hormonal, other biological factors, nutrition etc.
- Similar changes occur in all sexes but to different extent.
Examples of pubertal changes

- Height, muscles, body and facial hair, voice deepening – usually more in males: play a role in establishing dominance over sexual competitors.

- Fat under the skin, pelvic size, breast – usually more in females: helps in pregnancy, delivery, lactation.

Image Source: Suvidha Manual 2020, Enfold Proactive Health Trust
Various factors determine who we feel attracted to. At a biological level, our senses also play a role:

- **Sight** - we look for symmetry - one of the biological markers of health
- **Sound** - we hear - voice indicates the effect of sex hormones
- **Smell** - we smell - pheromones play a role, said to play a role in avoiding inbreeding
- **Taste** - kissing - exchange of HLA antigens present in saliva, gustatory senses and other senses are activated - said to play a role in avoiding inbreeding
- **Touch** - releases oxytocin - plays a role in bonding, trust
Sexual acts

- Intercourse - penetrative sex
- Outercourse - sexual stimulation to orgasm without penetration
  - different from foreplay - which almost always leads to an act of penetration
  - Includes a myriad of sexual acts
Sexual satisfaction possible at any stage, not just during orgasm
This PowerPoint is part of a project to prevent gender-based violence. This project is supported by Ford Foundation.
CREATING SAFE SPACES

Thank You!

ENFOLD PROACTIVE HEALTH TRUST
+91 802552 0489 | +91 99000 94251 | enfoldindia.org

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