



## 41a Pathology: Reproductive System and Special Populations: HIV and AIDS



# 41a Pathology: Reproductive System and Special Populations: HIV AIDS

## Class Outline

5 minutes	Attendance, Breath of Arrival, and Reminders
20 minutes	Lecture
35 minutes	Lecture
60 minutes	Total



# 41a Pathology: Reproductive System and Special Populations: HIV AIDS

## Class Reminders

### Assignments:

- 41a Review Questions (Packet A: 165-178) **DUE NOW!!!**
- 43a Swedish: Outside Massages (Packet A: 57-62)

### Quizzes and Exams:

- 43a Kinesiology Quiz  
(adductor magnus, gracilis, iliopsoas, sartorius, TFL, piriformis, quadratus femoris)
- 44a Quiz (33b, 35a, 36a, 37a/b, 38a, 39a, 40a, 41a/b, 42b, and 43a)
- 46a Exam

### Practical Exam:

- 44b Integration Massage: Practical Exam (60-minute Swedish, Passive Stretches, and BMTs)
  - **Bring your grading sheet for evaluation A: 83**

### Preparation for upcoming classes:

- 42a Quiz
- 42b Kinesiology: AOIs - Coxal and Tibiofemoral Joint Muscles



# Classroom Rules

**Punctuality** - everybody's time is precious

- Be ready to learn at the start of class; we'll have you out of here on time
- Tardiness: arriving late, returning late after breaks, leaving during class, leaving early

**The following are not allowed:**

- Bare feet
- Side talking
- Lying down
- Inappropriate clothing
- Food or drink except water
- Phones that are visible in the classroom, bathrooms, or internship

*You will receive one verbal warning, then you'll have to leave the room.*



# Pathology: Reproductive System

E - 87



# Disorders of the Uterus

Cervical cancer

Dysmenorrhea

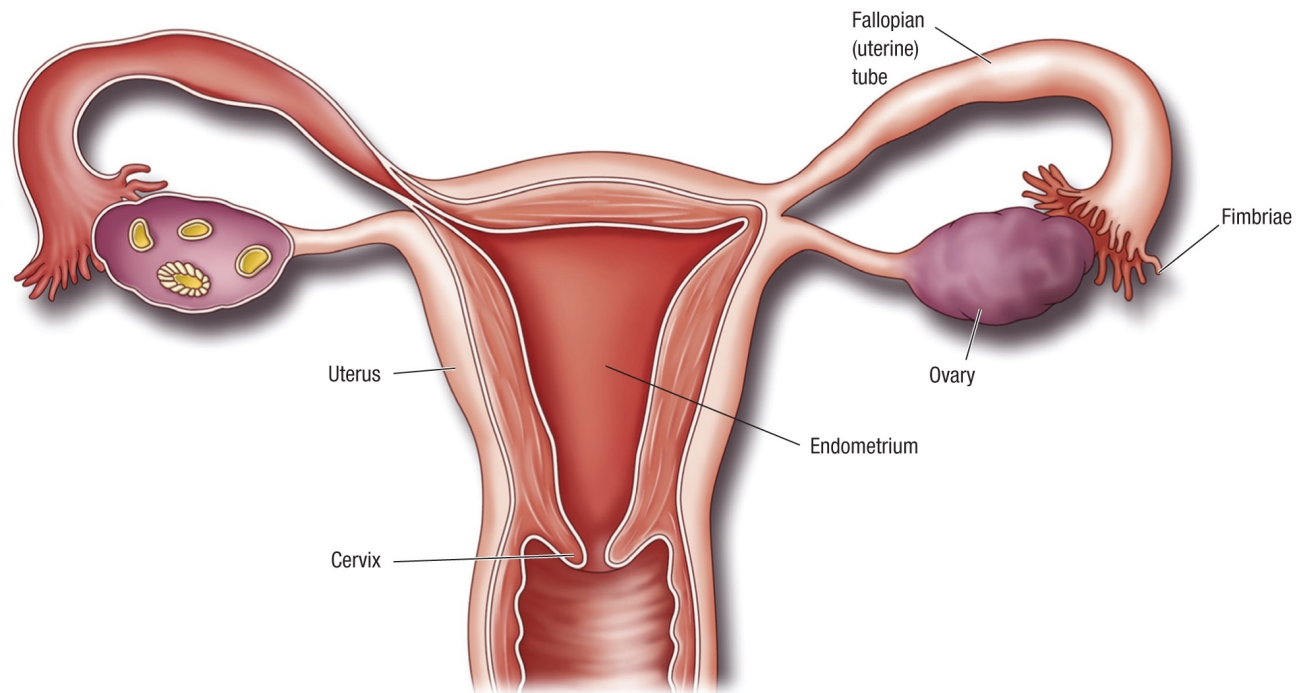
Endometriosis

Fibroid tumors

Uterine cancer

# Disorders of the Uterus

**Cervical cancer** Growth of malignant cells in the lining of the cervix, caused by infection with some variety of the human papilloma virus.



# Disorders of the Uterus

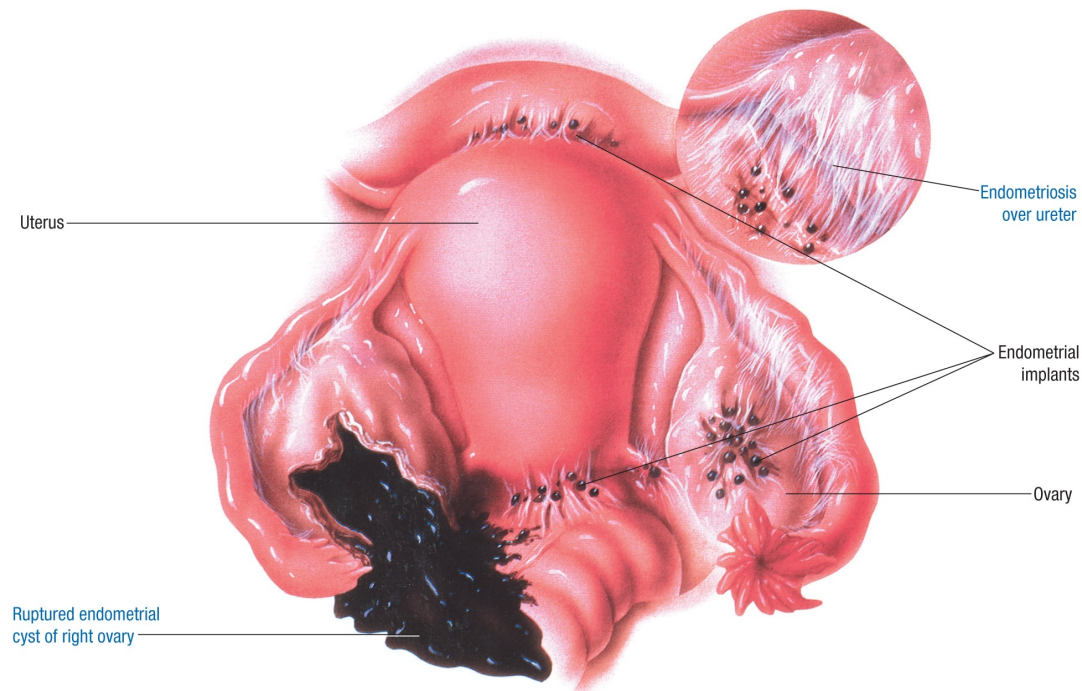
**Dysmenorrhea** Menstrual pain that is severe enough to limit the activities of people of child-bearing age. May include headaches, nausea, vomiting, diarrhea, constipation, and frequent need to urinate.





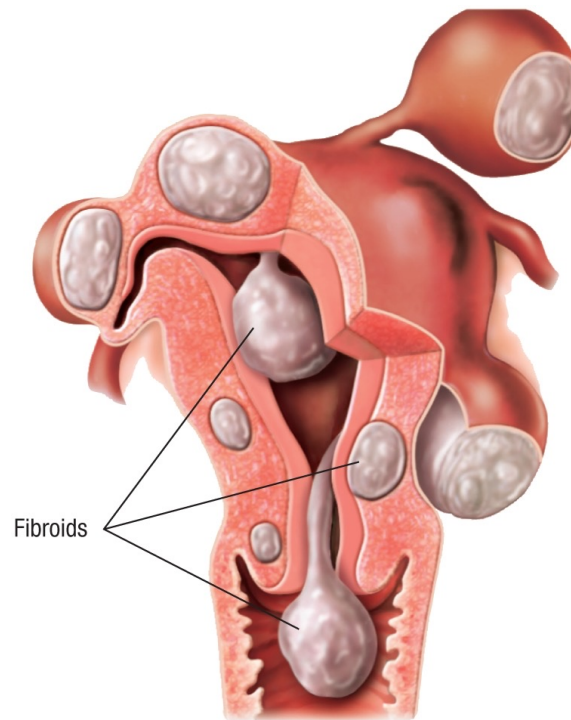
# Disorders of the Uterus

**Endometriosis** Implantation and growth of endometrial cells in the peritoneal cavity. These cells grow and then decay with the menstrual cycle. Symptoms may include heavy, painful, menstruation, and other problems.



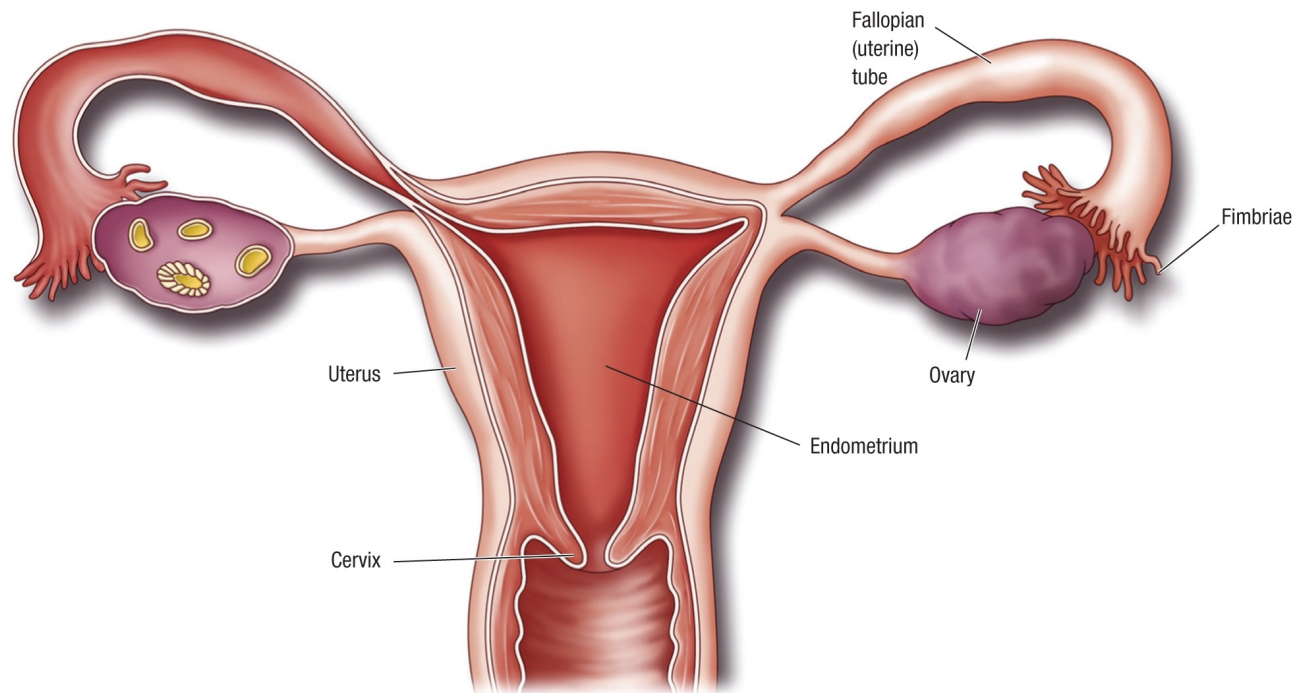
# Disorders of the Uterus

**Fibroid tumors** Benign growths in the muscles or connective tissue of the uterus. Often asymptomatic, but may cause heavy menstrual bleeding or put mechanical pressure on other structures in the pelvis.



# Disorders of the Uterus

**Uterine cancer** Cancerous cells in the endometrium or other tissues of the uterus.





# Disorders of Other Reproductive Structures

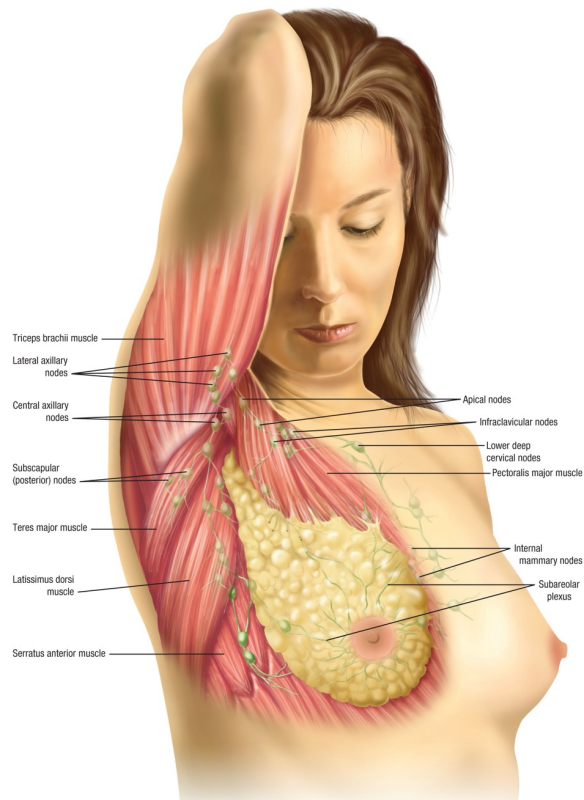
Breast cancer

Ovarian cancer

Ovarian cysts

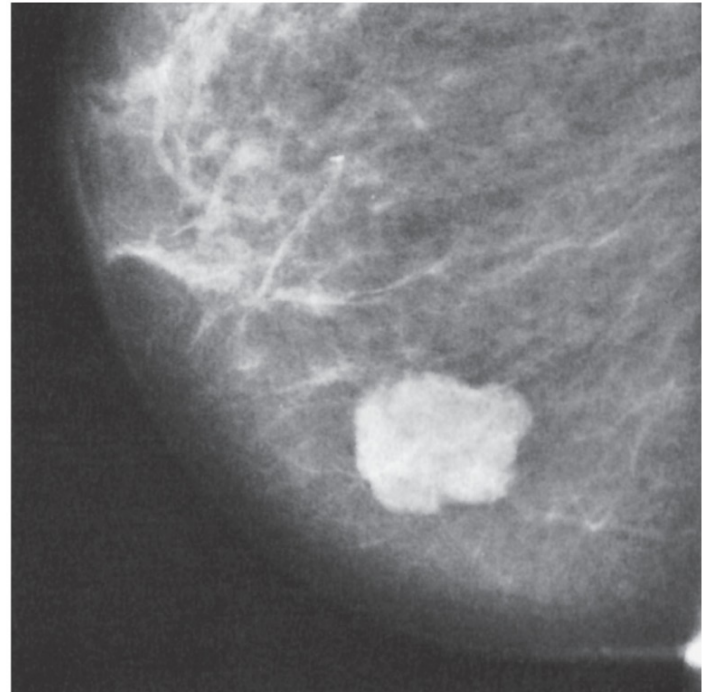
# Disorders of Other Reproductive Structures

**Breast cancer** Malignant tumor cells in breast tissue. Small, pain-less lump or thickening in the breast tissue or near the axilla.



## Disorders of Other Reproductive Structures

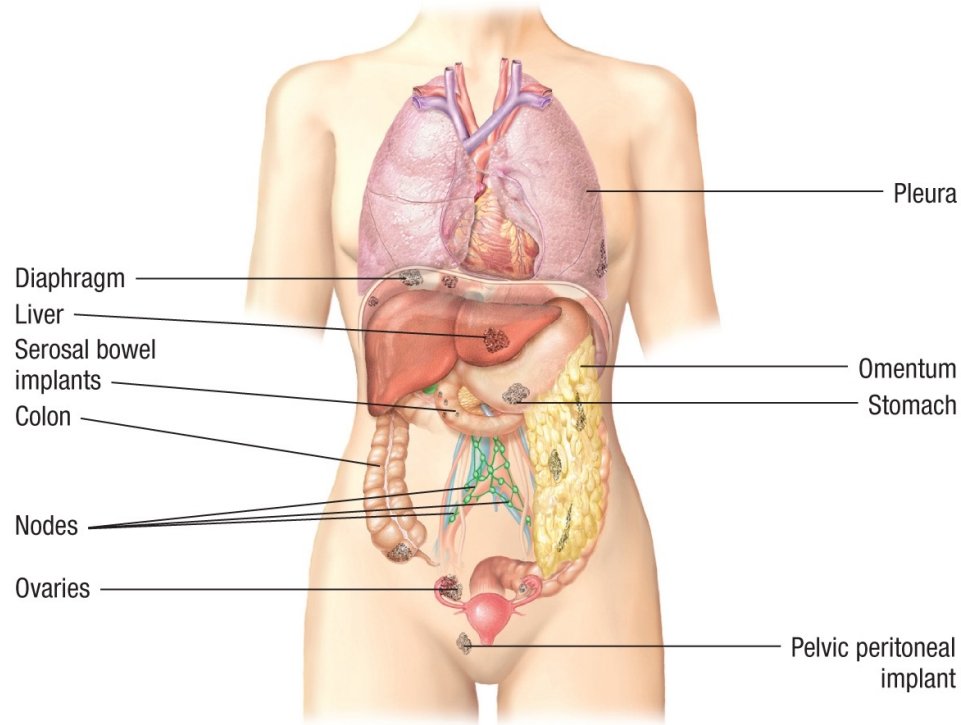
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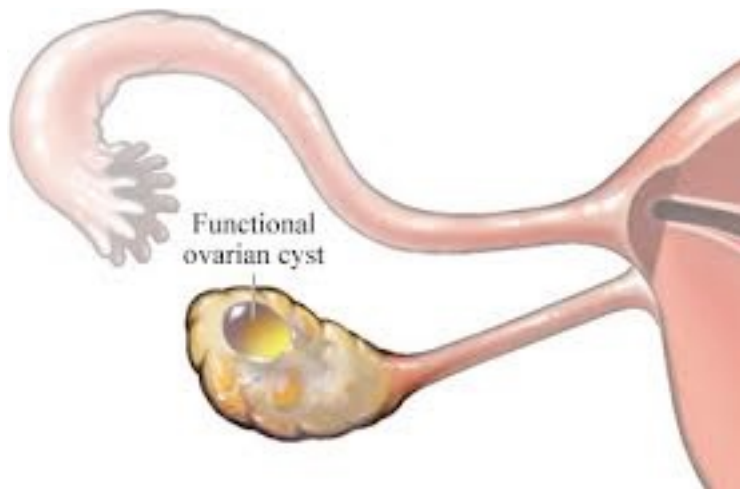
# Disorders of Other Reproductive Structures

**Ovarian cancer** Malignant tumors on the ovaries. Early symptoms are practically silent, and/or similar to those of perimenopause, thus often ignored.



## Disorders of Other Reproductive Structures

**Ovarian cysts** Fluid-filled growths on the ovaries, mostly benign. These may be asymptomatic, or cause pelvic pain or symptoms similar to early pregnancy.







# Disorders of the Reproductive System

Benign prostatic hyperplasia

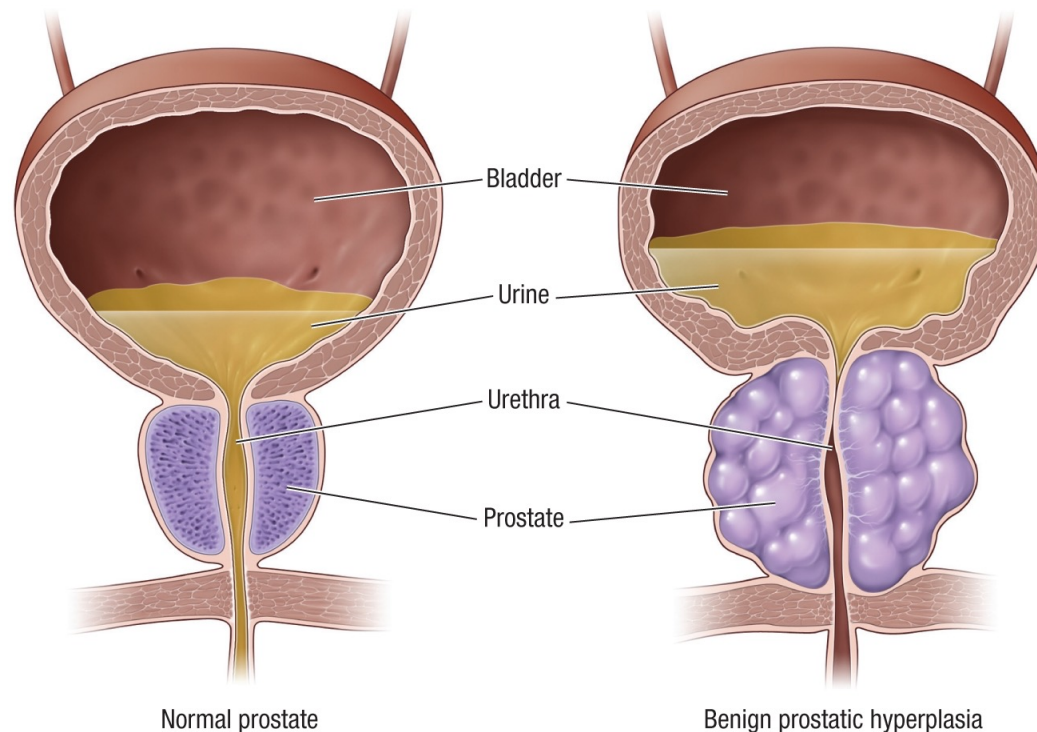
Prostate cancer

Prostatitis

Testicular cancer

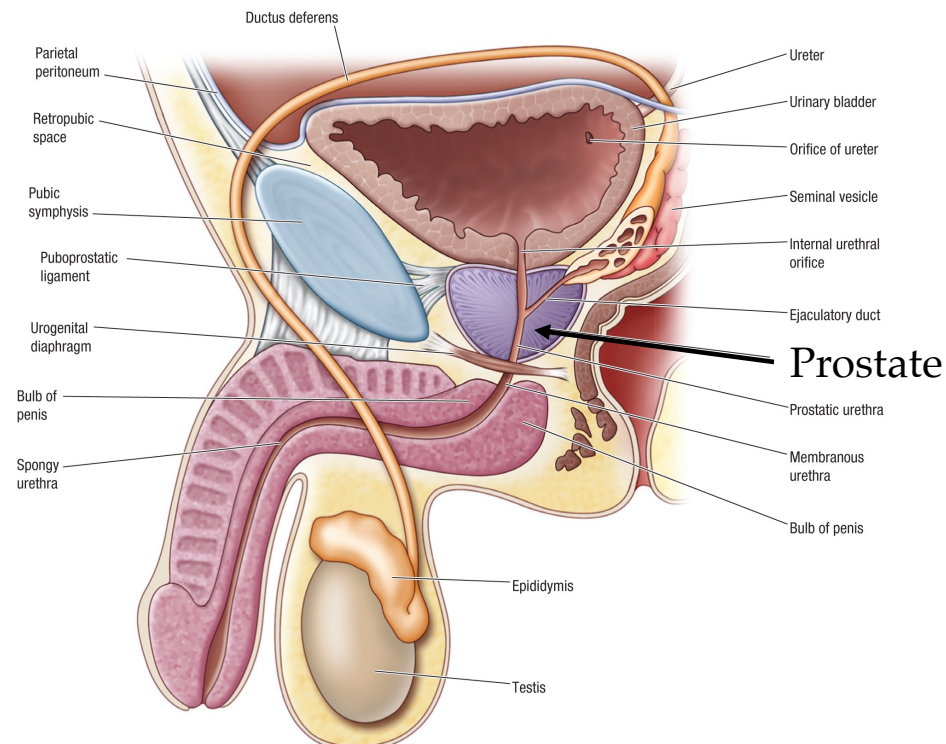
# Disorders of the Reproductive System

**Benign prostatic hyperplasia (AKA: BPH)** Prostate gland of a mature person begins to grow for the first time since the end of puberty, becoming enlarged. May be asymptomatic or involve problems with urination.



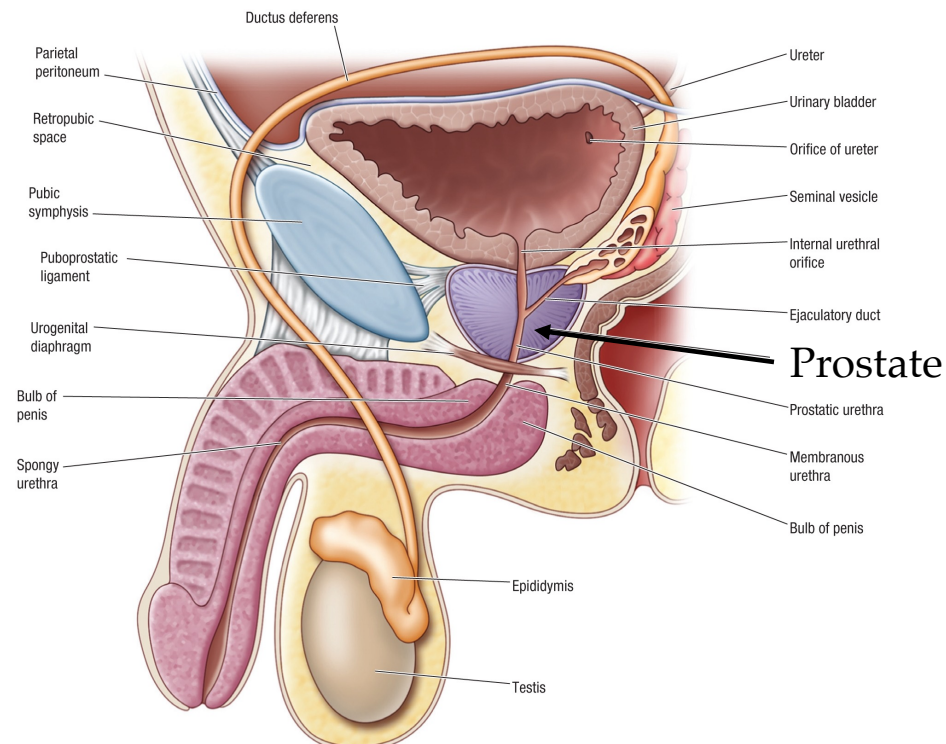
# Disorders of the Male Reproductive System

**Prostate cancer** Growth of malignant cells in the prostate gland. Symptoms are similar to those of BPH.



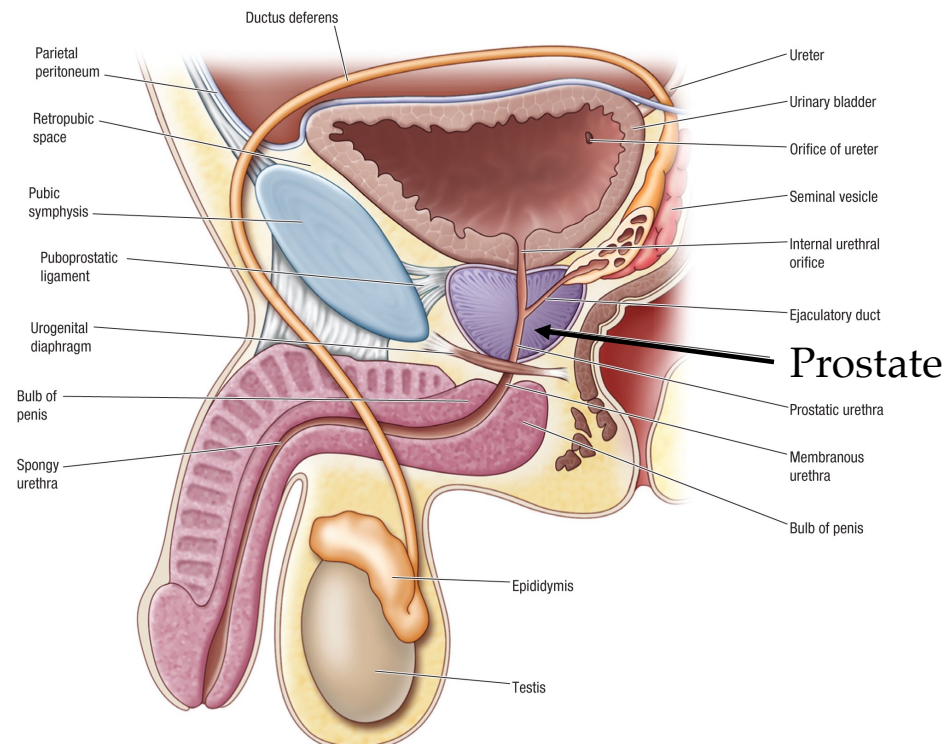
# Disorders of the Reproductive System

**Prostatitis** Inflammation or irritation of the prostate gland either from pathogenic or non-pathogenic causes. Symptoms may include fever, problems with urination, pain in the penis, testicles, perineum, and low back.



# Disorders of the Reproductive System

**Testicular cancer** Growth of malignant cells in the testicles. Early signs include a painless lump in the scrotum, a dull ache in the lower abdomen or groin, or enlarged and tender breasts.





# Other Reproductive System Conditions

Menopause

Pregnancy

Premenstrual syndrome

Sexually transmitted infections

## Other Reproductive System Conditions

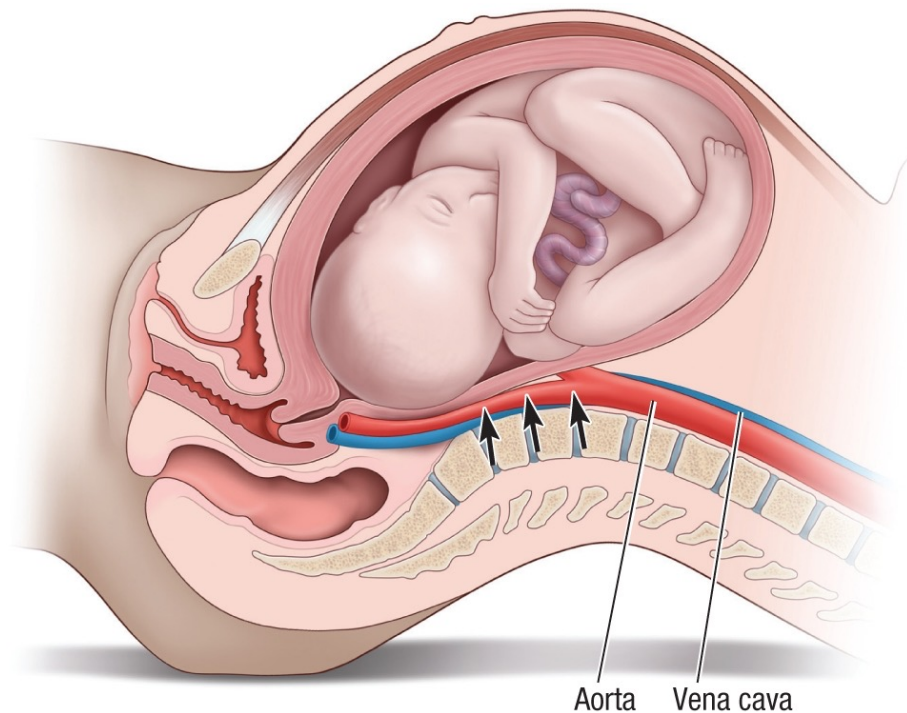
**Menopause** The moment when ovaries no longer respond to chemical signals to establish a reproductive cycle. Symptoms include night sweats, hot flashes, insomnia, and mood swings.





# Other Reproductive System Conditions

**Pregnancy** The state of carrying a fetus. Implications for massage include possible loose ligaments, fatigue, shifting proprioception, and depression.







## Other Reproductive System Conditions

**Premenstrual syndrome** Collection of many signs and symptoms that occur in the time between ovulation and menstruation. Symptoms may include breast tenderness, bloating, digestive upset, irritability, anxiety, depression, and mood swings.



## Other Reproductive System Conditions

**Sexually transmitted infections** Contagious conditions that are spread through intimate contact. Symptoms may include penile or vaginal discharge, painful urination, and painful intercourse.



## Special Populations: HIV and AIDS

K-19



## HIV / AIDS

Infection with human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) is a pandemic that has affected millions of people globally.

Although major research and clinical initiatives are addressing prevention and cure strategies, issues of quality of life for survivors have received less attention.

Massage therapy is proposed to have a positive effect on quality of life and may also have a positive effect on immune function through stress mediation.



## HIV / AIDS explained

HIV is a retrovirus that attacks the body's immune system. This virus attacks white blood cells.

As the virus takes over white blood cells, immunity weakens.

A normal white blood cell count within the body ranges from 4,500 to 11,000 white blood cells per microliter of blood; however, this number begins dropping significantly upon HIV's manifestation within the body.



## HIV / AIDS explained

AIDS is the final stage of HIV progression. At this point, one's white blood cell count will drop below 200 white blood cells per microliter of blood.

The body's immune system has weakened to a point in which a simple pathogen a healthy individual can easily fend off can likely kill an AIDS patient.

An important note to mention is that other conditions such as anemia, autoimmune disease and cancer can also create a significant decline in white blood cells within the blood stream.



## HIV / AIDS transmission

The top method of transmitting this virus is unprotected sex.

Other methods of transmission include passing the infection from pregnant people to fetus; contaminated needles; blood transfusions; or direct contact with open, bleeding lesions present on both parties.

Epithelial linings on both parties must have damage upon them for virus to spread.



## HIV / AIDS Antiretroviral Syndrome

Upon initial exposure, a patient acquiring HIV may suffer from ARS, “Antiretroviral Syndrome,” within two to four weeks.

Patients commonly describe this as “the worst flu ever,” as the body is trying to combat the HIV infection.

Common symptoms include high-grade fever, swollen glands, sore throat, rash, fatigue, headaches and muscle pain.

Common Antiretroviral Treatment (ART) options can limit the effects of HIV within the body. These treatments can extend the life span of HIV patients.





## HIV / AIDS ART treatments

The first ART treatments were conducted in 1994. Since then, an HIV patient can have the same life expectancy as the non-HIV population.

Today there are 25 FDA-approved ART treatment medications. Common side effects include nausea, vomiting, headaches, bowel issues, muscle atrophy, neuropathy, digestive issues and joint pain.

“Individuals living with HIV and AIDS have many obstacles to overcome beyond their physical challenges,” said Jennifer Sanders, a Polarity Therapy practitioner in Tempe, Arizona. “They live with a disease that carries an intense stigma nourished by fear, leading to increased levels of isolation and depression.”



## HIV / AIDS Statistics

How many people receive an HIV diagnosis each year in the United States and 6 dependent areas- American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, the Republic of Palau, and the US Virgin Islands?



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In 2018, 37,968 people received an HIV diagnosis in the United States and dependent areas. The annual number of new diagnoses decreased 7% from 2014 to 2018.



## HIV / AIDS Statistics

How many people have HIV in the United States?



## HIV / AIDS Statistics

How many people have HIV in the United States?

An estimated 1.2 million people in the United States and 6 dependant areas had HIV at the end of 2018, the most recent year for which this information is available. Of those people, about 14%, or 1 in 7, did not know they had HIV.



## HIV / AIDS

Today, as society moves past archaic myths and misconceptions, greater gains are made in the HIV / AIDS community in terms of research, treatments and longevity for HIV / AIDS patients. This includes the area of massage therapy.



## Touch for HIV / AIDS patients

There are important considerations for the HIV / AIDS patient. Ensure you conduct a thorough client history, as the condition of this client can change easily and frequently. There may be a need to reschedule appointments often.

Refrain from using direct pressure upon areas presenting with open lesions and inflammation. Keeping nails short will be imperative to not transfer pathogens or scratch the epithelial skin lining.



## Touch for HIV / AIDS patients

The usage of gloves may or may not be appropriate for the HIV / AIDS patient. Many therapists insist on using gloves for fear of spreading an infectious agent during session. This practice creates a barrier both physically and mentally for the patient.

The level of trust and comfort can decrease as fear enters the room, taking away from the healing nature of the session. It is not recommended to use gloves in session unless there are open lesions present upon either client or therapist. This is a standard used for any client, not merely the HIV / AIDS patient.





## Benefits of Massage for HIV / AIDS Patients

Among the goals that can be achieved for the HIV / AIDS patient include facilitating the removal of excess phlegm to relieve respiratory congestion, increasing blood and lymph flow to assist in metabolic waste removal and blood cell regeneration, preventing muscular atrophy due to inactivity, reducing postsurgical scar tissue and boosting the immune system.

Consider how taxing the massage may potentially be for the client. A lighter relaxing touch may be necessary for patients suffering the ill effects of chronic stress and anxiety.

Relieving pain may become a major component of each session; yet remember that deeper modalities can tax the body's systems, taking the patient days to recover.



## Additional info about PrEP

The following information may not be included in your packet.



## PrEP (Pre-exposure prophylaxis)

Visit: <https://prepfacts.org> for more information!

It is a new HIV prevention approach where HIV-negative individuals use anti-HIV medications to reduce their risk of becoming infected if they are exposed to the virus. It is an additional tool for people to consider in the HIV prevention toolbox.

Pre= before

Exposure= coming into contact with HIV

Prophylaxis= treatment to prevent an infection from happening

The medications work to prevent HIV from establishing infection inside the body.

It does not protect against other sexually transmitted infections (STI) or pregnancy. It is not a cure for HIV.



## PrEP (Pre-exposure prophylaxis)

Medications approved for PrEP: Truvada (also called FTC/TDF)

Approved by US FDA in 2012. This medication is taken as a once-daily oral pill, which combines two medicines in one: Emtriva (also called emtricitabine or FTC) and Viread (also called tenofovir disoproxil fumarate or TDF).

Truvada works by blocking an enzyme called HIV reverse transcriptase. By blocking this enzyme, it prevents HIV from making more copies of itself in the body.

There are 4 other medications currently being studied for PrEP!



# PrEP (Pre-exposure prophylaxis) Effectiveness

PrEP is highly effective for preventing HIV.

PrEP reaches maximum protection from HIV between 7 and 21 days of daily use. PrEP reduces the risk of getting HIV from sex by about 99% when taken as prescribed.

Although there is less information about how effective PrEP is among people who inject drugs, we do know that PrEP reduces the risk of getting HIV by at least 74% when taken as prescribed.

PrEP is much less effective when it is not taken as prescribed.



## PrEP (Pre-exposure prophylaxis) Side Effects

It is generally safe, but like all medication, it can have side effects in some people. A recent review looked at over 10,000 people who took the medication as PrEP. Their results were compared to over 7,000 people who took a placebo.

Some of the side effects are usually experienced during the first few weeks of taking the drug only. These include nausea, tiredness, gastrointestinal symptoms, and headache. Nausea, vomiting, and other GI problems were reported by 3.8% who took PrEP and by 2.6% who took the placebo.

Occasionally, it can affect the kidneys or bone. Kidneys problems occurred in 2.4% who took PrEP and by 2.0% who took the placebo. A broken bone was reported by 1.7% who took PrEP and by 2=1.8% who took the placebo.

The figures show that only a small number of people taking PrEP had problems and the fact that the people taking a placebo also reported problems shows that not all of them were true side effects of Truvada as PrEP.



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