

# Gynecological Disorder

## Gynecological Disorder

A gynecological disorder is a condition which affects the female reproduction organs, namely the breasts and organs in the abdominal and pelvic area including uterus, prolapse of the genital tract, benign or malignant genital tract, menstrual disorder, infertility.

### Symptoms of pelvic organ prolapse

1. a feeling of heaviness around the lower tummy and genitals
2. a dragging discomfort inside the vagina
3. feeling like there's something coming down into the vagina – it may feel like sitting on a small ball
4. feeling or seeing a bulge or lump in or coming out of the vagina
5. discomfort or numbness during sex
6. problems peeing – such as feeling like the bladder is not emptying fully, needing to go to the toilet more often, or leaking a small amount of pee when cough, sneeze or exercise (stress incontinence).

**Genital prolapse:** The condition is most common in postmenopausal women who have had children, but can also occur in younger women and women who have not had children.

**occurs** when pelvic organs (uterus, bladder, rectum) slip down from their normal anatomical position and either protrude into the vagina or press against the wall of the vagina. The pelvic organs are usually supported by ligaments and the muscles, connective tissue and fascia which are collectively known as the pelvic floor. Weakening of or damage to these support structures allows the pelvic organs to slip down.

Prolapses are graded according to their severity; first, second or third degree prolapse.

**Uterine prolapse:** A uterine prolapse involves the descent of the uterus and cervix down the vaginal canal due to weak or damaged pelvic support structures.

Symptoms of a prolapsed uterus include:

- A feeling of fullness or pressure in your pelvis (it may feel like sitting on a small ball)
- Low back pain
- Feeling that something is coming out of your vagina
- Uterine tissue that bulges out of your vagina
- Painful sexual intercourse
- Difficulty with urination or moving your bowels
- Discomfort walking

## **Prolapsed Uterus Causes and Risk Factors**

It can happen as a result of:

- Pregnancy/childbirths with normal or complicated delivery through the vagina
  - Weakness in the pelvic muscles with advancing age
  - Weakening and loss of tissue tone after menopause and loss of natural estrogen
  - Conditions leading to increased pressure in the abdomen such as chronic cough (with bronchitis and asthma), straining (with constipation), pelvic tumors (rare), or an accumulation of fluid in the abdomen
  - Being overweight or obese with its additional strain on pelvic muscles
  - Major surgery in the pelvic area leading to loss of external support
- 
- Excess weight lifting
  - Being white
  - Family history

## **Diagnosis**

health care provider can diagnose uterine prolapse with a medical history and physical examination of the pelvis.

The doctor need to examine in standing position and while are lying down and ask to cough or strain to increase the pressure in abdomen.

- Specific conditions, such as ureteral obstruction due to complete prolapse, may need an intravenous pyelogram (IVP) or renal sonography. Dye is injected into your vein, and a series of X-rays are taken to view its progress through bladder.
- Ultrasound may be used to rule out other pelvic problems. In this test, a wand is passed over abdomen or inserted into vagina to create images with sound waves.
- Pelvic magnetic resonance imaging (MRI) is sometimes done if have more than one prolapsed organ or to help plan surgery.

## **Prolapsed Uterus Treatment**

Treatment depends on how weak the supporting structures around your uterus have become.

### **Self-care at home**

can strengthen pelvic muscles by performing Kegel exercises. do these by tightening pelvic muscles, as if trying to stop the flow of urine. This exercise strengthens the pelvic diaphragm and provides some support.

### **Medications**

Estrogen (a hormone) cream or suppository ovules or rings inserted into the vagina help in restoring the strength and vitality of tissues in the vagina. But estrogen is only for use in select postmenopausal women.

### **surgery**

Depending on age and whether wish to become pregnant, surgery can repair the uterus or remove it. When indicated, and in severe cases, uterus can be removed with a hysterectomy. During the surgery, the surgeon can also correct the sagging of the vaginal walls, urethra, bladder, or rectum. The surgery may be performed by an open abdominal procedure, through the vagina, or through small incisions in the abdomen or vagina with specialized instruments.

If do not want surgery or are a poor candidate for surgery, may decide to wear a supportive device, called a pessary, in vaginal canal to support the falling uterus. It can use this temporarily or permanently. They come in various shapes and sizes and must be fitted to you. If prolapse is severe, a pessary may not work. Also, pessaries can be irritating inside vagina and may cause a foul-smelling discharge.

### **Follow-up**

Follow-up depends on how condition was treated.

- If had surgery, need to follow up according to surgeon's advice.
- If have a pessary inserted in vagina, it needs to be cleaned and checked by your health care provider for the correct position and fit at regular intervals unless you are instructed on how to remove it and clean it yourself at home.
- If have been told to do Kegel exercises, should have a regular follow-up visit so that your health care provider can check the progress of muscle strength.

**Cystocele:** A cystocele occurs when the tissues supporting the wall between the bladder and vagina weaken, allowing a portion of the bladder to descend and press into the wall of the vagina.

**signs and symptoms** of prolapsed bladder include:

- Pressure in the vaginal region
- Tissue protruding out of the vagina
- Pain in the vagina, lower back, abdomen or pelvic region
- Frequent urination or the urge to urinate
- Urinary incontinence or losing more urine than desired
- Difficulty using tampons
- Regular urinary tract infections
- No feeling of relief immediately after urination
- Pelvic pressure that worsens with standing, lifting or coughing
- Sexual intercourse might be painful

The primary **cause** of prolapsed bladder is childbirth.

- Obesity
- Heavy lifting
- Previous pelvic surgery
- Constipation
- Aging
- Menopause
- chronic coughing (or other lung problems)
- Excessive straining during bowel movements

### **Risk Factors**

Other common risk factors for prolapsed bladder are:

- Aging
- Family history
- Previous pelvic surgery

## Diagnosis

- physical and pelvic exam.
- review symptoms, and family and medical history
- Cystourethrogram: This test is also referred to as a voiding cystogram. A Cystourethrogram is an X-ray of the bladder taken while a patient is urinating. The patient's bladder is usually filled with contrast dye to show the form of the bladder and reveal any obstructions.
- Magnetic Resonance Imaging (MRI): An MRI can help determine the scope of the condition.
- Cystoscopy: This is a test that allows doctor to inspect the lining of bladder and the urethra, the tubular conduit that releases urine out of body.
- Urodynamics: This test demonstrates how well bladder is working and if there are any leaks or obstructions.
- Ultrasound: An ultrasound scan uses sound waves to capture images of bladder.

## Treatment

Treatment for cystocele depends on the severity or grade of the prolapsed bladder. doctor will customize bladder prolapse treatment to particular medical history, family history, age, risk factors and condition.

Cystocele treatment may include:

- Lifestyle changes: doctor may recommend that avoid or eliminate certain activities that could make your condition worse. Activities might want to avoid are lifting heavy objects or excessive straining during bowel movements.
- Kegel exercises: These are daily pelvic muscle exercises.
- Pessary: This is a medical device positioned in the vagina to stabilize the bladder.
- Bladder Prolapse Surgery: Surgery can reposition the bladder. doctor may insert a sling to hold bladder in place.
- Hormone replacement therapy: to strengthen the muscles throughout the vagina and bladder.

## Common cystocele complications are:

- Regular urinary tract infections
  - Discomfort or pain during sexual intercourse
  - You may experience incontinence
  - Urine may leak from your vagina
  - Cystocele may reoccur over time
  - A cystocele sling may wear away with time and need to be removed
- Injury to bladder

**Urethrocele:** A urethrocele occurs when the urethra (tube leading from the bladder to the outside of the body) descends and presses into the wall of the vagina. A urethrocele rarely occurs alone, instead usually accompanying a cystocele. The term cystourethrocele is used to refer to the prolapse of both part of the bladder and the urethra.

**Cause:**

The urethrocele is held in place by a thick layer of muscle fibers and soft tissue, called the pelvic floor. However, certain situations may cause the pelvic floor muscles and tissues to lose their natural strength, causing them to stretch and become unable to hold the urethra (other structures of the female organ) in their original place. Once this occurs, the urethra, which is shaped like a tube, will widen and form a curve, until it starts to press into the vaginal wall.

**risk factors:**

- Age - Age also plays a role in this process, as the muscles also naturally weaken as a woman ages.
- Congenital defects - There are some rare cases in which young women who have never had any children suffer from this weakening of the pelvic muscles, as well as some cases wherein a urethral prolapse may already be present even at birth. Both cases are caused by congenital defects in the pelvic floor.
- Obesity
- Repetitive activities causing pressure to the pelvic floor, such as lifting heavy objects frequently
- Health conditions that cause repetitive strain on the pelvic muscles, such as chronic cough or chronic constipation
- Hysterectomy (surgery to remove the uterus)

**treatment involves:**

- **Kegel exercises** – Doing Kegel exercises is an effective way to strengthen the pelvic floor muscles, and this can help improve the patient's condition and reduce symptoms. To do Kegel exercises, simply contract and release the pelvic muscles repeatedly. These are the same muscles that control the flow of urine.
- **Surgery** – In some severe cases, urethrocele may be treated with surgery, in which the supporting structure surrounding the urethra is repaired.

**Rectocele:** A rectocele occurs when the tissues supporting the wall between the vagina and rectum weaken allowing the rectum to descend and press into the wall of the vagina.

**Symptoms**

mild cases of rectocele, the individual may notice Trusted Source pressure within the vagina, or they may feel that their bowels are not completely empty after using the bathroom.

In moderate cases, an attempt to evacuate can push the stool into the rectocele rather than out through the anus.

There may be pain and discomfort during evacuation. There is a higher chance of having constipation, and there may be pain during sexual intercourse. Some say it feels as if “something is falling out” or down within the pelvis. In severe cases, there may be fecal incontinence, and sometimes the bulge may prolapse through the mouth (opening) of the vagina, or through the anus

### **Causes**

weakening of the pelvic support structures and of the rectovaginal septum, the layer of tissue that separates the vagina from the rectum.

The following are risk factors:

- a drop in estrogen levels at menopause, making pelvic tissues less elastic
- a hysterectomy or other pelvic surgery
- chronic constipation
- long-term coughing, such as in chronic bronchitis
- sexual abuse during childhood
- being obese or overweight
- regularly lifting heavy objects

### **Diagnosis:**

a diagnosis after examining the vagina and rectum. An imaging study can then determine the size of the rectocele.

The individual’s account of how the rectocele impacts their life may help to assess the degree of prolapse.

If a doctor finds something unusual during a physical examination, they may recommend an imaging test, such as MRI or X-ray, to check for possible causes of the problem.

X-ray study that helps the doctor determine the size of the rectocele and how well the patient is evacuating.

### **Treatment**

Depending on how severe the rectocele is, a doctor may suggest home remedies, medication, or, in some cases, surgery.

**Enterocyte:** An enterocyte is similar to a rectocele, but instead involves the Pouch of Douglas (area between the uterus and the rectum) descending and pressing into the wall of the vagina.

**Vaginal vault prolapses:** A vaginal vault prolapse occurs when the top of the vagina descends in women who have had a hysterectomy.

## **causes vaginal prolapse**

Several common causes of a vaginal prolapse can include:

- **Childbirth:** Vaginal delivery raises the risk of prolapse more than a cesarean section (when the baby is delivered through a surgical opening in the wall of the abdomen). It's also thought that the more children a woman delivers, as well as the delivery of a large baby (more than 9 pounds), will raise the risk of prolapse.
- **Surgery:** A procedure like a hysterectomy, or radiation treatment in the pelvic area, could cause a prolapse.
- **Menopause:** During menopause, ovaries stop producing hormones that regulate monthly menstrual cycle (period). The hormone estrogen is particularly important because it helps keep your pelvic muscles strong. When body doesn't make as much estrogen as before, those pelvic muscles can become weak and a prolapse can develop.
- **Aging:** As grow older, you are at a higher risk of forming a prolapse.
- **Extreme physical activity or lifting of heavy objects:** Strain from activity can also weaken your pelvic muscles and allow your organs to sag out of position.
- **Genetic or hereditary factors:** pelvic support system could naturally be weaker than typical. This can be passed down throughout your family.

## **symptoms of vaginal prolapse**

- A feeling of fullness, heaviness or pain in the pelvic area.
- Lower back pain.
- Bulging in the vagina.
- Organs slipping out of the vagina.
- Leakage of urine (urinary incontinence).
- Bladder infections.
- Difficulty having a bowel movement.
- Problems with sexual intercourse.
- Problems inserting tampons.

## **Benign & Malignant disorders**

**Breast cancer:** is the most common invasive cancer in females. is a disease in which cells in the breast grow out of control. There are different kinds of breast cancer. The kind of breast cancer depends on which cells in the breast turn into cancer. Breast cancer can begin in different parts of the breast. A breast is made up of three main parts: lobules, ducts, and connective tissue.

### **Symptoms**

- armpit or breast pain does not change with the monthly cycle
- pitting, like the surface of an orange, or color changes such as redness in the skin of the breast
- a rash around or on one nipple

- discharge from a nipple, which may contain blood
- a sunken or inverted nipple
- a change in the size or shape of the breast
- peeling, flaking, or scaling of the skin of the breast or nipple

### Causes

After puberty, a female's breasts are made up of fat, connective tissue, and thousands of lobules. These are tiny glands that can produce milk. Tiny tubes, or ducts, carry the milk toward the nipple.

Breast cancer develops as a result of genetic mutations or damage to DNA. These can be associated with Trusted Source exposure to estrogen, inherited genetic defects, or inherited genes that can cause cancer, such as the *BRCA1* and *BRCA2* genes.

When a person is healthy, their immune system attacks any abnormal DNA or growths. When a person has cancer, this does not happen.

As a result, cells within breast tissue begin to multiply uncontrollably, and they do not die as usual. This excessive cell growth forms a tumor that deprives surrounding cells of nutrients and energy.

Breast cancer usually starts in the inner lining of the milk ducts or the lobules that supply them with milk. From there, it can spread to other parts of the body.

### Stages are:

- **Stage 0:** This is also called ductal carcinoma in situ. The cancerous cells are only within the ducts and have not spread to surrounding tissues.
- **Stage 1:** At this stage, the tumor measures up to 2 centimeters (cm) across. It has not affected any lymph nodes, or there are small groups of cancer cells in lymph nodes.
- **Stage 2:** The tumor is 2 cm across and has started to spread to nearby nodes, or it is 2–5 cm across and has not spread to the lymph nodes.
- **Stage 3:** The tumor is up to 5 cm across and has spread to several lymph nodes, or the tumor is larger than 5 cm and has spread to a few lymph nodes.
- **Stage 4:** The cancer has spread to distant organs, most often the bones, liver, brain, or lungs.



## **Imaging tests**

**Mammogram:** This is a type of X-ray that doctors commonly use Trusted Source during initial breast cancer screening. It produces images that can show lumps or abnormalities. If there is any sign of a potential problem, the doctor usually conducts further testing.

**Ultrasound:** This scan uses sound waves to help a doctor differentiate between a solid mass and a fluid-filled cyst.

**MRI:** This combines different images of the breast to help a doctor identify cancer or other abnormalities. A doctor may recommend Trusted Source an MRI as a follow-up to a mammogram or ultrasound. Doctors may also use MRIs to screen people with a higher risk of breast cancer.

## **Biopsy**

This involves Trusted Source extracting a sample of tissue and sending it to a laboratory for analysis.

The results show whether the cells are cancerous, and if they are, which type of cancer has developed. The results can even show whether the cancer is hormone-sensitive.

The doctor then stages the cancer to establish:

- the size of a tumor
- how far it has spread
- whether it is invasive

## **Treatment**

The most effective approach depends on several factors, including:

- the type and stage of the cancer
- the sensitivity to hormones
- the person's age, overall health, and preferences

The main treatment options include Trusted Source:

- radiation therapy
- surgery
- biological therapy, or targeted drug therapy
- hormone therapy
- chemotherapy

## **Surgery**

If surgery is necessary, the type depends on the diagnosis and the person's preferences. Types of surgery Source:

**Lumpectomy:** This involves removing the tumor and a small amount of healthy tissue around it.

A lumpectomy can help prevent the spread of cancer. This may be an option if the tumor is small and easy to separate from surrounding tissue.

**Mastectomy:** A simple mastectomy involves removing the breast's lobules, ducts, fatty tissue, nipple, areola, and some skin. In some types, a surgeon also removes the lymph nodes and muscle in the chest wall.

**Sentinel node biopsy:** If breast cancer reaches the sentinel lymph nodes, the first nodes to which it can spread, it can travel to other parts of the body through the lymphatic system. If the doctor does not find cancer in the sentinel nodes, it is usually not necessary to remove other nodes.

**Axillary lymph node dissection:** If a doctor finds cancer cells in the sentinel nodes, they may recommend removing several lymph nodes in the armpit. This can prevent cancer from spreading.

**Reconstruction:** Following a mastectomy, a surgeon can reconstruct the breast so that it looks more natural. This can help a person cope with the psychological effects of breast removal.

The surgeon can reconstruct the breast during the mastectomy or at a later date. They may use a breast implant or tissue from another part of the body.

## **Radiation therapy**

A person may undergo radiation therapy around 1 month Trusted Source after surgery. It involves targeting the tumor with controlled doses of radiation that kill any remaining cancer cells.

## **Chemotherapy**

A doctor may prescribe cytotoxic chemotherapy drugs to kill cancer cells if there is a high risk Trusted Source of recurrence or spread. When a person has chemotherapy after surgery, doctors call it adjuvant chemotherapy.

Sometimes, a doctor may recommend chemotherapy before surgery to shrink the tumor and make it easier to remove. This is called neoadjuvant chemotherapy.

### **Breast cancer screening**

Expert guidelines about how often to have breast cancer screenings differ.

The American College of Physicians recommends that women aged 40–49 years with an average risk of breast cancer discuss the benefits and risks of regular screenings with a doctor.

Women aged 50–74 who have an average risk, the guidelines say, should have screenings every 2 years. Women aged 75 or older should continue with screenings if their life expectancy is 10 or more years.

The ACS suggests that women with an average risk should be able to choose whether to have yearly scans from the age of 40Trusted Source onward. Regular annual screening should start at the age of 45, and at the age of 55, a woman should be able to decide whether to start screening every other year, these guidelines state.

The American College of Radiologists recommend screenings every year, starting from 40 years of age.

Despite the variations, most experts recommend at least speaking with a doctor about breast cancer screening from the age of 40 onward.

**Cervical cancer** is a type of cancer that occurs in the cells of the cervix — the lower part of the uterus that connects to the vagina. Various strains of the human papillomavirus (HPV), a sexually transmitted infection, play a role in causing most cervical cancer.

When exposed to HPV, the body's immune system typically prevents the virus from doing harm. In a small percentage of people, the virus survives for years, contributing to the process that causes some cervical cells to become cancer cells.

### **Signs and symptoms of cervical cancer include:**

1. Vaginal bleeding after intercourse, between periods or after menopause
2. Watery, bloody vaginal discharge
3. Pelvic pain
4. pain during intercourse

### **Risk factors for cervical cancer include:**

1. Many sexual partners.
2. Early sexual activity.
3. Other sexually transmitted infections (STIs).
4. A weakened immune system.
5. Smoking.
6. Exposure to miscarriage prevention drug.

## **Prevention.**

### **To reduce risks of cervical cancer:**

- **Pap tests.** Pap tests can detect precancerous conditions of the cervix, so they can be monitored or treated in order to prevent cervical cancer.
- **Practice safe sex.** Reduce risk of cervical cancer by taking measures to prevent sexually transmitted infections, such as using a condom every time have sex .
- **Don't smoke.**

**Management:** the abnormal cells or lesions detected during screening tests, treatment is needed to excise them. It includes cryotherapy (destroying abnormal tissue on the cervix by freezing it) or Loop electrosurgical excision procedure (LEEP) when the patient is not eligible for cryotherapy.

**The treatment of cervical cancer varies with the stage of the disease.**

- For early invasive cancer, surgery is advised.
- In more advanced cases, radiation combined with chemotherapy and in patients with disseminated disease, chemotherapy or radiation provides palliative management of symptoms.
- Palliative care is given to help people with advanced disease to have dignity and peace during difficult and final phases of life.

## **Uterine fibroids**

Uterine fibroids are noncancerous growths of the uterus that often appear during childbearing years. Also called leiomyomas or myomas, uterine fibroids aren't associated with an increased risk of uterine cancer and almost never develop into cancer.

### **The most common signs and symptoms of uterine fibroids include:**

1. Heavy menstrual bleeding
2. Menstrual periods lasting more than a week
3. Pelvic pressure or pain
4. Frequent urination
5. Difficulty emptying the bladder
6. Constipation
7. Backache or leg pains

## **Nursing Diagnosis**

- Acute pain related to postoperative wound as manifested by facial expression and pain scale score
- Imbalanced nutrition less than body requirements related to pain as manifested by decreased food intake.
- Impaired bowel elimination, constipation related to decreased activity, pain on straining
- Disturbed sleep pattern related to pain and hospitalization
- Risk for infection related to the surgery
- Low Self-Esteem related to changes in femininity as evidenced by Withdrawal, depression

**Ovarian dermoid cysts:** Ovarian cysts are fluid-filled sacs or pockets in an ovary or on its surface. ovarian cysts — especially those that have ruptured — can cause serious symptoms. To protect health, get pelvic exams and know the symptoms that can signal a potentially serious problem.

## Symptoms

1. Pelvic pain — a dull or sharp ache in the lower abdomen on the side of the cyst 2. Fullness or heaviness in your abdomen
3. Bloating

## Risk factors

1. Hormonal problems. 2. Endometriosis.
3. A severe pelvic infection. 4. A previous ovarian cyst.

**Menstrual disorder:** With each menstrual cycle, the endometrium (uterine lining) prepares itself to nourish a fetus. If fertilization doesn't occur, the body sheds the endometrium during the monthly cycle.

## Types of Menstrual Disorders

1. Premenstrual Syndrome (PMS) 2. Amenorrhea
3. Dysmenorrhea 4. Menorrhagia 5. Treatments

## Premenstrual Syndrome (PMS)

PMS is any unpleasant or uncomfortable symptom during your cycle that may temporarily disturb normal functioning. These symptoms may last from a few hours to many days, and the types and intensity of symptoms can vary in individuals.

## PMS Symptoms

1. Psychological symptoms (depression, anxiety, irritability) 2. Gastrointestinal symptoms (bloating)
3. Fluid retention (swelling of fingers, ankles and feet) 4. Skin problems (acne)
5. Headache 6. Vertigo
7. Fainting
8. Muscle spasms
9. Heart palpitations 10. Allergies
11. Infections
12. Vision problems 13. Eye infections
14. Decreased coordination
15. Diminished libido (sex drive) 16. Changes in appetite
17. Hot flashes

## **Amenorrhea**

Amenorrhea is characterized by absent menstrual periods for more than three monthly menstrual cycles.

### **Types of Amenorrhea**

1. Primary amenorrhea: Menstruation does not begin at puberty.
2. Secondary amenorrhea: Normal and regular menstrual periods that become increasingly abnormal and irregular or absent. This may be due to a physical cause typically of later onset.

Amenorrhea can occur for a number of reasons as part of the normal course of life, such as pregnancy, breastfeeding or menopause. Or, it may occur as a result of medications or a medical problem including:

1. Ovulation abnormality
2. Birth defect, anatomical abnormality or other medical condition
3. Eating disorder
4. Obesity
5. Excessive or strenuous exercise
6. Thyroid disorder

## **Dysmenorrhea**

Dysmenorrhea is characterized by severe and frequent menstrual cramps and pain associated with menstruation.

The cause of dysmenorrhea is dependent on if the condition is primary or secondary. With primary dysmenorrhea, women experience abnormal uterine contractions resulting from a chemical imbalance in the body. Secondary dysmenorrhea is caused by other medical conditions, most often endometriosis. Other possible causes may include:

1. pelvic inflammatory disease (PID)
2. uterine fibroids
3. abnormal pregnancy (i.e., miscarriage, ectopic)
4. infection, tumors, or polyps in the pelvic cavity

### **Dysmenorrhea Symptoms**

The most common symptoms may include:

- Cramping or pain in the lower abdomen
- Low back pain or pain radiating down the legs
- Nausea
- Vomiting
- Diarrhea
- Fatigue
- Weakness
- Fainting
- Headaches

**Menorrhagia:** is the most common type of abnormal uterine bleeding and is characterized by heavy and prolonged menstrual bleeding.

### **Menorrhagia Causes**

There are several possible causes of menorrhagia, including:

1. Hormonal imbalance
2. Pelvic inflammatory disease (PID)
3. Uterine fibroids
4. Abnormal pregnancy; i.e., miscarriage, ectopic (tubal pregnancy)
5. Infection, tumors or polyps in the pelvic cavity
6. Certain birth control devices; i.e., intrauterine devices (IUDs)
7. Bleeding or platelet disorders
8. High levels of prostaglandins (chemical substances used to control muscle contractions of the uterus)
9. High levels of endothelins (chemical substances used to dilate blood vessels)
10. Liver, kidney or thyroid disease

**Polymenorrhea:** Too frequent menstruation.

**Oligomenorrhea:** Infrequent or light menstrual cycles

**Metrorrhagia:** Any irregular, non-menstrual bleeding as in bleeding which occurs between menstrual periods

**Postmenopausal bleeding:** Any bleeding that occurs more than one year after the last normal menstrual period at menopause

**Infertility:** inability of couples to conceive a clinical pregnancy after 1 year or more of trying.

**There are 2 types of infertility:**

- **Primary infertility** refers to couples who have not become pregnant after at least 1 year having sex without using birth control methods.
- **Secondary infertility** refers to couples who have been able to get pregnant at least once, but now are unable.

### **Causes**

Many physical and emotional factors can cause infertility. It may be due to problems in the woman, man, or both.

**Female infertility may occur when:**

1. A fertilized egg or embryo does not survive once it attaches to the lining of the womb (uterus).
2. The fertilized egg does not attach to the lining of the uterus.
3. The eggs cannot move from the ovaries to the uterus.
4. The ovaries have problems producing eggs.

**Female infertility may be caused by:**

1. Autoimmune disorders, such as antiphospholipid syndrome (APS)
2. Birth defects that affect the reproductive tract

3. Cancer or tumor
4. Clotting disorders
5. Drinking too much alcohol
6. Eating disorders or poor nutrition
7. Growths (such as fibroids or polyps) in the uterus and cervix
8. Medicines such as chemotherapy drugs
9. Hormone imbalances
10. Being overweight or underweight
11. Older age
12. Ovarian cysts and polycystic ovary syndrome (PCOS)
13. Pelvic infection pelvic inflammatory disease (PID)
14. Thyroid disease

### **Male Infertility**



Male infertility may be due to:

1. Decreased number of sperm
2. Blockage that prevents the sperm from being released
3. Defects in the sperm

**Male infertility can be caused by:**

1. Birth defects
2. Cancer treatments, including chemotherapy and radiation
3. Exposure to high heat for prolonged periods
4. Heavy use of alcohol, marijuana, or cocaine
5. Hormone imbalance
6. Infection
7. Obesity
8. Older age
9. Retrograde ejaculation
10. Toxins in the environment

### **Fertility Treatments for Females**

- Clomiphene or Clomiphene Citrate
- Letrozole
- Gonadotropins or Human Chorionic Gonadotropin (hCG)
- Bromocriptine or Cabergoline

#### Clomiphene or Clomiphene Citrate

Clomiphene is a medication patients take by mouth (orally). It causes the body to make more of the hormones that cause the eggs to mature in the ovaries.<sup>2</sup> If a woman does not become pregnant after taking clomiphene for six menstrual cycles, a health care provider may prescribe other fertility treatments.

- Patients take clomiphene in the beginning of the menstrual cycle.
- Clomiphene causes ovulation to occur in 80% of women treated. About half of those who ovulate are able to achieve a pregnancy or live birth.<sup>2</sup>
- Use of clomiphene increases the risk of having a multiple pregnancy. There is a 10% chance of twins, but having triplets or more is rare—less than 1% of cases.<sup>2</sup>

#### Letrozole

Letrozole is an oral pill that decreases the amount of estrogen a woman makes, stimulating her ovaries to release eggs.

- Patients take letrozole toward the end of their menstrual cycle for around 5 days.

- letrozole may work better than clomiphene in women with polycystic ovary syndrome.<sup>5</sup>

### Gonadotropins and Human Chorionic Gonadotropin (hCG)

Gonadotropins such as follicle-stimulating hormone (FSH) are hormones that are injected in a woman to directly stimulate eggs to grow in the ovaries, leading to ovulation.<sup>2</sup> Health care providers normally prescribe gonadotropins when a woman does not respond to clomiphene or to stimulate follicle growth for assisted reproductive technology (ART).

- Gonadotropins are injected in the early part of the menstrual cycle for 7 to 12 days.
- While a woman is treated with gonadotropins, a health care provider uses transvaginal ultrasound to monitor the size of the developing eggs, which grow inside tiny sacs called follicles. The health care providers also draw blood frequently to check the ovarian production of estrogen.
- The chance of a multiple birth is higher with gonadotropins than with clomiphene, and 30% of women who conceive a pregnancy with this medication have multiple births.<sup>2</sup> About two-thirds of multiple births are twins. Triplets or larger multiple births account for the remaining third.

hCG is a hormone similar to luteinizing hormone that can be used to trigger release of the egg after the follicles have developed.

### Bromocriptine or Cabergoline

Bromocriptine and cabergoline are pills taken orally to treat abnormally high levels of the hormone prolactin, which can interfere with ovulation. Pituitary growths; certain medications, including antidepressants; kidney disease; and thyroid disease can cause high levels of prolactin.

- Bromocriptine or cabergoline allow 90% of women to have normal prolactin levels.
- Once prolactin levels become normal, 85% of women using bromocriptine or cabergoline ovulate.

Surgery to remove patches of endometriosis has been found to double the chances for pregnancy. Surgery can also be used to remove uterine fibroids, polyps, or scarring, which can affect fertility.

### 1.medical treatment

- a. Gonadotropin
- b. clomiphene citrate
- c. letrozole
- 2. surgical treatment
  - a. laparoscopic surgery
  - b. tubal ligation reversal
  - c. tubal surgeries
- 3. reproductive assistance
  - a. intrauterine insemination IUI
  - b. in vitro fertilization IVF
  - c. therapeutic donor insemination TDI

### **male infertility treatment**

With modern technology and methods, the number of treatment options for male infertility has expanded. Depending on the cause of infertility, treatments may include:

Medications:

- Hormone therapy to increase the number of sperm.

Lifestyle changes:

- Get and maintain a healthy body weight by exercising and eating a healthy diet.
- Stop smoking.
- Stop drinking.
- Stop using marijuana.
- Stop any illegal drug use.

Surgeries:

- **Vasectomy reversal:** This common procedure is an outpatient surgery. The surgeon reconnects your vas deferens which is the tube in the scrotum through which your sperm passes. Viewing the vas deferens through a high-power surgical microscope, the surgeon carefully sews the ends back together.
- **Vasopididymostomy:** Blockages in your vas deferens are repaired with a similar technique. Your vas deferens is surgically split, the blockage is removed and the ends of the tube are reconnected. When the original vasectomy was performed many years previously, an additional blockage may have formed in the epididymis, the coiled tube that lies against your testicle where sperm cells mature. Blockage at the epididymis also can occur due to infection or injury.

Whatever the cause, your surgeon will fix the problem by bypassing the blockage in the epididymis.

- **Sperm Retrieval:** In some severe cases, a biopsy of the testicle is required to find sperm.
- **Intracytoplasmic sperm injection:** Artificial techniques of reproduction have advanced to the point where a single sperm can be physically injected into an egg. This procedure, called intracytoplasmic sperm injection (ICSI) has dramatically changed the treatment available for even the most severe male factor infertility. Because of this technique, 90% of all infertile males have the potential to conceive their own genetic child.
- **In vitro fertilization:** For some couples dealing with male infertility, in vitro fertilization (IVF) is the treatment of choice. During the IVF process, the ovaries are stimulated with injectable fertility medications to cause multiple eggs to mature. When the eggs are ready, they are collected in a minor procedure. Fertilization is accomplished by exposing the eggs to sperm in a culture dish, or by directly injecting a single sperm into each mature egg, a process called intracytoplasmic sperm injection (see above). After fertilization, embryo development is monitored over the next three to five days, and two to three embryos are then placed into the uterus by way of a small catheter inserted through the cervix

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