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**CLINICAL MEDICINE.**

**QUESTION 2;**

***Polycystic Kidney Diseases;***

**Polycystic kidney disease (PKD)** is an inherited disease that causes cysts to form in the kidneys. Cysts, which are sacs filled with fluid, grow in the kidneys and causes them to enlarge.

Children have a 50% chance of developing PKD if one parent carries the gene. If a person has the PKD gene, he or she will have some form of the disease in their lifetime.

There is also a rare form of PKD, called **autosomal recessive polycystic kidney disease**, that affects newborns, infants and children. This form of PKD can cause death in the first month of life.

PKD is generally inherited. Less commonly, it develops in people who have other serious kidney problems.

 There are three types of PKD.

* autosomal dominant PKD (inherited)
* autosomal recessive PKD (inherited)
* acquired cystic kidney disease, or ACKD (non-inherited)

### Autosomal dominant PKD

Autosomal dominant (ADPKD) is sometimes called adult PKD. Someone who has a parent with PKD has a [50 percent](https://www.kidney.org/atoz/content/polycystic) chance of developing this condition.

Symptoms usually develop later in life, between the ages of 30 and 40. However, some people begin to experience symptoms in childhood.

### Autosomal recessive PKD

Autosomal recessive PKD (ARPKD) is much less common than ADPKD. It’s also inherited, but both parents must carry the gene for the disease.

People who are carriers of ARPKD won’t have symptoms if they have only one gene. If they inherit two genes, one from each parent, they’ll have ARPKD.

There are four types of ARPKD:

* **Perinatal form** is present at birth.
* **Neonatal form** occurs within the first month of life.
* **Infantile form** occurs when the child is 3 to 12 months old.
* **Juvenile form** occurs after the child is 1 year old.

### Acquired cystic kidney disease

Acquired cystic kidney disease (ACKD) isn’t inherited. It usually occurs later in life.

ACKD usually develops in people who already have other kidney problems. It’s more common in people who have kidney failure or are on dialysis

## Symptoms

There are often no symptoms in the early stages of PKD. Most symptoms appear in middle age.

The first symptom is often pain in the back or side.

 Other signs of PKD include:

* Blood in the urine
* Abdominal pain
* Frequent urination

## Diagnosis

Your doctor will ask about your symptoms and medical history and perform a physical exam. Your doctor may order a blood and/or urine test and take images of your bodily structures with:

* Ultrasound
* CT scan
* MRI scan

Ten to 40% of patients with PKD also have an **aneurysm** in the brain. An aneurysm is a weakness in the wall of a blood vessel. If you are diagnosed with PKD and have a family history of a brain aneurysm, your doctor may advise an arteriogram to detect the presence of an aneurysm.

## Treatment

Most treatments for PKD treat your symptoms or prevent complications. Some of these treatment options may include:

* High blood pressure medication
* Pain medication
* Antibiotics in the event of a urinary tract infection
* Adhere to a low-protein, low-salt diet

**QUESTION 4;**

Otomy;

The suffix '-otomy' is derived from the Greek suffix τόμος, -tómos, "meaning cutting, sharp, or separate".

1. [Amniotomy](https://en.wikipedia.org/wiki/Amniotomy) ; An incision created to accelerate labor.
2. [Androtomy](https://en.wikipedia.org/wiki/Androtomy) ; Dissection of the human body .
3. [Bilateral cingulotomy](https://en.wikipedia.org/wiki/Bilateral_cingulotomy) ; Psychosurgery, treatment for depression and addiction .
4. [Bronchotomy](https://en.wikipedia.org/wiki/Bronchotomy) ; A procedure that ensures there is an open airway between a patients lung/s and the outside world.
5. [Clitoridotomy](https://en.wikipedia.org/wiki/Clitoridotomy) ; Plastic surgery of the clitorial hood.
6. [Coeliotomy](https://en.wikipedia.org/wiki/Coeliotomy) ; A large incision through the abdominal wall to gain access into the abdominal cavity
7. [Colpotomy](https://en.wikipedia.org/wiki/Colpotomy) ; Extraction of fluid from the pouch of Douglas (a rectouterine pouch[1] posterior to the vagina) through a needle
8. [Cordotomy](https://en.wikipedia.org/wiki/Cordotomy) ; Procedure that disables selected pain-conducting tracts in the spinal cord, in order to achieve loss of pain and temperature perception
9. [Craniotomy](https://en.wikipedia.org/wiki/Craniotomy) ; A bone flap is temporarily removed from the skull to access the brain
10. [Cricothyrotomy](https://en.wikipedia.org/wiki/Cricothyrotomy) ; An incision made through the skin and cricothyroid membrane to establish a patent airway during certain life-threatening situations
11. [Escharotomy](https://en.wikipedia.org/wiki/Escharotomy) ; Procedure used to treat full-thickness (third-degree) circumferential burns
12. [Episiotomy](https://en.wikipedia.org/wiki/Episiotomy) ; Surgical incision of the perineum and the posterior vaginal wall
13. [Fasciotomy](https://en.wikipedia.org/wiki/Fasciotomy) ; Surgical procedure where the fascia is cut to relieve tension or pressure commonly to treat the resulting loss of circulation to an area of tissue or muscle
14. [Hymenotomy](https://en.wikipedia.org/wiki/Hymenotomy) ; Surgical removal or opening of the hymen
15. [Hysterotomy](https://en.wikipedia.org/wiki/Hysterotomy) ; Incision in the uterus, and is performed during a Caesarean section
16. [Laminotomy](https://en.wikipedia.org/wiki/Laminotomy) ; The partial removal (or by making a larger opening) of the lamina.
17. [Laparotomy](https://en.wikipedia.org/wiki/Laparotomy) ; Large incision through the abdominal wall to gain access into the abdominal cavity
18. [Lobotomy](https://en.wikipedia.org/wiki/Lobotomy) ; Cutting or scraping away most of the connections to and from the prefrontal cortex, the anterior part of the frontal lobes of the brain.
19. [Meatotomy](https://en.wikipedia.org/wiki/Meatotomy) ; Form of penile modification in which the underside of the glans is split
20. [Myotomy](https://en.wikipedia.org/wiki/Myotomy) ;Procedure in which muscle is cut.
21. [Osteotomy](https://en.wikipedia.org/wiki/Osteotomy) ; A bone is cut to shorten or lengthen it or to change its alignment
22. [Phlebotomy](https://en.wikipedia.org/wiki/Phlebotomy) ; An incision in a vein with a needle
23. [Pulpotomy](https://en.wikipedia.org/wiki/Pulpotomy) ; Removal of a portion of the pulp, including the diseased aspect
24. [Sphincterotomy](https://en.wikipedia.org/wiki/Sphincterotomy) ; Treating mucosal fissures from the anal canal/sphincter
25. [Thoracotomy](https://en.wikipedia.org/wiki/Thoracotomy) ; Incision into the pleural space of the chest
26. [Thyrotomy](https://en.wikipedia.org/wiki/Thyrotomy) ; Incision of the larynx through the thyroid cartilage
27. [Tracheotomy](https://en.wikipedia.org/wiki/Tracheotomy) ; An incision on the anterior aspect of the neck and opening a direct airway through an incision in the trachea (windpipe)

**QUESTION 5;**

**URINARY TRACT INFECTION;**

A urinary tract infection (UTI) occurs when [bacteria](https://labtestsonline.org/glossary/bacterium) or sometimes other [microbes](https://labtestsonline.org/glossary/microorganism)  enter the urinary tract and begin to grow, usually causing signs and symptoms such as pain and [inflammation](https://labtestsonline.org/glossary/inflammation). UTIs are among the most common infections in humans.

A UTI can happen anywhere in your urinary tract. Your urinary tract is made up of your kidneys, ureters, bladder, and urethra. Most UTIs only involve the urethra and bladder, in the lower tract. However, UTIs can involve the ureters and kidneys, in the upper tract.

 Although upper tract UTIs are more rare than lower tract UTIs, they’re also usually more severe.

**SYMPTOMS;**

Symptoms of a lower tract UTI include:

* burning with urination
* increased urgency of urination
* bloody urine
* urine that looks like cola or tea
* urine that has a strong odor
* pelvic pain in women
* rectal pain in men

Symptoms of an upper tract UTI include:

* pain and tenderness in the upper back and sides
* chills
* fever
* nausea
* vomiting

**[Causes](https://labtestsonline.org/conditions/urinary-tract-infection)**

Although a variety of [bacteria](https://labtestsonline.org/glossary/bacterium) can cause UTIs, most are due to [Escherichia coli (E. coli)](https://labtestsonline.org/glossary/ecoli), bacteria that are common in the digestive system and are routinely found in stool and around the anus. Occasionally, UTIs may be caused by a [fungus](https://labtestsonline.org/glossary/fungus) ([yeast](https://labtestsonline.org/glossary/yeast)), such as Candida albicans

UTIs are given different names depending on where they occur. For example:

* A bladder infection is called cystis.
* A urethra infection is called urethritis.
* A Kidney infection is called pyelonephritis.

The ureters are very rarely the site of infection.

**DAIGNOSIS;**

Diagnosis will usually be made after asking about the symptoms and testing a urine sample to assess the presence of white blood cells, red blood cells, and bacteria.

If a person has recurrent UTIs, a doctor may request further diagnostic testing to determine if anatomical issues or functional issues are to blame. Such tests may include:

* **Diagnostic imaging**: This involves assessing the urinary tract using Ultrasound, CT and MRI scanning, radiation tracking, or X-rays.
* **Urodynamics**: This procedure determines how well the urinary tract is storing and releasing urine.
* **Cystoscopy**: This diagnostic exam allows the doctor to see inside the bladder and urethra with a camera lens, which inserted through the urethra through a long thin tube.

**TREATMENT;**

As UTIs are normally caused by bacteria, they are most commonly treated with antibiotics or antimicrobials.

The type of medication and length of treatment will depend on the symptoms and medical history of the individual.

The full course of treatment should always be completed for UTIs to make sure that the infection is fully clear, and to reduce the risk of antibiotic resistance. UTI symptoms can disappear before the infection has completely gone.

Drinking lots of fluids and frequently urinating are always recommended for people who have UTIs as this helps to flush out the bacteria. A variety of pain relief medications may be prescribed to alleviate pain. Applying a heating pad to the back or abdomen can also help.

**QUESTION 3;**

**LITHOTRIPSY;**

The term lithotripsy is derived from the Greek words meaning "breaking stones

Lithotripsy is a noninvasive procedure used to treat kidney stone that are too large to pass through the urinary tract. Lithotripsy treats kidney stones by sending focused ultrasonic energy or shock waves directly to the stone first located with fluoroscopy or ultrasound. The shock waves break a large stone into smaller stones that will pass through the urinary system.

lithotripsy is a therapeutic tool. it uses sound waves to create strong vibrations (shock waves) that break the stones into tiny pieces that can be passed in your uine.

**GENERAL CRITERIA FOR LITHOTRIPSY;**

* Before the procedure your docter will perform complete physical examination to ensure your good health.
* You may undergo blood tests or other diagnostic tests.
* Fating before the procedure.
* Do not drink alcohol for 48 hour before procrdure.
* Tell your docter if u r pregnant are suspected that u may pregnant.
* avoid anticoagulant medicine before procedure and also notify your docter if u have blood disorder history.
* Notify your doctor if you are sensitive to or allergic to any medications, anesthetic agents.
* After the stone(s) has been located with fluoroscopy or ultrasound, you will be positioned for the most direct access to the stone.
* If you are awake during the procedure, you may experience a light tapping feeling on your skin.
* A sequence of shock waves will be created to shatter the kidney stone(s).
* The stone(s) will be monitored by fluoroscopy or ultrasound during the procedure.
* A stent may be placed in the ureter to help the stone fragments (gravel) pass.
* Once the stone fragments are small enough to pass through the urinary system, the procedure will end.

**QUESTION 1;**

**ROLE OF NUCLEAR MEDICINE IN THYROID DISEASES;**

Nuclear medicine plays a major role in diagnosing and for the treatment of thyroid diseases.It uses small amounts of radioactive materials called radiotracers that are typically injected into the bloodstream, inhaled or swallowed.

**Treatment with nuclear medicine;**

Radioactive Iodine I-131 also called Radioiodine I-131 therapy is a treatment for an overactive thyroid, a condition called [hyperthyroidism](https://www.radiologyinfo.org/en/glossary/glossary.cfm?gid=429).

[Radioactive iodine](https://www.radiologyinfo.org/en/glossary/glossary.cfm?gid=640) (I-131), an [isotope](https://www.radiologyinfo.org/en/glossary/glossary.cfm?gid=151) of [iodine](https://www.radiologyinfo.org/en/glossary/glossary.cfm?gid=637) that emits radiation, is used for medical purposes. When a small dose of I-131 is swallowed, it is absorbed into the bloodstream in the [gastrointestinal](https://www.radiologyinfo.org/en/glossary/glossary.cfm?gid=127) (GI) tract and concentrated from the blood by the thyroid gland, where it begins destroying the gland's cells

Nuclear medicine imaging uses small amounts of radioactive material to diagnose, evaluate or treat a variety of diseases.

 These includes

* Cancers,
* Heart disease,
* Gastrointestinal
* Endocrine or neurological disorders and other abnormalities.

Radioiodine therapy is not used in a patient who is pregnant.

**DAIGNOSIS WITH NUCLEAR MEDICINE;**

A thyroid scan is a specialized imaging procedure for examining thyroid**.**

Nuclear medicine involves using small amounts of radioactive material to diagnose disease.

Radioactive iodine is typically used in thyroid tests, including a thyroid scan. Your thyroid and most types of thyroid cancer absorb iodine naturally. The radioactive iodine builds up in your thyroid tissue.

A radioactive material called a radioisotope, or radionuclide “tracer,” is given to you before the test. You may get it through an injection, a liquid, or a tablet. The tracer releases gamma rays when it’s in your body. A gamma camera or scanner can detect this type of energy from outside your body.

A thyroid scan can be used to evaluate abnormalities found in a physical exam or laboratory test. The images from this test can be used to diagnose:

* lumps, nodules (cysts), or other growths
* inflammation or swelling
* an overactive thyroid, or hyperthyroidism
* an underactive thyroid, or hypothyroidism
* goiter, which is an abnormal enlargement of the thyroid
* thyroid cancer