

1: The Urinary System: Ureter and Urinary Bladder

The urinary bladder is a muscular sac in the pelvis, just above and behind the pubic bone. When empty, the bladder is about the size and shape of a pear. Urine is made in the kidneys and travels.

Clinical Trials What is the urinary tract and how does it work? In order for normal urination to occur, all body parts in the urinary tract need to work together in the correct order. The kidneys are two bean-shaped organs, each about the size of a fist. They are located just below the rib cage, one on each side of the spine. Every day, the kidneys filter about two quarts of blood to produce about 1 to 2 quarts of urine. The kidneys work around the clock; a person does not control what they do. Ureters are the thin tubes of muscle—one on each side of the bladder—that carry urine from each of the kidneys to the bladder. The bladder, located in the pelvis between the pelvic bones, is a hollow, muscular, balloon-shaped organ that expands as it fills with urine. Although a person does not control kidney function, a person does control when the bladder empties. Bladder emptying is known as urination. The bladder stores urine until the person finds an appropriate time and place to urinate. A normal bladder acts like a reservoir and can hold 1. How often a person needs to urinate depends on how quickly the kidneys produce the urine that fills the bladder. The muscles of the bladder wall remain relaxed while the bladder fills with urine. As the bladder fills to capacity, signals sent to the brain tell a person to find a toilet soon. During urination, the bladder empties through the urethra, located at the bottom of the bladder. The urinary tract Three sets of muscles work together like a dam, keeping urine in the bladder between trips to the bathroom. The first set is the muscles of the urethra itself. The area where the urethra joins the bladder is the bladder neck. The bladder neck, composed of the second set of muscles known as the internal sphincter, helps urine stay in the bladder. The third set of muscles is the pelvic floor muscles, also referred to as the external sphincter, which surround and support the urethra. To urinate, the brain signals the muscular bladder wall to tighten, squeezing urine out of the bladder. At the same time, the brain signals the sphincters to relax. As the sphincters relax, urine exits the bladder through the urethra. Why is the urinary tract important? The urinary tract is important because it filters wastes and extra fluid from the bloodstream and removes them from the body. Normal, functioning kidneys prevent the buildup of wastes and extra fluid in the body keep levels of electrolytes, such as potassium and phosphate, stable make hormones that help regulate blood pressure make red blood cells keep bones strong The ureters, bladder, and urethra move urine from the kidneys and store it until releasing it from the body. What affects the amount of urine a person produces? The amount of urine a person produces depends on many factors, such as the amounts of liquid and food a person consumes and the amount of fluid lost through sweat and breathing. Certain medications, medical conditions, and types of food can also affect the amount of urine produced. Children produce less urine than adults; the amount produced depends on their age. What are clinical trials, and are they right for you? Clinical trials are part of clinical research and at the heart of all medical advances. Clinical trials look at new ways to prevent, detect, or treat disease. Researchers also use clinical trials to look at other aspects of care, such as improving the quality of life for people with chronic illnesses. Find out if clinical trials are right for you. What clinical trials are open? Clinical trials that are currently open and are recruiting can be viewed at www.clinicaltrials.gov.

2: 10 Ways to Keep Your Bladder Healthy - Bladder Health Month Center - Everyday Health

The urethra is a part of the renal system. The kidneys, ureters, and bladder are also part of this system. The renal system is responsible for producing, storing, and eliminating liquid waste in.

Sometimes a renal ultrasound needs a child to have a full bladder; in this case, the doctor will give specific instructions on what to do. You should tell the technician about any medicines your child is taking before the test begins.

Procedure The renal ultrasound will be done in the radiology department of a hospital or in a radiology center. Parents are usually able to accompany their child to provide reassurance and support. Your child will be asked to change into a cloth gown and lie on a table. The room is usually dark so the images can be seen clearly on the computer screen. This gel helps with the transmission of the sound waves. The technician will then move a small wand transducer over the gel. The transducer emits high-frequency sound waves and a computer measures how the sound waves bounce back from inside the body. The computer changes those sound waves into images to be analyzed. Sometimes a doctor will come in at the end of the test to meet your child and take a few more pictures. The procedure usually takes less than 30 minutes.

What to Expect The renal ultrasound test is painless. Your child may feel a slight pressure on the abdomen as the transducer is moved over it. The technician may ask your child to lie in different positions or hold his or her breath briefly.

Getting the Results A radiologist a doctor who is specially trained in reading and interpreting X-ray and ultrasound images will interpret the ultrasound results and then give the information to the doctor. You and your doctor will go over the results. If the test results appear abnormal, your doctor may order further tests. In an emergency, the results of an ultrasound can be available within a short period of time. Otherwise, results are usually ready in days.

Risks No risks are associated with a renal ultrasound.

Helping Your Child Some younger children may be afraid of the machinery used for the ultrasound test. You can tell your child that the equipment takes pictures of his or her kidneys. Encourage your child to ask the technician questions and to try to relax during the procedure, as tense muscles can make it more difficult to get accurate results.

If You Have Questions If you have questions about the renal ultrasound, speak with your doctor. You can also talk to the technician before the exam.

3: Kidneys and Urinary Tract

Anatomy of the Bladder and Urethra Remember (from the page about the functions of the urinary system) that the purpose of the urinary bladder is to store urine prior to the elimination of the urine from the body.

These are described in the section about the reproductive system. Quick Re-cap from previous pages: The urinary bladder stores urine prior to its elimination from the body functions of the urinary system. The bladder is a musculomembranous sac located on the floor of the pelvic cavity, anterior to the uterus and upper vagina in females. Outer surfaces of the Bladder: The upper and side surfaces of the bladder are covered by peritoneum also called "serosa". This serous membrane of the abdominal cavity consists of mesothelium and elastic fibrous connective tissue. The ureters deliver urine to the bladder from the kidneys one ureter from each kidney - see components of human urinary system. The ureters pass through the posterior surface of the bladder at the ureter orifices shown above. Urine drains through the ureters directly into the bladder; there are no sphincter muscles or valves at the ureter orifices. Structure of Bladder Detail: The bladder itself consists of 4 layers: The mucosa falls into many folds known as rugae when the bladder is empty or near empty. The features observable on the inside of the bladder are the ureter orifices, the trigone, and the internal orifice of the urethra. The trigone is a smooth triangular region between the openings of the two ureters and the urethra and never presents any rugae even when the bladder is empty because this area is more tightly bound to its outer layer of bladder tissue. When urine is released from the bladder it flows out via the neck of the bladder in the trigone region. The internal urethral sphincter is a sphincter circular muscle located at the neck of the bladder and formed from a thickening of the detrusor muscle. It closes the urethra when the bladder has emptied. More detail about the above is included on the page about the bladder. The male urethra At about 18 cm long, the adult male urethra is longer than the adult female urethra of approx. 12 cm. The prostatic section of the male urethra is somewhat arched. However, at exit from the body at the meatus urinarius external orifice of urethra the slit is vertical. Prostatic Urethra The prostatic urethra begins at the neck of the bladder and includes all of the section that passes through the prostate gland. It is the widest and most dilatable part of the male urethral canal. Membranous Urethra The membranous urethra is the shortest and narrowest part of the male urethra. This section measures approx. 4 cm. The external urethral sphincter muscle is located in the urogenital diaphragm as for the female urethra. This muscle is referred to as the "compressor urethrae muscle" in some older textbooks. The passage of urine along the urethra through the urogenital diaphragm is controlled by the external urethral sphincter, which is a circular muscle under voluntary control that is, it is innervated by the somatic nervous system, SNS. See the page about micturation for more about control of these structures by the nervous system. Spongy Urethra The spongy urethra is the longest of the three sections. Structure of the Male Urethra The structure of the urethra tube itself is a continuous mucous membrane supported by submucous tissue connecting it to the other structures through which it passes. The mucous coat is continuous with the mucous membrane of the bladder, ureters and kidney. In the membranous and spongy sections 2. The submucous tissue consists of a vascular i. It conveys semen out of the body at ejaculation. For further information about this function read the section about the male reproductive system. See also the diagram of the female bladder and urethra , the process of micturation and the composition of urine. These products are available from Amazon.

4: Urethral Disorders | Urethritis | Urethral Stricture | MedlinePlus

The urethra is a fibromuscular tube that conducts urine from the bladder (and semen from the ductus deferens) to the exterior. It begins at the neck of the bladder, traverses the pelvic and urogenital diaphragms, and ends at the external urethral orifice.

Cystectomy incision sites Cystectomy incision sites During an open cystectomy shown left , your surgeon makes a cut incision that runs from just below your bellybutton to just above your pubic bone. In robotic surgery shown right , your surgeon makes several small keyhole incisions to insert a viewing device cystoscope and surgical instruments. **Robotic cystectomy** Robotic cystectomy During robotic cystectomy, your surgeon sits at a remote console and uses robotic arms to perform the procedure. A surgical team assists at the operating table. During cystectomy, your surgeon removes the bladder and part of the urethra, along with nearby lymph nodes. In men, removing the entire bladder radical cystectomy typically includes removal of the prostate and seminal vesicles. In women, radical cystectomy also involves removal of the uterus, ovaries and part of the vagina. Your surgeon also creates a new route for urine to leave your body. Your surgeon may recommend one of these approaches for your surgery: **This approach** requires a single incision on your abdomen to access the pelvis and bladder. Your surgeon makes several small incisions on your abdomen where special surgical tools are inserted to access the abdominal cavity. During this type of minimally invasive surgery, your surgeon sits at a console and remotely operates the surgical tools. **During the procedure** **Ileal conduit** Ileal conduit During an ileal conduit procedure, your surgeon creates a new tube from a piece of intestine that allows your kidneys to drain and urine to exit the body through a small opening called a stoma. **Neobladder reconstruction** Neobladder reconstruction During neobladder surgery, your surgeon takes out your existing bladder and forms an internal pouch from part of your intestine. The pouch, called a neobladder, stores your urine. After surgery, you need to wear a pouching system all the time to collect urine. Pictured is one example of a pouching system used to collect urine, which drains from an opening in your abdomen urinary stoma. The wafer acts as a barrier to protect the skin around the stoma from exposure to urine. A urine collection bag connects to the wafer. Your surgeon next removes your bladder along with nearby lymph nodes. Your surgeon may also need to remove other organs near the bladder such as the urethra, prostate and seminal vesicles in men and the urethra, uterus, ovaries and part of the vagina in women. After your bladder is removed, your surgeon works to reconstruct the urinary tract in order to allow urine to leave your body. **During this procedure**, your surgeon uses a piece of your small intestine to create a tube that attaches to the ureters and connects your kidneys to an opening in your abdominal wall stoma. Urine flows from the opening continuously. A bag you wear on your abdomen sticks to your skin and collects urine until you drain it. **During creation of a neobladder**, your surgeon uses a slightly larger piece of your small intestine than the one used for an ileal conduit to create a sphere-shaped pouch that becomes your new bladder. Your surgeon places the neobladder in the same location inside your body as your original bladder and attaches the neobladder to the ureters so that urine can drain from your kidneys. The other end of the neobladder is attached to your urethra, allowing you to urinate in a relatively normal fashion. If you have this surgery, you might need to use a catheter to help better empty the neobladder. Also, some people experience urinary incontinence surgery. **During this procedure**, your surgeon uses a piece of your intestine to create a small reservoir inside your abdominal wall. As you make urine, the reservoir fills and you use a catheter to drain the reservoir several times a day. With this type of urinary diversion, you avoid the need to wear a urine collection bag on the outside of your body. Leakage from the catheter site may cause some problems or the need to return to the operating room for revision surgery. The goal of urinary diversion is to facilitate the safe storage and timely elimination of urine after your bladder has been removed, while preserving your quality of life. After the procedure You may need to stay in the hospital for up to five or six days after surgery. This time is required so that your body can recover from the surgery. The intestines tend to be the last part to wake up after surgery, so you may need to be in the hospital until your intestines are ready once again to absorb fluids and nutrients. After general anesthesia, you may experience side effects such as sore throat, shivering, sleepiness, dry mouth,

nausea and vomiting. These may last for a few days but should get better. Starting the morning after surgery, your health care team may have you get up and walk often. Walking promotes healing and the return of bowel function, improves your circulation, and helps prevent joint stiffness and blood clots. You may have some pain or discomfort around your incision or incisions for a few weeks after surgery. As you recover, your pain should gradually get better. Before you leave the hospital, talk with your doctor about medicine and other ways to improve your comfort.

Urinary changes If you have urinary conduit surgery, you may have drainage of fluid from your urethra for six to eight weeks after surgery. Usually, the drainage slowly changes in color from bright red to pink, brown and then yellow. With neobladder reconstruction, you may have bloody urine after surgery. In a few weeks, your urine should return to a yellowish color. With either procedure, you can expect to see mucus in your urine, because the piece of intestine used in the procedure will still make mucus like your intestines normally do. Over time, you should have less mucus in your urine, but it will never go away completely. If you have a neobladder, you may need to flush your catheter if you have significant mucus to prevent plugging.

Follow-up appointments You may return to the clinic for follow-up care in the first few weeks after cystectomy and again after a few months. If cystectomy is performed to treat bladder cancer, your doctor will recommend regular follow-up visits to check for cancer recurrence.

Return to activities During the first six to eight weeks after surgery, you may need to restrict activities such as lifting, driving, bathing, and going back to work or school. You should wait about six weeks before sexual intercourse to allow proper healing to take place.

Results Cystectomy has the potential for a big impact on quality of life, but even so, you can still lead a pretty normal life after cystectomy surgery. You may have concerns about having a stoma, if you have that type of surgery. Work with your medical care team to understand what to expect with a stoma and how to address some of your concerns. With time, you can feel more at ease with caring for your stoma. As you gain confidence, you can enjoy the people and social activities you always enjoyed.

With neobladder reconstruction, your new bladder starts out small and slowly gets bigger over the first few months. At first, you may need to urinate every few hours during the day, or as often as your doctor recommends. As time goes on, you may be able to increase the time between urination to every four hours.

Sexual changes After cystectomy, you may experience sexual changes. Share your concerns with your partner and be patient as you both learn to live with a new normal. For men, nerve damage during surgery could impact ability to have erections. This can improve over time, but you may want to discuss this possibility with your doctor and ask whether your doctor can use nerve-sparing techniques during surgery. But even with nerve-sparing techniques, it might take some time for erectile function to return. Many options exist to help with erectile function after cystectomy. Be patient and work with your doctor if this is an important part of your recovery. For women, changes to the vagina could make sex less comfortable after surgery. Nerve damage also can impact arousal and ability to have an orgasm. Ask your doctor whether nerve-sparing surgery might be an option for you. If you do experience sexual difficulties after surgery, take your time, be patient and discuss your concerns with your doctor if this is an important part of your recovery.

Intimacy with a stoma pouch is still possible. To minimize possible leaks, empty the pouch before sex. A pouch cover, sash or snug-fitting top can secure the pouch and keep it out of your way.

Clinical trials Explore Mayo Clinic studies testing new treatments, interventions and tests as a means to prevent, detect, treat or manage this disease.

5: Bladder Control Problems & Nerve Disease | NIDDK

Overview: Posterior urethral valves (PUVs), more recently considered congenital obstructive posterior urethral membranes, are the most common cause of congenital bladder outlet obstruction. The valves are identified at the base of the verumontanum, and the obstruction leads to posterior urethral dilation and chronic bladder outlet.

Certain problems affecting your bladder can cause painful urination or urine leakage at unwanted times. Let It All Out Women are especially prone to urinary tract infections , which can also involve the bladder. Drink Plenty of Fluids â€” But Not Too Much Drinking plenty of water â€” about six to eight glasses daily â€” can flush bacteria out of your urinary tract and help prevent bladder infections. Go Take a Walk Some people, like those who are sedentary or have heart disease, may develop fluid build-up in their legs during the day. At night, this fluid causes them to need to empty their bladders frequently. Ask your doctor for more tips. Avoid Tobacco Every year, more than 50, people are diagnosed with bladder cancer. Using tobacco is a major risk factor, Badlani warns: Cigarette smokers have a two to three times higher risk of bladder cancer than nonsmokers. Talk to your doctor about how to quit smoking. Learn Proper Kegels Kegel exercises are done to strengthen the muscles that allow for better bladder control. Weak muscles can contribute to urine leakage, called urinary incontinence. Most people, however, do Kegels the wrong way, Badlani says. As result, cleaning your genital and anal area before intercourse may help prevent these infections. Watch What You Eat A condition called interstitial cystitis , which is much more common in women than men, causes bladder pain, urgent urination, and sometimes urinary ncontinence. Some people find that certain foods worsen their bladder symptoms, Badlani says. Acidic foods, such as tomatoes and orange juice, may be linked to flare-ups. Keep a diary of your symptoms and see if you can connect them to any foods. If so, steer clear of these foods and see if you notice any improvement. Stop Drinking at the Right Time If you have strong urges to urinate at inopportune times, or if you have urinary incontinence , you may need to drink fewer fluids at certain times. Try Cranberry Juice Tart cranberry juice may help keep your bladder safe from infection. One study that compiled the results of previous studies involving cranberry juice or cranberry tablets found that they reduced the occurrence of urinary tract infections and were most effective in women who had recurrent infections. Ingredients in the cranberry may keep harmful bacteria from sticking to the walls of your urinary tract. Also, keeping this diary if you have episodes of urinary incontinence will help show you and your doctor what factors might be involved in the problem.

6: Bladder and Urethral Injuries information. Patient | Patient

The area where the urethra joins the bladder is the bladder neck. The bladder neck, composed of the second set of muscles known as the internal sphincter, helps urine stay in the bladder. The third set of muscles is the pelvic floor muscles, also referred to as the external sphincter, which surround and support the urethra.

The peritoneum is carried by it from the apex on to the abdominal wall to form the middle umbilical fold. The neck of the bladder is the area at the base of the trigone that surrounds the internal urethral orifice that leads to the urethra. The three openings, two ureteric orifices, and the internal urethral orifice mark the triangular area called the trigone of the bladder. These openings have mucosal flaps in front of them that act as valves in preventing the backflow of urine into the ureters, [4] known as vesicoureteral reflux. Between the two ureteric openings is a raised area of tissue called the interureteric crest. The trigone is a smooth-muscle area that forms the floor of the bladder above the urethra. In men, the prostate gland lies outside the opening for the urethra. The middle lobe of the prostate causes an elevation in the mucous membrane behind the internal urethral orifice called the uvula of urinary bladder. The uvula can enlarge when the prostate becomes enlarged. The bladder is situated below the peritoneal cavity near the pelvic floor and behind the pubic symphysis. In men, it lies in front of the rectum, separated by the recto-vesical pouch, and is supported by fibres of the levator ani and of the prostate gland. In women, it lies in front of the uterus, separated by the vesico-uterine pouch, and is supported by the levator ani and the upper part of the vagina. The Latin phrase for "urinary bladder" is vesica urinaria, and the term vesical or prefix vesico - appear in connection with associated structures such as vesical veins. The modern Latin word for "bladder" - cystis - appears in associated terms such as cystitis inflammation of the bladder. Microanatomy[edit] The outside of the bladder is protected by a serous membrane. Layers of the urinary bladder wall and cross section of the detrusor muscle. Anatomy of the male bladder, showing transitional epithelium and part of the wall in a histological cut-out. Detrusor muscle[edit] The detrusor muscle is a layer of the urinary bladder wall made of smooth muscle fibers arranged in spiral, longitudinal, and circular bundles. Stretch receptors in the bladder signal the parasympathetic nervous system to stimulate the muscarinic receptors in the detrusor to contract the muscle when the bladder is extended. The main receptor activated is the M3 receptor, although M2 receptors are also involved and whilst outnumbering the M3 receptors they are not so responsive. It can also contract for a long time whilst voiding, and it stays relaxed whilst the bladder is filling. The lower part of the bladder is supplied by the inferior vesical artery in males and by the vaginal artery in females, both of which are branches of the internal iliac arteries. These then form three sets of vessels: The majority of these vessels drain into the external iliac lymph nodes. GVA fibers on the superior surface follow the course of the sympathetic efferent nerves back to the CNS, while GVA fibers on the inferior portion of the bladder follow the course of the parasympathetic efferents. Problems with these muscles can lead to incontinence. The upper and lower parts of the bladder develop separately and join together around the middle part of development. It is superior to the prostate, and separated from the rectum by the recto-vesical pouch. In females, the bladder sits inferior to the uterus and anterior to the vagina; thus its maximum capacity is lower than in males. It is separated from the uterus by the vesico-uterine pouch. In infants and young children the urinary bladder is in the abdomen even when empty. Urination Urine, excreted by the kidneys, collects in the bladder before disposal by urination micturition. The urinary bladder usually holds ml of urine. As urine accumulates, the rugae flatten and the wall of the bladder thins as it stretches, allowing the bladder to store larger amounts of urine without a significant rise in internal pressure.

7: Urethra - Wikipedia

Preoperative Management. Cystolithiasis, neoplasia, and rupture are the most common abnormalities of the urinary bladder in small animals. Urinary obstruction may occur if calculi become lodged in the urethra, or if a tumor obstructs the proximal urethra or trigone.

Emergency treatment of bleeding or shock may include: Blood transfusions Intravenous IV fluids Monitoring in the hospital Emergency surgery may be done to repair the injury and drain the urine from the abdominal cavity in case of extensive injury or peritonitis inflammation of the abdominal cavity. The injury can be repaired with surgery in most cases. The bladder may be drained by a catheter through the urethra or the abdominal wall called a suprapubic tube over a period of days to weeks. This will prevent urine from building up in the bladder. It will also allow the injured bladder or urethra to heal and prevent swelling in the urethra from blocking urine flow. If the urethra has been cut, a urological specialist can try to put a catheter in place. If this cannot be done, a tube will be inserted through the abdominal wall directly into the bladder. This is called a suprapubic tube. It will be left in place until the swelling goes away and the urethra can be repaired with surgery. This takes 3 to 6 months. Outlook Prognosis Injury of the bladder and urethra due to trauma can be minor or fatal. Short or long-term serious complications can occur. Possible Complications Some of the possible complications of injury of the bladder and urethra are: Blockage to the flow of urine. Scarring leading to blockage of the urethra. Problems emptying the bladder completely. When to Contact a Medical Professional Call the local emergency number or go to the emergency room if you have an injury to bladder or urethra. Call your provider if symptoms get worse or new symptoms develop, including: Decrease in urine production.

8: Surgery of the Bladder and Urethra | Veterian Key

The bladder may be drained by a catheter through the urethra or the abdominal wall over a period of days to weeks. This will prevent urine from building up in the bladder. It will also allow the injured bladder or urethra to heal and prevent swelling in the urethra from blocking urine flow.

The bladder expels urine into a tube called the urethra that leads to the exterior of the body. Elimination of urine occurs by a process called micturition - which is also known as urination. General location in the body The bladder is located on the floor of the pelvic cavity. Other organs, glands and tissues located in the pelvic cavity include the rectum, gender-specific reproductive organs, parts of the small intestine, blood vessels, lymphatic vessels, and nerves. The bladder is located anterior to, i. Outer surfaces of the Bladder The upper and side surfaces i. This is the serous membrane of the abdominal cavity. Sometimes referred to as "serosa" this transparent membrane consists of mesothelium and elastic fibrous connective tissue. Note that, strictly, it is "visceral peritoneum" that covers the bladder and other abdominal organs, while "parietal peritoneum" lines the abdomen walls. Ureters The ureters deliver urine to the bladder from the kidneys one ureter from each kidney - see components of human urinary system. The ureters are retroperitoneal, which means that they are located in the retroperitoneal space i. This makes sense when it is remembered that the kidneys are among the organs and glands located in the retroperitoneal space - and the ureters connect the kidneys to the bladder. In adults the ureters are approx 12 inches 30 cm long and have a muscular coat not shown in diagram that tightens and relaxes to move urine away from the kidney. This muscular action is controlled by the autonomic nervous system ANS and operates in a similar way to that of peristalsis in the digestive system. The ureters pass through the posterior surface of the bladder at the Ureter Orifices as shown for male and female bladders. Urine drains through the ureters directly into the bladder as there are no sphincter muscles or valves at the ureter orifices. Serous The outer "serous" layer is a partial layer derived from the peritoneum as described above. Muscular The detrusor muscle is the muscle of the urinary bladder wall. It consists of three layers of smooth involuntary muscle fibres. Most of the fibres of the external layer are arranged longitudinally. Those of the middle layer are mostly arranged in a circular configuration, and the muscle fibres of the internal layer have a longitudinal arrangement. The three layers of detrusor muscle are not shown separately in the diagrams on these pages. Sub-mucous This is a thin layer of areolar tissue that loosely connects the muscular layer with the mucous layer, being itself intimately attached to the mucous layer. The ability of this tissue to stretch is important because it contains variable volumes of liquid - as the bladder is filled and emptied several times per day. Because it is only loosely attached to the strong and substantial muscular layer, the mucosa falls into many folds known as rugae when the bladder is empty or is only filled to a small extent. The features observable on the inside of the bladder are the ureter orifices, the trigone, and the internal orifice of the urethra. This area has a paler colour than the rest of the interior of the bladder indicated schematically as a different shade in the diagrams for male and female , and does not present any rugae even when the bladder is empty - because this area is more tightly bound to its outer layer of bladder tissue. The trigone is an important anatomical point of reference. Exit from Bladder When urine is released from the bladder it flows out via the neck of the bladder which is in the trigone region. The internal urethral sphincter is a sphincter circular muscle located at the neck of the bladder that helps to control the process of micturition. This involuntary muscle is formed from a thickening of the detrusor muscle and closes the urethra when the bladder has emptied. This is used to investigate possible causes of urinary incontinence. The urethra itself is different in males from that in females and vice-versa. This page describes the basic anatomy of the human bladder and urethra. ITEC and other therapy course. All references to bladder on this page are to the urinary bladder.

9: Urinary Bladder - Anatomy and Physiology

In anatomy, the urethra (from Greek ἰούρα - ourá, —thrḗ) is a tube that connects the urinary bladder to the urinary meatus for the removal of urine from the body. In males, the urethra travels through the penis and also carries semen. [1].

When to see a doctor Contact your doctor if you have signs and symptoms of a UTI. Request an Appointment at Mayo Clinic Causes Urinary tract infections typically occur when bacteria enter the urinary tract through the urethra and begin to multiply in the bladder. Although the urinary system is designed to keep out such microscopic invaders, these defenses sometimes fail. When that happens, bacteria may take hold and grow into a full-blown infection in the urinary tract. The most common UTIs occur mainly in women and affect the bladder and urethra. Infection of the bladder cystitis. However, sometimes other bacteria are responsible. All women are at risk of cystitis because of their anatomy — specifically, the short distance from the urethra to the anus and the urethral opening to the bladder. Infection of the urethra urethritis. Also, because the female urethra is close to the vagina, sexually transmitted infections, such as herpes, gonorrhea, chlamydia and mycoplasma, can cause urethritis. Risk factors Urinary tract infections are common in women, and many women experience more than one infection during their lifetimes. Risk factors specific to women for UTIs include: A woman has a shorter urethra than a man does, which shortens the distance that bacteria must travel to reach the bladder. Having a new sexual partner also increases your risk. Certain types of birth control. Women who use diaphragms for birth control may be at higher risk, as well as women who use spermicidal agents. After menopause, a decline in circulating estrogen causes changes in the urinary tract that make you more vulnerable to infection. Other risk factors for UTIs include: Blockages in the urinary tract. Kidney stones or an enlarged prostate can trap urine in the bladder and increase the risk of UTIs. A suppressed immune system. This may include people who are hospitalized, people with neurological problems that make it difficult to control their ability to urinate and people who are paralyzed. A recent urinary procedure. Urinary surgery or an exam of your urinary tract that involves medical instruments can both increase your risk of developing a urinary tract infection. Complications When treated promptly and properly, lower urinary tract infections rarely lead to complications. But left untreated, a urinary tract infection can have serious consequences. Complications of a UTI may include: Recurrent infections, especially in women who experience two or more UTIs in a six-month period or four or more within a year. Permanent kidney damage from an acute or chronic kidney infection pyelonephritis due to an untreated UTI. Increased risk in pregnant women of delivering low birth weight or premature infants. Urethral narrowing stricture in men from recurrent urethritis, previously seen with gonococcal urethritis. Sepsis, a potentially life-threatening complication of an infection, especially if the infection works its way up your urinary tract to your kidneys. Prevention You can take these steps to reduce your risk of urinary tract infections: Drink plenty of liquids, especially water. Although studies are not conclusive that cranberry juice prevents UTIs, it is likely not harmful. Wipe from front to back. Doing so after urinating and after a bowel movement helps prevent bacteria in the anal region from spreading to the vagina and urethra. Empty your bladder soon after intercourse. Also, drink a full glass of water to help flush bacteria. Avoid potentially irritating feminine products. Using deodorant sprays or other feminine products, such as douches and powders, in the genital area can irritate the urethra. Change your birth control method. Diaphragms, or unlubricated or spermicide-treated condoms, can all contribute to bacterial growth.

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