



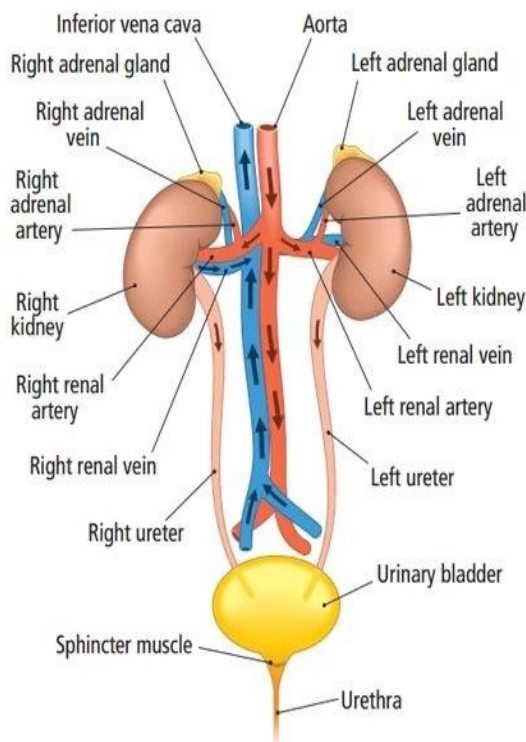
K.BENMAAMAR

Second Year Medicine

Urinary System

THE URINARY SYSTEM consists of all the organs involved in the formation and release of urine. Otherwise, it filters waste material and water from the blood and excretes it from the body as urine. The components of the urinary system include kidneys, ureters, bladder and urethra. From the kidneys, urine travels down two thin tubes called ureters to the bladder. During urination, then, urine passes from the bladder through the urethra.

During the urinary system assessment, a nursing student will use the skills of inspection, auscultation, percussion and palpation. Therefore, a patient's history of elimination includes a review of elimination patterns, elimination symptoms and anything that affects the patient ability to urinate. The assessment will attempt to determine the problem, onset, duration, predisposing factors and the severity of the problem.



Questions on the patient's history and the chief complaints or symptoms	Questions sur les antécédents du patient et les principales plaintes ou symptômes.
1- <u>Urological Emergencies</u> • What problems do you have with urination? • How often do you urinate? • Do you have any difficulty urinating? • Do you get up to urinate in the night? / How often? • Do you have any pain or burning when you urinate? • Have you ever lost control of your urine? 2- <u>Haematuria</u>: is blood in the urine. • Have you noticed any blood in your urine? • If yes, do you have any burning or pain with the blood? • Have you noticed any clots in your urine ? 3- <u>Acute Urinary Retention</u>: is the inability of the patient to empty his bladder. It can be associated with urinary leakage, dribbling and overflow incontinence. • How much urine do you pass when you urinate ? • What is the approximate amount of fluid you drink in a day? • What medications do you take? • Do you feel like you empty your bladder when you urinate? • Do you urinate frequently or in small amounts? 4- <u>Dysuria</u>: is defined as difficulty urinating. It happens when a patient experiences discomfort such as pressure, pain or burning when passing urine. It may be due to a lower urinary tract infection (UTI) <u>Incontinence</u>: is the inability of a patient to control the passage of urine. • Was the onset of dysuria gradual or did it happen all of a sudden? • How long have you had the pressure, pain or burning sensation? • Do you feel the pain in any other part	1- <u>Les urgences urologiques</u> - Quels sont les problèmes que vous rencontrez pour uriner ? - Quelle est la fréquence de vos mictions ? - Avez-vous des difficultés à uriner ? - Vous levez-vous pour uriner la nuit / à quelle fréquence ? - Avez-vous des douleurs ou des brûlures lorsque vous urinez ? - Avez-vous déjà perdu le contrôle de votre urine ? 2- <u>Hématurie</u> : c'est du sang dans les urines. - Avez-vous remarqué la présence de sang dans vos urines ? - Si oui, avez-vous des brûlures ou des douleurs liées au sang ? - Avez-vous remarqué des caillots dans vos urines ? 3- <u>Rétention aiguë d'urine</u> : c'est l'incapacité du patient à vider sa vessie. Elle peut être associée à des fuites urinaires, au goutte-à-goutte et à l'incontinence par regorgement. - Quelle quantité d'urine évacuez-vous lorsque vous urinez ? - Quelle est la quantité approximative de liquide que vous buvez en une journée ? - Quels médicaments prenez-vous ? - Avez-vous l'impression de vider votre vessie lorsque vous urinez ? - Urinez-vous fréquemment ou en petites quantités ? 4- <u>La dysurie</u> : se définit comme une difficulté à uriner. Elle survient lorsqu'un patient ressent une gêne telle qu'une pression, une douleur ou une sensation de brûlure au moment d'uriner. Elle peut être due à une infection des voies urinaires inférieures (IVU). <u>Incontinence</u> : incapacité du patient à contrôler l'émission d'urine. - L'apparition de la dysurie a-t-elle été progressive ou s'est-elle produite soudainement ? - Depuis combien de temps ressentez-vous une pression, une douleur ou une sensation de brûlure ? - Ressentez-vous cette douleur dans d'autres parties de votre corps ? - Avez-vous déjà eu ce problème dans le

of your body? • Have you ever had this problem in the past? • Have you done anything to try to alleviate the symptoms? • Was anything effective in relieving the symptoms? 5- Urgency: is an intense desire to urinate immediately and sometimes it can lead to incontinence. Frequency: is when the patient voids more frequently than what is usual for the patient. • How long have you had these symptoms? • How often do you have to urinate? • Are you able to empty your bladder each time you urinate? • Do you have any other symptoms with the urgency and frequency such as pain or burning? • How much fluid to drink each day?	passé ? - Avez-vous fait quelque chose pour tenter de soulager les symptômes ? - Ces mesures ont-elles été efficaces pour soulager les symptômes ? 5- L'urgence : c'est un désir intense d'uriner immédiatement et qui peut parfois conduire à l'incontinence. La fréquence : c'est lorsque le patient urine plus fréquemment que ce qui est habituel pour lui. - Depuis combien de temps avez-vous ces symptômes ? - Combien de fois avez-vous envie d'uriner ? - Êtes-vous capable de vider votre vessie à chaque fois que vous urinez ? - Avez-vous d'autres symptômes liés à l'urgence et à la fréquence des mictions, comme des douleurs ou des brûlures ? - Quelle quantité de liquide faut-il boire chaque jour ?
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Kidney Stones Signs and Symptoms:

In general, kidney stones show no symptoms until they move into the Ureter. Once these stones enter the Ureter, the following symptoms are usually seen.

- Douleur aiguë dans la région de l'aîne et sur les côtés
- **Sharp pain in the groin region and side areas**
- Signes de sang dans les urines (hématurie)
- **Signs of blood while passing urine (haematuria)**
- Nausées et vomissements fréquents
- **Frequent nausea and vomiting**
- Présence de pus dans l'urine
- **Pus observed in urine (pyuria)**
- Diminution de la quantité d'urine émise
- **Passing less amount of urine**
- Sensation de brûlure et de démangeaison lors de l'émission d'urine
- **Burning and itching sensation when passing urine**
- La sensation fréquente d'uriner
- **The frequent feeling of urination**
- Parfois, l'apparition de fièvre/de frissons
- **Sometimes, the occurrence of fever/chills**

Kidney Stones Diagnosis and Testing:

If your doctor observes the symptoms related to kidney stones problems, he/she may advise you a few diagnostic tests and procedures such as following: Try to link each term with the corresponding definition.

- **Blood Tests :** to inform about the presence of too much calcium or uric acid in your blood. It helps doctors to check the health of your kidney.
- **Urine Testing:** to have two urine collections for two consecutive days to assess the amount of stone forming minerals present in your urine.
- **Imaging Tests:** include simple abdominal X-rays, CT Scan and ultrasound to reveal the presence of kidney stones in your urinary tract. One advanced test is intravenous urography where a dye is injected into an arm vein and x-rays or CT images are taken as dye travels through kidney and bladder.
- **Analysing passed Kidney Stones:** to pass urine through a strainer so kidney stones passing through urine can be collected and analysed in a lab.



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Second Year Medicine

Urinary System – Activities-

Activity One: Please match each urinary term with its characteristics.

1. Albuminuria	A. Pus in the urine
2. Micturition	B. Feeling to void immediately
3. Dysuria	C. Microscopic functional units that form urine by the process of filtration, reabsorption and secretion.
4. Ureter	D. Protein in the urine
5. Pyuria	E. Presence of bacteria in the urine
6. Renal calculi	F. The inner region of the kidney
7. Urgency	G. Urination especially excessive at night
8. Nephrons	H. Painful urination
9. Urethra	I. A hollow muscular sac serves as a temporary reservoir for the urine
10. Calyx	J. Muscular lined tubes that carry urine from kidney to bladder
11. Medulla	K. A cuplike urine collection cavity found in the kidney
12. Urinary Bladder	L. Stone formation in the kidney
	M. The act of eliminating from the bladder, voiding, urination
	N. Mucous membrane lined tube that leads from the bladder to the exterior of the body, carries urine away from the bladder

Activity Two : Choose the correct answer

- 1- The pathophysiology student identifies that the retrograde movement of this specific bacteria from the gut into the lower urinary tract is the most common infecting pathogen responsible for UTI
 - A. Staphylococcus Saprophyticus
 - B. Klebsiella
 - C. Escherichia Coli
 - D. Pseudomonas
- 2- Your patient was recently diagnosed with UTI. As the nurse practitioner, you are assessing whether the patient has any improvement with their symptom of Haematuria. What question would you ask him?
 - A. Do you have pain when you urinate?
 - B. Do you feel like you need to urinate more often than usual?
 - C. Does your urine look cloudy?
 - D. Is there blood in your urine?
- 3- Your patient wants to know if they are considered to have recurrent UTI's because they have had 2 UTI's within the past year, one being in January and the other in September. What is your best response as a nurse practitioner?
 - A. Yes, you have had 2UTI's this year
 - B. No, you would need 3 or more UTI's within the past year
 - C. No, a recurrent UTI is a second UTI caused by the same pathogen within 2 weeks of the original treatment
 - D. No, a recurrent UTI is the one that occurs more than 2 weeks after the completion of treatment for the same or different pathogen.
- 4- A patient you are treating in the clinic asks you what actions they can take to help prevent UTIs. All of the following statements are correct, EXCEPT?
 - A. Wipe one's genital area front to back after using the restroom
 - B. Wear tight-fitting clothing.
 - C. Empty one's bladder
 - D. Drink lots of water
- 5- Which of the following scenarios of patients is least likely to acquire a UTI ?
 - A. A 24 year old male with poor hygiene
 - B. An immune-compromised individual receiving chemotherapy.
 - C. A post-menopausal woman with a history of diabetes mellitus.
 - D. A 52 year old female who had a urinary catheter placed for surgery

Activity 3:

Operative Report: fill in the gaps with the appropriate verb in the passive form

Patient Name:

Age:

DOB:

SEX:

Date of surgery:

Surgeon:

Anaesthesiologist:

Anaesthesia: General

Preoperative Diagnosis: Left proximal ureteral stones

Postoperative Diagnosis: Left proximal ureteral calculi

Indications: the patient is a 48 year-old female with a history of kidney stone disease, who has severe flank pain and was found to have an obstructing large left proximal ureteral stone.

Operative Procedure: after induction of general anaesthesia, the patientin the lithotomy position. The patient and in the usual sterile fashion. A cystoscope under camera vision. The scope into the bladder. Under fluoroscopic control, a guide wire was placed up the left ureter and bypassed the stone. This was difficult at first, but the guide wire eventually around the stone into the proximal collecting system.

The stone was quite large and occupied the entire lumen of the ureter. Lithotripsy then under camera vision. Using the Holmium laser, the stone into multiple fragments. Some of the stones for analysis.

The procedureby the patient without complications. The patient to the recovery room in stable condition.