LEARNING OBJECTIVES

After completing this chapter, you will be able to:

• Define and spell the word parts used to create terms for the urinary system.
• Break down and define common medical terms used for symptoms, diseases, disorders, procedures, treatments, and devices associated with the urinary system.
• Build medical terms from the word parts associated with the urinary system.
• Pronounce and spell common medical terms associated with the urinary system.
CHAPTER 11
The Urinary System
Worksheet 1

Phonetic Spelling Challenge
Spell the medical term correctly in the space provided.

1. in KON tih nens ____________________________
2. AL byoo men YOO ree ah ____________________________
3. YOO rih nair ee KATH eh ter ih ZAY shun ____________________________
4. YOO rih nair ee ehn DOSS koh pee ____________________________
5. yoo REE throh pek see ____________________________
6. neh FROSS koh pee ____________________________
7. siss TOSS koh pee ____________________________
8. yoo REE ter oh lith EYE ah siss ____________________________
9. NEFF roh lith EYE ah siss ____________________________
10. an yoo REE siss ____________________________
11. HIGH droh neh FROH siss ____________________________
12. yoo REE ter EYE tiss ____________________________
13. yoo REE mee ah ____________________________
14. DYE yoo REE siss ____________________________
15. EP ih SPAY dee ass ____________________________
16. HIGH poh SPAY dee ass ____________________________
17. STRIK cherz ____________________________
18. yoo REE ter oh seel ____________________________
19. kree ATT ih neen ____________________________
20. HEE moh dye AL ih siss ____________________________
Spelling Challenge

These terms are spelled incorrectly. Spell each term correctly in the space provided.

1. Urinarey ____________________________
2. Diyalisis ____________________________
3. Fullguration ____________________________
4. Cystonegraphy ____________________________
5. Urethroeplasty ____________________________
6. Vesicourethralle ____________________________
7. Urethroplexy ____________________________
8. Pecific gravity ____________________________
9. Renul ____________________________
10. Peritoneel ____________________________
11. Uroeterectomy ____________________________
12. Cystotomey ____________________________
13. Kidknee ____________________________
14. Pyleonephritis ____________________________
15. Glomerulie ____________________________

Abbreviation Matchup

Select and match the correct abbreviation to the definition.

_____ 1. retrograde pyelogram a. BUN
_____ 2. catheter, catheterization b. IVP
_____ 3. intravenous pyelogram c. cath
_____ 4. blood urea nitrogen d. HD
_____ 5. hemodialysis e. RP
_____ 6. voiding cystourethrogram f. UTI
_____ 7. specific gravity g. VCUG
_____ 8. urinalysis h. UA
_____ 9. urinary tract infection i. SG
True/False
Mark each statement as true (T) or false (F).

____ 1. Radioactive materials highlight internal details of the kidney.
____ 2. In polycystic kidney disease, cysts replace normal tissue.
____ 3. The involuntary release of urine, which usually occurs due to a lack of bladder control, is a condition known as enuresis.
____ 4. Excessive urination is a common sign of an endocrine disease.
____ 5. A nephroblastoma is a tumor occurring in the bladder but originating from muscle tissue.
____ 6. A cystocele is a stone, or calculus, in the urinary bladder.
____ 7. The presence of pus in the urine is called proteinuria.
____ 8. Reduced frequency of urination is known as nocturia.
____ 9. Difficulty or pain experienced during urination is a symptom of a urinary tract disease often caused by a bacterial infection.
____ 10. The presence of ketone bodies in the urine is a sign of a kidney disorder and is called hematuria.

Fill in the Blank
Fill in the blank with the correct medical term from this chapter.

11. The presence of any protein in the urine is called ______________________________.
12. If the exit of urine out of the kidneys becomes blocked, the urine will back up to cause distension of the renal pelvis. This painful condition is known as ______________________________.
13. An inflammatory condition of the renal pelvis that involves the nephrons is called ______________________________.
14. ______________________________ is an incision through the urinary bladder wall.
15. The measurement of the density of substances in a liquid compared to water is called ______________________________.
16. A combination of clinical lab tests that are performed on a urine specimen is called a(n) ______________________________.
17. A(n) ______________________________ is a flexible tube that is inserted into an opening of the body to transport fluids in or out.
18. A congenital defect resulting in the abnormal positioning of the urinary meatus is known as ________________________.

19. A(n) ________________________ is a ball of specialized capillaries within a kidney nephron.

20. In ________________________, an involuntary discharge of urine occurs during a cough, sneeze, or strained movement.

Short Answer
Write the definition for each of the following terms.

21. Ureteritis _____________________________________________________________

22. Cystoscopy _____________________________________________________________

23. Urethropexy _____________________________________________________________

24. Nephrosonography _____________________________________________________________

25. Nephrolysis _____________________________________________________________

Word Search
Fill in the blank with the correct medical term from this chapter, then find the words in the word search puzzle that follows.

1. A surgical technique that applies concentrated sound waves to pulverize or dissolve stones into smaller pieces that will pass with urine through the urethra is called ________________________.

2. Surgical fixation of a kidney is called ________________________.

3. The medical field that studies and treats disorders associated with the kidneys is called ________________________.

4. An x-ray image of the renal pelvis is called a(n) ________________________.

5. An instrument that measures the specific gravity (density of substances in a liquid compared to water) in a sample of urine is known as a(n) ________________________.

6. In an intravenous ________________________, iodine is used as the contrast medium and is injected into the bloodstream.

7. A general term for a tumor arising from kidney tissue is ________________________.

8. An inflammation of the urinary bladder is called ________________________.
9. The sign of abnormally high levels of urea and other nitrogen-containing compounds in the blood is called ____________________________.

10. ____________________________ literally means “urination through.”

11. The abnormal presence of glucose (sugar) in the urine is called ____________________________ and is a sign of an endocrine disease, such as diabetes mellitus, or a kidney disorder, or perhaps both.

12. An examination that uses nuclear medicine by IV injection of radioactive material into the patient’s kidney is called ____________________________.

13. A surgical procedure that removes a kidney is called ____________________________.

14. A procedure that surgically creates an opening into the kidney is called a(n) ____________________________.

15. The process of inserting the urinary catheter is called urinary ____________________________.
Dictation Report

Write each numbered term as you hear it, spelling each term correctly. This exercise will help you learn to hear, comprehend, visualize, and spell the new medical terms accurately.

Jane has been experiencing (1) ____________________________, or pain and burning when she voids. She has come to the doctor today to seek some help. The presence of bacteria in the urine is a sign of a(n) (2) ____________________________ and is called (3) ____________________________.

The (4) ____________________________ will check for (5) ____________________________, or blood in the urine, and (6) ____________________________, or pus in the urine. The doctor will perform a(n) (7) ____________________________ to determine the cause of Jane’s problem. If he discovers albumin in the urine, a condition known as (8) ____________________________, he will recognize this symptom as a sign of abnormal renal filtration.

Jane has a history of periodic (9) ____________________________, or the involuntary release of urine. She believes that this problem is really (10) ____________________________, because it only happens when she sneezes or coughs. She has never had any other problems with her urinary system except when she was pregnant and had to have a(n) (11) ____________________________ placed in her bladder during labor to help drain the urine out.

Joe has also come to the doctor today. He has been experiencing problems passing his urine. The inability to pass urine is a sign of a blockage of the urinary tract, or perhaps of kidney failure. It is called (12) ____________________________. Joe knows that he has an enlarged (13) ____________________________ and wonders if this is what is causing his problem. Joe also has the need to urinate at night, called (14) ____________________________, which is a sign of (15) ____________________________. Joe might have a(n) (16) ____________________________ of some kind, causing an abnormal narrowing. A(n) (17) ____________________________ is one in which
the ureter is narrowed, and a(n) (18) ______________________ is one in which the urethra is narrowed.

Joe knows there is a history of kidney cancer in his family. His mother has a(n) (19) ______________________, or a cancer arising from kidney tissue. He has gone with her many times to the doctor for tests and treatment for her recurring (20) ______________________, or kidney stones. She now has (21) ______________________, or enlarged kidneys.

Both Jane and Joe are taking the right steps toward maintaining their urinary health. By doing so, they hope to avoid problems in the future like (22) ______________________, or waste products in the blood; (23) ______________________, or inflammation of a kidney; (24) ______________________, or an inflammation of the bladder; (25) ______________________, or backup of urine into the kidney, causing kidney damage; and (26) ______________________.
Word Surgery

Read the Medical Word. Break down the medical word into its word parts, and give the meaning of each word part. Then give the definition of the medical word.

1. Ureterocele
   Definition: ____________________________________________
   Combining form and definition: ___________________________
   Suffix and definition: __________________________________

2. Nephroptosis
   Definition: ____________________________________________
   Prefix and definition: _________________________________
   Combining form and definition: __________________________
   Suffix and definition: __________________________________

3. Ketonuria
   Definition: ____________________________________________
   Combining form and definition: __________________________
   Suffix and definition: __________________________________

4. Dysuria
   Definition: ____________________________________________
   Prefix and definition: _________________________________
   Suffix and definition: __________________________________

5. Pyelogram
   Definition: ____________________________________________
   Combining form and definition: __________________________
   Suffix and definition: __________________________________

6. Glomerulonephritis
   Definition: ____________________________________________
   Combining form and definition: __________________________
   Suffix and definition: __________________________________
7. **Pyuria**
   Definition: ____________________________________________________________
   Combining form and definition: ____________________________________________
   Suffix and definition: ____________________________________________________

8. **Azotemia**
   Definition: ______________________________________________________________
   Combining form and definition: ____________________________________________
   Suffix and definition: ____________________________________________________

9. **Nocturia**
   Definition: ______________________________________________________________
   Combining form and definition: ____________________________________________
   Suffix and definition: ____________________________________________________

10. **Bacteruria**
    Definition: ______________________________________________________________
    Combining form and definition: __________________________________________
    Suffix and definition: __________________________________________________

11. **Cystoscope**
    Definition: ______________________________________________________________
    Combining form and definition: __________________________________________
    Suffix and definition: __________________________________________________

12. **Urethritis**
    Definition: ______________________________________________________________
    Combining form and definition: __________________________________________
    Suffix and definition: __________________________________________________

13. **Oliguria**
    Definition: ______________________________________________________________
    Combining form and definition: __________________________________________
    Suffix and definition: __________________________________________________

14. **Renopathy**
    Definition: ______________________________________________________________
    Combining form and definition: __________________________________________
    Suffix and definition: __________________________________________________
Case Study

Fill in the blank with the correct medical term from this chapter.

Joyce is a 30-year-old seen by her family practice doctor for a complaint of one day of feeling the frequent urge to urinate and pain on urination. Her history is remarkable only for one previous urinary tract infection four years earlier. Her doctor orders a test on her urine called a urinalysis. This test reveals bacteria, blood, and white blood cells in the sample. She is diagnosed with an infection of the bladder. She is treated with appropriate antibiotics. Her urine is sent for culture and sensitivity to ensure that the correct treatment has been given. What is the appropriate medical terminology for:

1. Pain on urination ____________________________
2. Bacteria in the urine __________________________
3. Blood in the urine _____________________________
4. Pus in the urine ______________________________
5. Infection of the bladder _______________________
Medical Report Analysis

Consider the following excerpt from a clinician’s notes following completion of a urologic examination. For the highlighted terms or word parts, provide the meaning.

Patient is a 60-year-old female experiencing pain in the lumbar region of the back, hematuria, (A) ___________________________ fever, and anorexia. Urinalysis (B) ___________________________ showed proteinuria, (C) ___________________________ and CT scan demonstrated nephromegaly (D) ___________________________ and evidence of polycystic kidney disease (E) ___________________________.


Which Term Does Not Belong?

Circle the term that is not related to the other terms. Then explain why the term does not belong with the others.

1. Signs and symptoms
   a. axotemia
   b. bacteriuria
   c. diuresis
   d. glycosuria
   e. nephrology

   Why does it not belong? __________________________________________________________

2. Disorders and diseases
   a. hydronephrosis
   b. hypospadias
   c. nephromegaly
   d. urology
   e. ureterocele

   Why does it not belong? __________________________________________________________

3. Word roots
   a. rrhaphy
   b. ren
   c. meat
   d. lith
   e. hydro

   Why does it not belong? __________________________________________________________

4. Treatments and procedures
   a. cystogram
   b. cystitis
   c. cystorrhaphy
   d. cystoscopy
   e. cystoplasty

   Why does it not belong? __________________________________________________________
5. Treatments and procedures
   a. hemodialysis
   b. lithotripsy
   c. nephrolithiasis
   d. nephropexy
   e. pyeloplasty

   Why does it not belong? ________________________________
Labeling
Label the diagram below.
Key Terms Double Check

Remember that the chapter’s key terms appeared alphabetically throughout this chapter. This exercise helps you to check your knowledge and review for tests.

1. First, fill in the missing word in the definitions for the chapter’s key terms.

2. Then, check your answers using the answer key.

3. If you got the answer right, put a checkmark in the right column.

4. If your answer was incorrect, go back to the frame number provided and review the content.

Use the checklist to study the terms you don’t know until you’re confident you know them all.

<table>
<thead>
<tr>
<th>Key Term</th>
<th>Frame</th>
<th>Definition</th>
<th>Know It?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. albuminuria</td>
<td>11.8</td>
<td>a condition of the presence of albumin in the __________________________</td>
<td>❑</td>
</tr>
<tr>
<td>2. anuresis</td>
<td>11.9</td>
<td>the _________________ to pass urine</td>
<td>❑</td>
</tr>
<tr>
<td>3. anuria</td>
<td>11.9</td>
<td>the production of less than 100 mL of urine per _______________</td>
<td>❑</td>
</tr>
<tr>
<td>4. azotemia</td>
<td>11.10</td>
<td>abnormally high levels of urea and other nitrogen-containing compounds in the _______________</td>
<td>❑</td>
</tr>
<tr>
<td>5. bacteriuria</td>
<td>11.11</td>
<td>the abnormal presence of _________________ in the urine</td>
<td>❑</td>
</tr>
<tr>
<td>6. blood urea nitrogen</td>
<td>11.48</td>
<td>a lab test that measures urea concentration in a sample of blood as an indicator of _______________ function</td>
<td>❑</td>
</tr>
<tr>
<td>7. creatinine</td>
<td>11.49</td>
<td>a(n) ________________ that is a normal component of urine and is measured in urine samples</td>
<td>❑</td>
</tr>
<tr>
<td>8. cystectomy</td>
<td>11.50</td>
<td>the surgical _______________ of the urinary bladder</td>
<td>❑</td>
</tr>
<tr>
<td>9. cystitis</td>
<td>11.22</td>
<td>inflammation of the urinary ________________ usually caused by a bacterial infection that travels up the urethra</td>
<td>❑</td>
</tr>
<tr>
<td>10. cystocele</td>
<td>11.23</td>
<td>a(n) _________________ of the urinary bladder</td>
<td>❑</td>
</tr>
<tr>
<td>Key Term</td>
<td>Frame</td>
<td>Definition</td>
<td>Know It?</td>
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<td>--------------------------</td>
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<td>-----------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>11. cystogram</td>
<td>11.51</td>
<td>the x-ray image of the urinary bladder during a procedure called _________</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>that involves the injection of a contrast medium or dye</td>
<td></td>
</tr>
<tr>
<td>12. cystolith</td>
<td>11.24</td>
<td>a(n) _________ in the urinary bladder</td>
<td></td>
</tr>
<tr>
<td>13. cystolithotomy</td>
<td>11.52</td>
<td>a procedure of removing a stone through a(n) _________ in the urinary bladder</td>
<td></td>
</tr>
<tr>
<td>14. cystoplasty</td>
<td>11.53</td>
<td>the surgical _________ of the urinary bladder</td>
<td></td>
</tr>
<tr>
<td>15. cystorrhaphy</td>
<td>11.54</td>
<td>the _________ of the urinary bladder wall</td>
<td></td>
</tr>
<tr>
<td>16. cystoscopy</td>
<td>11.55</td>
<td>a diagnostic procedure that uses a modified endoscope to view the interior of the urinary _________</td>
<td></td>
</tr>
<tr>
<td>17. cystostomy</td>
<td>11.56</td>
<td>the surgical creation of an artificial _________ into the urinary bladder</td>
<td></td>
</tr>
<tr>
<td>18. cystotomy</td>
<td>11.57</td>
<td>a(n) _________ through the urinary bladder wall</td>
<td></td>
</tr>
<tr>
<td>19. cystourethrogram</td>
<td>11.51</td>
<td>the _________ formed during a cystourethrograph</td>
<td></td>
</tr>
<tr>
<td>20. diuresis</td>
<td>11.12</td>
<td>the excessive discharge of _________, a sign of the endocrine disorders dietes insipidus and diabetes mellitus</td>
<td></td>
</tr>
<tr>
<td>21. dysuria</td>
<td>11.13</td>
<td>difficulty or _________ during urination</td>
<td></td>
</tr>
<tr>
<td>22. enuresis</td>
<td>11.25</td>
<td>involuntary _________ of urine usually due to lack of bladder control</td>
<td></td>
</tr>
<tr>
<td>23. epispadias</td>
<td>11.26</td>
<td>a(n) _________ defect that results in the abnormal positioning of the urinary meatus</td>
<td></td>
</tr>
<tr>
<td>24. fulguration</td>
<td>11.58</td>
<td>a surgical procedure that destroys living tissue with a(n) _________ current</td>
<td></td>
</tr>
<tr>
<td>25. glomerulonephritis</td>
<td>11.27</td>
<td>_________ of the glomeruli that is caused either by an autoimmune disease or a bacterial infection</td>
<td></td>
</tr>
<tr>
<td>26. glycosuria</td>
<td>11.14</td>
<td>the abnormal presence of _________ (sugar) in the urine, which is a sign of an endocrine disorder, kidney disorder, or perhaps both</td>
<td></td>
</tr>
<tr>
<td>27. hematuria</td>
<td>11.15</td>
<td>the abnormal presence of _________ in the urine</td>
<td></td>
</tr>
<tr>
<td>Key Term</td>
<td>Frame</td>
<td>Definition</td>
<td>Know It?</td>
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<tr>
<td>---------------</td>
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</tr>
<tr>
<td>28. hemodialysis</td>
<td>11.59</td>
<td>a procedure that pushes a patient’s blood through permeable membranes within an instrument to artificially _______ nitrogenous wastes and excess ions that accumulate during normal body metabolism</td>
<td>☐</td>
</tr>
<tr>
<td>29. hydromeephrosis</td>
<td>11.28</td>
<td>a condition of distension of the renal pelvis due to a(n) _______ of urine</td>
<td>☐</td>
</tr>
<tr>
<td>30. hypospadias</td>
<td>11.29</td>
<td>a congenital defect in which the urinary meatus is abnormally positioned _______</td>
<td>☐</td>
</tr>
<tr>
<td>31. incontinence</td>
<td>11.30</td>
<td>the inability to control _______</td>
<td>☐</td>
</tr>
<tr>
<td>32. ketonuria</td>
<td>11.16</td>
<td>the _______ presence of ketone bodies in the urine</td>
<td>☐</td>
</tr>
<tr>
<td>33. lithotripsy</td>
<td>11.60</td>
<td>a surgical technique that applies concentrated sound waves to pulverize or _______ kidney stones into smaller pieces that may then pass with urine through the urethra</td>
<td>☐</td>
</tr>
<tr>
<td>34. nephrectomy</td>
<td>11.61</td>
<td>the surgical _______ of a kidney</td>
<td>☐</td>
</tr>
<tr>
<td>35. nephritis</td>
<td>11.31</td>
<td>inflammation of a(n) _______</td>
<td>☐</td>
</tr>
<tr>
<td>36. nephroblastoma</td>
<td>11.32</td>
<td>a(n) _______ that originates from kidney tissue and includes developing embryonic cells</td>
<td>☐</td>
</tr>
<tr>
<td>37. nephrogram</td>
<td>11.62</td>
<td>an -ray _______ of the kidney that results from a nephrography procedure</td>
<td>☐</td>
</tr>
<tr>
<td>38. nephrolithiasis</td>
<td>11.33</td>
<td>the presence of one or more _______ (or calculi) within a kidney</td>
<td>☐</td>
</tr>
<tr>
<td>39. nephrology</td>
<td>11.63</td>
<td>the _______ field that studies and treats disorders associated with the kidneys</td>
<td>☐</td>
</tr>
<tr>
<td>40. nephrolysis</td>
<td>11.64</td>
<td>a surgical procedure in which abnormal adhesions are removed from a kidney, which _______ the organ</td>
<td>☐</td>
</tr>
<tr>
<td>41. nephroma</td>
<td>11.34</td>
<td>a general term for a tumor that arises from _______ tissue</td>
<td>☐</td>
</tr>
<tr>
<td>42. nephromegaly</td>
<td>11.35</td>
<td>the abnormal _______ of one or both kidneys</td>
<td>☐</td>
</tr>
<tr>
<td>43. nephropexy</td>
<td>11.65</td>
<td>the surgical _______ of a kidney that is abnormally loose within the abdominal cavity, as in the condition of nephroptosis</td>
<td>☐</td>
</tr>
<tr>
<td>Key Term</td>
<td>Frame</td>
<td>Definition</td>
<td>Know It?</td>
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<td>-----------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>44. nephroptosis</td>
<td>11.36</td>
<td>a condition of __________ displacement of a kidney, when the kidney is no longer held in its proper position against the posterior abdominal wall</td>
<td>☐</td>
</tr>
<tr>
<td>45. nephroscopy</td>
<td>11.66</td>
<td>a visual examination of kidney nephrons using a modified endoscope called a(n) __________</td>
<td>☐</td>
</tr>
<tr>
<td>46. nephrosonography</td>
<td>11.67</td>
<td>a(n) __________ procedure that provides an image of a kidney for diagnostic analysis</td>
<td>☐</td>
</tr>
<tr>
<td>47. nephrostomy</td>
<td>11.68</td>
<td>the surgical creation of an opening through the body wall and into a(n) __________</td>
<td>☐</td>
</tr>
<tr>
<td>48. nephrotomogram</td>
<td>11.69</td>
<td>an x-ray image obtained from a diagnostic procedure that images the kidney to observe internal details of kidney __________</td>
<td>☐</td>
</tr>
<tr>
<td>49. nocturia</td>
<td>11.17</td>
<td>the need to urinate frequently at __________</td>
<td>☐</td>
</tr>
<tr>
<td>50. oliguria</td>
<td>11.18</td>
<td>__________ urination</td>
<td>☐</td>
</tr>
<tr>
<td>51. peritoneal dialysis</td>
<td>11.70</td>
<td>the use of artificial filtration to __________ fluids from the peritoneal cavity, removing toxins and other wastes as a replacement for kidney function</td>
<td>☐</td>
</tr>
<tr>
<td>52. polycystic kidney disease</td>
<td>11.37</td>
<td>a condition in which __________ cysts (fluid-filled capsules) occupy much of the kidney tissue and result in loss of kidney function</td>
<td>☐</td>
</tr>
<tr>
<td>53. polyuria</td>
<td>11.19</td>
<td>chronic __________ urination</td>
<td>☐</td>
</tr>
<tr>
<td>54. proteinuria</td>
<td>11.20</td>
<td>the presence of any protein in the __________</td>
<td>☐</td>
</tr>
<tr>
<td>55. pyelitis</td>
<td>11.38</td>
<td>inflammation of the __________ pelvis</td>
<td>☐</td>
</tr>
<tr>
<td>56. pyelogram</td>
<td>11.71</td>
<td>an x-ray image of the renal pelvis; a retrograde pyelogram is obtained by __________ contrast medium into the ureter to examine kidney-related disorders</td>
<td>☐</td>
</tr>
<tr>
<td>57. pyelolithotomy</td>
<td>11.72</td>
<td>the surgical __________ and removal of a stone from the renal pelvis</td>
<td>☐</td>
</tr>
<tr>
<td>58. pyelonephritis</td>
<td>11.39</td>
<td>inflammation of the renal pelvis and __________</td>
<td>☐</td>
</tr>
<tr>
<td>59. pyeloplasty</td>
<td>11.73</td>
<td>the surgical __________ of the renal pelvis</td>
<td>☐</td>
</tr>
<tr>
<td>60. pyuria</td>
<td>11.21</td>
<td>the presence of __________ in the urine</td>
<td>☐</td>
</tr>
<tr>
<td>Key Term</td>
<td>Frame</td>
<td>Definition</td>
<td>Know It?</td>
</tr>
<tr>
<td>--------------------------</td>
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<td>---------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>61. renal transplant</td>
<td>11.74</td>
<td>the replacement of a dysfunctioning kidney with a(n) _______________ kidney</td>
<td></td>
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<tr>
<td>62. renography</td>
<td>11.75</td>
<td>a diagnostic examination that uses nuclear medicine by intravenous injection of radioactive material into the _______________ to highlight internal details</td>
<td></td>
</tr>
<tr>
<td>63. specific gravity</td>
<td>11.76</td>
<td>the measurement of the _______________ of substances in a liquid compared to water</td>
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<tr>
<td>64. stricture</td>
<td>11.40</td>
<td>a condition of _______________ narrowing</td>
<td></td>
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<tr>
<td>65. uremia</td>
<td>11.41</td>
<td>excess urea and other nitrogenous wastes in the _______________</td>
<td></td>
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<tr>
<td>66. ureterectomy</td>
<td>11.77</td>
<td>the _______________ of a ureter</td>
<td></td>
</tr>
<tr>
<td>67. ureteritis</td>
<td>11.42</td>
<td>inflammation of a(n) _______________</td>
<td></td>
</tr>
<tr>
<td>68. ureterocele</td>
<td>11.43</td>
<td>a(n) _______________ ureter</td>
<td></td>
</tr>
<tr>
<td>69. ureterolithiasis</td>
<td>11.44</td>
<td>the presence of one or more _______________ (or calculi) within a ureter</td>
<td></td>
</tr>
<tr>
<td>70. ureterostomy</td>
<td>11.78</td>
<td>the surgical creation of a(n) _______________ through a ureter</td>
<td></td>
</tr>
<tr>
<td>71. ureterotomy</td>
<td>11.78</td>
<td>a surgical _______________ into the wall of ureter</td>
<td></td>
</tr>
<tr>
<td>72. urethropexy</td>
<td>11.79</td>
<td>the surgical _______________ of the urethra</td>
<td></td>
</tr>
<tr>
<td>73. urethroplasty</td>
<td>11.80</td>
<td>the _______________ of the urethra</td>
<td></td>
</tr>
<tr>
<td>74. urethrostomy</td>
<td>11.81</td>
<td>the surgical creation of an opening through the _______________</td>
<td></td>
</tr>
<tr>
<td>75. urethrotomy</td>
<td>11.81</td>
<td>a surgical _______________ into the wall of the urethra</td>
<td></td>
</tr>
<tr>
<td>76. urinalysis</td>
<td>11.82</td>
<td>clinical lab tests that are performed on a(n) _______________ specimen to provide information on its quality and composition</td>
<td></td>
</tr>
<tr>
<td>77. urinary catheterization</td>
<td>11.83</td>
<td>the procedure of inserting a urinary catheter into the urethra to drain urine from an immobile patient's _______________</td>
<td></td>
</tr>
<tr>
<td>78. urinary endoscopy</td>
<td>11.84</td>
<td>the use of an endoscope to _______________ internal structures of the urinary system; specialized endoscopes are used for each urinary organ</td>
<td></td>
</tr>
<tr>
<td>79. urinary retention</td>
<td>11.45</td>
<td>an abnormal _______________ of urine within the urinary bladder</td>
<td></td>
</tr>
<tr>
<td>Key Term</td>
<td>Frame</td>
<td>Definition</td>
<td>Know It?</td>
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<td>--------------------------</td>
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<td>-----------------------------------------------------------------------------</td>
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<tr>
<td>80. urinary suppression</td>
<td>11.46</td>
<td>an acute stoppage of urine formation by the ________________</td>
<td></td>
</tr>
<tr>
<td>81. urinary tract</td>
<td>11.47</td>
<td>an infection of urinary organs, usually the ________________ and urinary bladder</td>
<td></td>
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<tr>
<td>infection</td>
<td></td>
<td></td>
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<tr>
<td>82. urinometer</td>
<td>11.85</td>
<td>a(n) ________________ that measures the specific gravity of urine</td>
<td></td>
</tr>
<tr>
<td>83. urologist</td>
<td>11.86</td>
<td>a physician who treats patients with disorders of the urinary system in the discipline of ________________</td>
<td></td>
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<tr>
<td>84. vesicourethral</td>
<td>11.87</td>
<td>a surgery that ________________ the position of the urinary bladder</td>
<td></td>
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<td>suspension</td>
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CHAPTER 11
The Urinary System
Worksheet 9

Crossword Puzzle

Directions: Fill in the crossword puzzle with the words missing from the sentences below. Match the number of the sentence to the boxes placed across or down the grid. If filled out correctly, the words will fit neatly into the puzzle.

ACROSS
2 The protein ___________ is a normal component of urine and is a by-product of muscle metabolism.
4 A condition of abnormal narrowing is known as a(n) ___________.
6 A(n) ___________ is a tumor originating from kidney tissue that includes developing embryonic cells.
8 An ultrasound procedure that provides an image of a kidney for diagnostic analysis is known as ___________.
9 An examination that uses nuclear medicine by IV injection of radioactive material into the patient’s kidneys is called ___________.

DOWN
1 The measurement of the density of substances in a liquid compared to water is called specific ___________.
2 A herniation of the urinary bladder is called a(n) ___________.
3 A(n) ___________ is a clinical procedure that examines the composition of urine using a variety of tests, including microscopy.
5 A surgical procedure that destroys living tissue with an electric current is called ___________.
7 A(n) ___________ is a flexible tube inserted into an opening of the body to transport fluids in or out.
CHAPTER 11
The Urinary System

Worksheet 1 Answers

Phonetic Spelling Challenge
1. Incontinence 11. Hydronephrosis
2. Albuminuria 12. Ureteritis
5. Urethropexy 15. Epispadias
7. Cystoscopy 17. Strictures
8. Ureterolithiasis 18. Ureterocele
10. Anuresis 20. Hemodialysis

Spelling Challenge
1. Urinary 9. Renal
2. Dialysis 10. Peritoneal
3. Fulguration 11. Ureterectomy
4. Cystography 12. Cystostomy
7. Urethropexy 15. Glomeruli
8. Specific gravity

Abbreviation Matchup
1. RP 6. VCUG
2. cath 7. SG
3. IVP 8. UA
4. BUN 9. UTI
5. HD
True/False

1. T  
2. T  
3. T  
4. T  
5. F  
6. F  
7. F  
8. F  
9. T  
10. F  

Fill in the Blank

11. proteinuria  
12. hydronephrosis  
13. pyelonephritis  
14. Cystotomy  
15. specific gravity  
16. urinalysis  
17. catheter  
18. epispadias  
19. glomerulus  
20. stress incontinence  

Short Answer

21. Inflammation of a ureter  
22. A procedure using a modified endoscope to view the interior of the urinary bladder  
23. Surgical fixation of the urethra  
24. An ultrasound procedure that provides an image of a kidney for diagnostic analysis  
25. A surgical procedure during which abnormal adhesions are removed from a kidney, loosening the organ
Word Search

1. lithotripsy
2. nephropexy
3. nephrology
4. pyelogram
5. urinometer
6. pyelogram
7. nephroma
8. cystitis
9. azotemia
10. Diuresis
11. glycosuria
12. renography
13. nephrectomy
14. nephrostomy
15. catheterization
The Urinary System

Worksheet 2 Answers

Dictation Report

Write each numbered term as you hear it, spelling each term correctly. This exercise will help you learn to hear, comprehend, visualize, and spell the new medical terms accurately.

Jane has been experiencing (1) dysuria, or pain and burning when she voids. She has come to the doctor today to seek some help. The presence of bacteria in the urine is a sign of a (2) urinary tract infection, or UTI, and is called (3) bacteriuria. The (4) urologist will check for (5) hematuria, or blood in the urine, and (6) pyuria, or pus in the urine. The doctor will perform a (7) urinalysis to determine the cause of Jane's problem. If he discovers albumin in the urine, a condition known as (8) albuminuria, he will recognize this symptom as a sign of abnormal renal filtration.

Jane has a history of periodic (9) incontinence, or the involuntary release of urine. She believes that this problem is really (10) stress incontinence, because it only happens when she sneezes or coughs. She has never had any other problems with her urinary system except when she was pregnant and had to have a (11) urinary catheter placed in her bladder during labor to help drain the urine out.

Joe has also come to the doctor today. He has been experiencing problems passing his urine. The inability to pass urine is a sign of a blockage of the urinary tract, or perhaps of kidney failure. It is called (12) anuresis. Joe knows that he has an enlarged (13) prostate and wonders if this is what is causing his problem. Joe also has the need to urinate at night, called (14) nocturia, which is a sign of (15) benign prostate hyperplasia, or BHP. Joe might have a (16) stricture of some kind, causing an abnormal narrowing. A (17) ureteral stricture is one in which the ureter is narrowed, and a (18) urethral stricture is one in which the urethra is narrowed.

Joe knows there is a history of kidney cancer in his family. His mother has a (19) nephroma, or a cancer arising from kidney tissue. He has gone with her many times to the doctor for tests and treatment for her recurring (20) nephrolithiasis, or kidney stones. She now has (21) nephromegaly, or enlarged kidneys.
Both Jane and Joe are taking the right steps toward maintaining their urinary health. By doing so, they hope to avoid problems in the future like (22) **azotemia**, or waste products in the blood; (23) **nephritis**, or inflammation of a kidney; (24) **cystitis**, or an inflammation of the bladder; (25) **hydronephrosis**, or backup of urine into the kidney, causing kidney damage; and (26) **acute renal failure**.
CHAPTER 11
The Urinary System

Worksheet 3 Answers

Word Surgery

1. Ureterocele
   Definition: Herniation of the ureter
   Combining form and definition: ureter/o, ureter
   Suffix and definition: -cele, hernia, swelling, protrusion

2. Nephroptosis
   Definition: Condition where the nephrons become abnormally positioned within the kidney
   Combining form and definition: nephr/o, nephron
   Suffix and definition: -ptosis, drooping or falling down

3. Ketonuria
   Definition: Presence of ketones in the urine
   Combining form and definition: keton/o, ketone
   Suffix and definition: -uria, pertaining to urine, urination

4. Dysuria
   Definition: Difficulty making and passing urine
   Prefix and definition: dys-, painful or difficult
   Suffix and definition: -uria, pertaining to urine, urination

5. Pyelogram
   Definition: An image or picture of the renal pelvis
   Combining form and definition: pyel/o, renal pelvis
   Suffix and definition: -gram, record or image

6. Glomerulonephritis
   Definition: Inflammation of the filtering component of the nephron
   Combining form and definition: glomerul/o, glomerulus; nephr/o, nephron
   Suffix and definition: -itis, inflammation

7. Pyuria
   Definition: Presence of pus in the urine
   Combining form and definition: py/o, pus
   Suffix and definition: -uria, pertaining to urine, urination

8. Azotemia
   Definition: Elevated nitrogen-containing compounds in blood
   Combining form and definition: azot/o, nitrogen
   Suffix and definition: -emia, in blood

9. Nocturia
   Definition: The need to urinate during the night, interrupting sleep
   Combining form and definition: noct/o, nighttime
   Suffix and definition: -uria, pertaining to urine, urination
10. Bacteruria
   Definition: Presence of bacteria in the urine
   Combining form and definition: bacteri/o, bacteria
   Suffix and definition: -uria, pertaining to urine, urination

11. Cystoscope
   Definition: An instrument used to examine the bladder and urethra
   Combining form and definition: cyst/o, bladder or sac
   Suffix and definition: -scope, an instrument used for viewing

12. Urethritis
   Definition: Inflammation of the urethra
   Combining form and definition: urethr/o, urethra
   Suffix and definition: -itis, inflammation

13. Oliguria
   Definition: Producing low quantities of urine
   Combining form and definition: olig/o, little or few
   Suffix and definition: -uria, pertaining to urine, urination

14. Renopathy
   Definition: Disease of the kidney
   Combining form and definition: ren/o, kidney
   Suffix and definition: -pathy, disease
Case Study

1. dysuria
2. bacteriuria
3. hematuria
4. pyuria
5. cystitis
CHAPTER 11
The Urinary System

Worksheet 5 Answers

Medical Report Analysis

A. Blood in the urine
B. Examination of contents of the urine
C. Protein in the urine
D. Enlargement of the kidney
E. Disease characterized by multiple fluid-filled sacs growing within the kidney
Which Term Does Not Belong?

1. E  Nephrology is the study of disorders related to the nephron rather than a sign or symptom.
2. D  Urology is the study of disorders of the urinary system rather than a disease or disorder.
3. A  -rrhaphy is a suffix rather than a word root.
4. B  Cystitis is an inflammatory condition of the urinary bladder rather than a treatment or procedure.
5. C  Nephrolithiasis is a condition of having kidney stones rather than a treatment or procedure.
Labeling

- Diaphragm
- Adrenal gland
- Kidney
- Renal artery and vein
- Aorta
- Ureter
- Rectum (cut)
- Urinary bladder
- Urethra
CHAPTER 11
The Urinary System

Worksheet 8 Answers

Key Terms Double Check

1. urine          33. crush (or dissolve)
2. inability       34. removal
3. day             35. kidney
4. blood           36. tumor
5. bacteria        37. image
6. kidney          38. stones
7. protein         39. medical
8. removal         40. loosens
9. bladder         41. kidney
10. herniation     42. enlargement
11. cystography    43. fixation
12. stone (or calculus) 44. downward
13. incision       45. nephroscope
14. repair         46. ultrasound
15. suturing       47. kidney
16. bladder        48. structure
17. opening        49. night
18. incision       50. reduced
19. image          51. cleanse (or filter)
20. urine          52. numerous (or many)
21. pain           53. excessive
22. release        54. urine
23. congenital     55. renal
24. electric       56. injecting
25. inflammation   57. incision
26. glucose        58. nephrons
27. blood          59. repair
28. remove         60. pus
29. blockage (or obstruction) 61. donor
30. ventrally      62. kidney
31. urination      63. density
32. abnormal       64. abnormal
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<td>urine</td>
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<td>77.</td>
<td>bladder</td>
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<td>78.</td>
<td>observe (or view)</td>
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<tr>
<td>79.</td>
<td>accumulation (or retention)</td>
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<td>kidneys</td>
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<td>82.</td>
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Crossword Puzzle

Solution:

CREATININE

Y

STRUCTURE

T

O

NEPHROBLASTOMA

CC

EA

LT

NEPHROSONOGRAPHY

ET

RI

RENOGRAPHY

R

G

R

U

A

R

F

V

I

U

I

N

NEPHROBLASTOMA

G

Y

L

U

Y

R

S

I

S

N

R

G

C

CC

I

I

M

Y

A

RGA

HPR

G

A

A

A

A

A