

# Worksheet Answer Key

## Disease and Treatment

### True or False

Examine the following statements. Identify if the statement is true or false

	True	False
1. Pathogens are parasites.	✓	
2. The cause of a disease is its etiology.	✓	
3. Diabetes mellitus is a type of neoplasia.		✓
4. Bacilli are round-shaped bacteria.		✓
5. Adaptive immunity results from contact with disease organisms.	✓	
6. A benign tumor usually metastasizes and becomes malignant.		✓
7. The term tachycardia refers to an increased heart rate.	✓	
8. Xeroderma is moistness of the skin.		✓
9. Osteomalacia is a disease characterized by abnormal hardening of bone tissue.		✓
10. The suffix -rhage means “profuse flow.”	✓	
11. A stethoscope can be used to auscultate the heart and lungs.	✓	
12. A sphygmomanometer measures radiation.		✓
13. Radiography uses sound waves to image dense tissues like bone.		✓
14. Palliative treatment provides relief but is not intended as a cure.	✓	
15. The suffix -ectomy refers to the removal of a body part by cautery.		✓
16. A sign provides objective evidence of a disease.	✓	
17. Syncope is the medical term for fainting.	✓	

18. Staging is used to classify infectious diseases.		✓
19. Frostbite may result in cryalgnesia.	✓	
20. Neurotripsy refers to cutting a nerve.		✓
21. The FDA is responsible for ensuring that a drug is safe and effective.	✓	
22. A drug is a substance that alters body function.	✓	
23. A drug antagonist helps another drug work more efficiently.		✓
24. Anaphylaxis is a severe allergic reaction.	✓	
25. The chemical name for aspirin is acetylsalicylic acid.	✓	
26. OTC drugs can only be purchased with a prescription.		✓
27. An analgesic is used to treat edema.		✓
28. An antipyretic drug helps to raise body temperature.		✓
29. Anticoagulants prevent the formation of blood clots.	✓	
30. A suppository is ingested orally.		✓

## Fill-in-the-Blank

Complete the sentence with the correct term(s).	Answers
31. Protrusion of an organ through an abnormal body opening is a(n) _____.	<i>hernia</i>
32. Toxin is the scientific name for a(n) _____.	<i>poison</i>
33. Cells of the immune system surround and engulf foreign organisms by the process of _____.	<i>phagocytosis</i>
34. Heat, pain, redness, and swelling are signs of _____.	<i>inflammation</i>
35. The general term for any abnormal and uncontrolled growth of tissue, such as a tumor, is a(n) _____.	<i>neoplasm</i>
36. A disease that is sudden and severe is described as _____.	<i>acute</i>
37. A metastatic neoplasm is described as _____.	<i>malignant</i>
38. The suffix -oma means _____.	<i>tumor</i>
39. The suffix -itis means _____.	<i>inflammation</i>
40. The general term for accumulation of fluid in the tissues is _____.	<i>edema</i>
41. The common cold is caused by a(n) _____.	<i>virus</i>
42. The root myc/o pertains to a mold or _____.	<i>fungus</i>
43. The suffix -rhexis means _____.	<i>rupture</i>
44. An abnormal passageway between two organs is a(n) _____.	<i>fistula</i>
45. A disease outbreak that affects many people in a given region is called a(n) _____.	<i>epidemic</i>
46. The cause of a disease is its _____.	<i>etiology</i>
47. The common name for a helminth is a(n) _____.	<i>worm</i>
48. Death of tissue is _____.	<i>necrosis</i>
49. The most common stain used in bacteriology is the _____ stain.	<i>Gram</i>
50. A word, sometimes used as a suffix, that means "separation," "dissolving," or "destruction" is _____.	<i>lysis</i>
51. The term for a type of neoplasm that does not spread is _____.	<i>benign</i>
52. The cause of a disease is its _____.	<i>etiology</i>
53. Hardening of tissue is known as _____.	<i>sclerosis</i>
54. _____ means "dropping," "downward displacement," or "prolapse."	<i>ptosis</i>
55. A rod-shaped bacterium is a(n) _____.	<i>bacillus</i>
56. A round bacterium that forms clusters is _____.	<i>staphylococcus</i>

57. Extremely small bacteria that grow in living cells but are susceptible to antibiotics are _____.	<i>rickettsia</i>
58. A malignant neoplasm composed of epithelial cells is a(n) _____.	<i>carcinoma</i>
59. Softening of a bone is a condition known as _____.	<i>osteomalacia</i>
60. Determination of the nature and cause of an illness is termed _____.	<i>diagnosis</i>
61. Removal of tissue for microscopic examination is called _____.	<i>biopsy</i>
62. Treatment with chemicals is termed _____.	<i>chemotherapy</i>
63. Obtaining images by use of x-rays is termed _____.	<i>radiography</i>
64. The root therm/o means _____.	<i>temperature</i>
65. A photograph is made by the action of _____.	<i>light</i>
66. A chronology is arranged according to _____.	<i>time</i>
67. A beam of intense light used for surgery and diagnosis is a(n) _____.	<i>laser</i>
68. Prediction of the course and outcome of a disease is a(n) _____.	<i>prognosis</i>
69. In diagnosis, temperature, pulse rate, respiration rate, and blood pressure together make up the _____.	<i>vital signs</i>
70. A simple instrument used to listen to body sounds is a(n) _____.	<i>stethoscope</i>
71. Tapping the body to evaluate tissue according to the sounds produced is called _____.	<i>percussion</i>
72. Pleural fusion is termed _____.	<i>pleurodesis</i>
73. The abbreviation Hx means _____.	<i>history</i>
74. The abbreviation WNL means _____.	<i>within normal limits</i>
75. An instrument used for listening to sounds produced within the body is a(n) _____.	<i>stethoscope</i>
76. Listening to body sounds with a stethoscope is called _____.	<i>auscultation</i>
77. Loss of the ability to feel pain, as by administration of a drug, is known as _____.	<i>anesthesia</i>
78. The term for the practice of treating a person as a whole entity is _____ practice.	<i>holistic</i>
79. A cut, as for surgery, or the act of cutting is _____.	<i>incision</i>
80. Prevention of disease is known as _____.	<i>prophylaxis</i>
81. A lasting effect of a disease is a(n) _____.	<i>sequela</i>
82. A temporary loss of consciousness because of inadequate blood flow to the brain, or fainting, is known as _____.	<i>syncope</i>
83. Profuse sweating is called _____.	<i>diaphoresis</i>
84. An OTC drug can be obtained without a(n) _____.	<i>prescription</i>

85. Combinations of drugs may have a greater effect than either drug acting alone. This phenomenon is called synergy or _____.	<b>potentiation</b>
86. The scientific term for a poison is _____.	<b>toxin</b>
87. An analgesic is a drug that relieves _____.	<b>pain</b>
88. With reference to drugs, the opposite of indicated is _____.	<b>contraindicated</b>
89. The study of drugs and drug actions is called _____.	<b>pharmacology</b>
90. A subcutaneous injection is given under the _____.	<b>skin</b>
91. Antiarrhythmics, beta blockers, and hypolipidemics are used to treat diseases of the _____.	<b>heart</b>
92. A sublingual drug is administered under the _____.	<b>tongue</b>
93. A transdermal drug is absorbed through the _____.	<b>skin</b>
94. Antineoplastic drugs are used to treat _____.	<b>cancer</b>
95. Chronic use of a drug can result in a decrease in its efficacy. This is called _____.	<b>tolerance</b>
96. How well a drug works is termed its _____.	<b>efficacy</b>
97. The abbreviation for prescription is _____.	<b>Rx</b>
98. Drugs are injected using a needle with a(n) _____.	<b>syringe</b>
99. A mixture in which one liquid is dispersed but not dissolved in another liquid is a(n) _____.	<b>emulsion</b>
100. A pleasant-tasting medicated tablet or disk to be dissolved in the mouth is a(n) _____.	<b>lozenge</b>
101. A drug used to reduce or eliminate sensation is known as a(n) ____.	<b>anesthetic</b>
102. A drug used to induce sleep or dull the senses and also used as an antianxiety agent is a(n) _____.	<b>hypnotic</b>
103. Another name for an herbal medicine is a(n) _____.	<b>phytomedicine</b>
104. _____ means beneath the skin.	<b>subcutaneous</b>
105. A(n) _____ is a preparation consisting of a substance dissolved in water.	<b>aqueous solution</b>
106. _____ is an herbal medicine used for stress reduction.	<b>ginseng</b>
107. A(n) _____ is a cellular organelle that helps to digest foreign material after phagocytosis.	<b>lysosome</b>
108. A bronchoscope is a type of _____.	<b>endoscope</b>
109. Eye drops are administered by _____.	<b>instillation</b>
110. The thin tube inserted for a PICC line is called a(n) _____.	<b>catheter</b>

## Matching

Match the following terms and write the appropriate letter next to each term.

Term	Answers	Definition
111. arteriosclerosis	<i>D</i>	A. rapid breathing
vasodilation	<i>B</i>	B. widening of a vessel
tachypnea	<i>A</i>	C. stone formation
lithiasis	<i>C</i>	D. hardening of an artery
112. osteomalacia	<i>C</i>	A. rupture of the liver
osteoclasia	<i>D</i>	B. enlargement of the liver
hepatorrhexis	<i>A</i>	C. softening of a bone
hepatomegaly	<i>B</i>	D. breaking of a bone
113. myalgia	<i>D</i>	A. prolapse of the kidney
adenodynia	<i>C</i>	B. fissure of the chest
thoracoschisis	<i>B</i>	C. pain in a gland
nephroptosis	<i>A</i>	D. pain in a muscle
114. hemostasis	<i>C</i>	A. abnormal breathing
oncolysis	<i>B</i>	B. destruction of a tumor
dyspnea	<i>A</i>	C. stoppage of blood flow
pyrexia	<i>D</i>	D. fever
115. sphygmomanometer	<i>D</i>	A. listening to body sounds
colic	<i>B</i>	B. acute abdominal pain
auscultation	<i>A</i>	C. examination by touching
palpation	<i>C</i>	D. blood pressure apparatus
116. bruit	<i>C</i>	A. imaging technique using magnets and radio waves
sequela	<i>B</i>	B. a lasting effect of a disease
MRI	<i>D</i>	C. abnormal sound heard in auscultation
CT	<i>A</i>	D. imaging technique using computers and x-rays

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117. anaerobic	<i>B</i>	A. pertaining to color
chromatic	<i>A</i>	B. not requiring oxygen
gastropexy	<i>D</i>	C. puncture of a joint
arthrocentesis	<i>C</i>	D. surgical fixation of the stomach

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118. cryalgnesia	<i>B</i>	A. puncture of the abdomen
echography	<i>C</i>	B. pain caused by cold
celiocentesis	<i>A</i>	C. imaging with sound waves
barotrauma	<i>D</i>	D. injury caused by pressure

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119. chemotherapy	<i>C</i>	A. acting on the mind
pharmacology	<i>B</i>	B. study of drugs
gonadotropic	<i>D</i>	C. treatment with drugs
psychotropic	<i>A</i>	D. acting on the sex glands

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120. syringe	<i>B</i>	A. agent that induces coughing
antiemetic	<i>C</i>	B. instrument used for injection
expectorant	<i>A</i>	C. relieving nausea
antitussive	<i>D</i>	D. cough suppressant

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121. emulsion	<i>C</i>	A. agency that regulates drug safety
vial	<i>D</i>	B. aspirin
FDA	<i>A</i>	C. a mixture of liquids
ASA	<i>B</i>	D. small glass container

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122. po	<i>C</i>	A. applied to the skin
qid	<i>B</i>	B. four times a day
qam	<i>D</i>	C. by mouth
topical	<i>A</i>	D. every morning

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## Pronounce It

For each phonetic transcription in this section, pronounce the term aloud and write it in the space provided, being careful to spell it correctly.

	Answers
123. sist	<i>cyst</i>
124. eh-DE-mah	<i>edema</i>
125. e-te-OL-o-je	<i>etiology</i>
126. LE-zhun	<i>lesion</i>
127. mah-LIG-nant	<i>malignant</i>
128. meh-TAS-tah-sis	<i>metastasis</i>
129. neh-KRO-sis	<i>necrosis</i>
130. NE-o-plazm	<i>neoplasm</i>
131. fag-o-si-TO-sis	<i>phagocytosis</i>
132. SEP-sis	<i>sepsis</i>
133. TRAW-mah	<i>trauma</i>
134. tak-IP-ne-ah	<i>tachypnea</i>
135. dis-FA-je-ah	<i>dysphagia</i>
136. ze-RO-sis	<i>xerosis</i>
137. tho-rah-KOS-kih-sis	<i>thoracoschisis</i>
138. i-at-ro-JEN-ik	<i>iatrogenic</i>
139. an-es-THE-ze-ah	<i>anesthesia</i>
140. KRON-ik	<i>chronic</i>
141. kar-sih-NO-mah	<i>carcinoma</i>
142. be-NINE	<i>benign</i>
143. di-ag-NO-sis	<i>diagnosis</i>
144. ek-SIZH-un	<i>excision</i>
145. of-THAL-mo-skope	<i>ophthalmoscope</i>
146. PAL-e-ah-tiv	<i>palliative</i>
147. ra-de-OG-rah-fe	<i>radiography</i>
148. sfig-mo-mah-NOM-eh-ter	<i>sphygmomanometer</i>

	Answers
149. STETH-o-skope	<i>stethoscope</i>
150. ki-ro-PRAK-tik	<i>chiropractic</i>
151. os-te-OP-ah-the	<i>osteopathy</i>
152. SIN-kro-ne	<i>synchrony</i>
153. an-er-O-bik	<i>anaerobic</i>
154. si-ah-NO-sis	<i>cyanosis</i>
155. lap-ah-ROS-ko-pe	<i>laparoscopy</i>
156. mah-LAZE	<i>malaise</i>
157. di-ah-fo-RE-sis	<i>diaphoresis</i>
158. SIN-ko-pe	<i>syncope</i>
159. aws-kul-TA-shun	<i>auscultation</i>
160. BI-op-se	<i>biopsy</i>
161. KAW-ter-e	<i>cautery</i>
162. lith-o-TRIP-se	<i>lithotripsy</i>
163. fi-to-MED-ih-sin	<i>phytomedicine</i>
164. po-ten-she-A-shun	<i>potentiation</i>
165. SIN-er-je	<i>synergy</i>
166. ang-zi-o-LIT-ik	<i>anxiolytic</i>
167. hi-po-der-MOK-lih-sis	<i>hypodermoclysis</i>
168. ad-ren-ER-jik	<i>adrenergic</i>
169. an-al-JE-sik	<i>analgesic</i>
170. an-ti-ko-AG-u-lant	<i>anticoagulant</i>
171. an-te-eh-MET-ik	<i>antiemetic</i>
172. kor-tih-ko-STER-oyd	<i>corticosteroid</i>



	Answers
173. an-te-ah-RITH-mik	<i>antiarrhythmic</i>
174. di-u-RET-ik	<i>diuretic</i>
175. si-ko-TROP-ik	<i>psychotropic</i>
176. JIN-seng	<i>ginseng</i>
177. sub-ku-TA-ne-us	<i>subcutaneous</i>

	Answers
178. an-ah-fih-LAK-sis	<i>anaphylaxis</i>
179. an-TAG-o-nist	<i>antagonist</i>
180. kon-trah-in-dih-KA-shun	<i>contraindication</i>
181. EF-ih-kah-se	<i>efficacy</i>
182. ek-SPEK-to-rant	<i>expectorant</i>

## Word Building

For each item in this section, select the correct word parts from the bank below to form the term that matches the definition. Word parts may be used more than once.

Part 1	Answers
184. Inflammation of lung air passages	<i>bronch-itis</i>
185. Contraction and narrowing of lung air passages	<i>bronch-o-spasm</i>
186. Excessive secretion of mucus into lung air passages	<i>bronch--o-r-rhea</i>
187. Causing a tumor	<i>onc-o-gen-ic</i>
188. Agent that causes disease	<i>path-o-gen</i>
189. Study of tumors	<i>onc-o-logy</i>
190. Causing formation of pus	<i>py-o-gen-ic</i>
191. Discharge of pus	<i>py-o-r-rhea</i>
192. Destruction of a tumor	<i>onc-o-lysis</i>
193. Study of disease	<i>path-o-logy</i>

### Part 1 Word Bank

ad	gen	ist
logy	mal	o
path	py	rhea
bronch	ic	itis
lysis	necr	onc
plasia	r	spasm

Part 2	Answers
194. Fusion of a joint	<i>arthr-o-desis</i>
195. Endoscopic examination of a joint	<i>arthr-o-scopy</i>
196. Surgical repair of an abdominal wound	<i>celi-o-r-rhaphy</i>
197. Without color	<i>a-chromat-ic</i>
198. Puncture of a joint	<i>arthr-o-centesis</i>
199. Having excess color	<i>hyper-chromat-ic</i>
200. Puncture of the abdomen	<i>celi-o-centesis</i>
201. Endoscopic examination of the abdomen	<i>celi-o-scopy</i>
202. Plastic repair of a joint	<i>arthr-o-plasty</i>
203. Producing color	<i>chromat-o-gen-ic</i>

Part 3	Answers
204. Counteracts fever	<i>anti-pyret-ic</i>
205. Relieves symptoms of mental illness	<i>anti-psych-o-tic</i>
206. Injection into the space between the meninges and the spine	<i>epi-dur-al</i>
207. A hormone produced by the adrenal glands	<i>epi-nephr-ine</i>
208. Injection into a vein	<i>intra-ven-ous</i>
209. Injection into the skin	<i>intra-derm-al</i>
210. Injected into connective tissue under the skin	<i>hypo-derm-ic</i>
211. Drug that induces sleep	<i>hypn-o-tic</i>
212. Study of drugs	<i>pharmac-o-logy</i>
213. Drug that eliminates pain	<i>an-alges-ic</i>

### Part 2 Word Bank

a	desis	o
arthr	gen	plasty
celi	hyper	r
centesis	hypo	rhaphy
chromat	ic	scopy

### Part 3 Word Bank

al	psych	logy
ine	anti	ven
ous	hypn	epi
alges	pyret	nephr
infra	derm	ic
pharmac	hypo	o
an	tic	
intra	dur	

## Sorting

For each word part category in this section, list the corresponding word parts from the bank below.

### Part 1 Word Bank

acute	benign	cocci	path
algi	chlamydia	lith	scler
bacilli	chronic	neoplastic	spirochetes

#### Part 1

#### Answers

214. types of bacteria	<i>cocci, spirochetes, chlamydia, bacilli</i>
215. terms describing diseases	<i>chronic, benign, acute, neoplastic</i>
216. roots pertaining to disease	<i>path, scler, algi, lith</i>

### Part 2 Word Bank

auscultation	-meter	percussion	-scope
-centesis	-metry	-pexy	stethoscope
-graphy	palpation	-plasty	-stomy

#### Part 2

#### Answers

217. terms pertaining to diagnosis	<i>stethoscope, auscultation, percussion, palpation</i>
218. suffixes for examining, measuring	<i>-scope, -graphy, -meter, -metry</i>
219. suffixes related to surgery	<i>-plasty, -pexy, -centesis, -stomy</i>

### Part 3 Word Bank

aerosol	beta-blocker	elixir	nitrate
antiarrhythmic	bronchodilator	emulsion	mucolytic
antitussive	calcium channel blocker	expectorant	tincture

#### Part 2

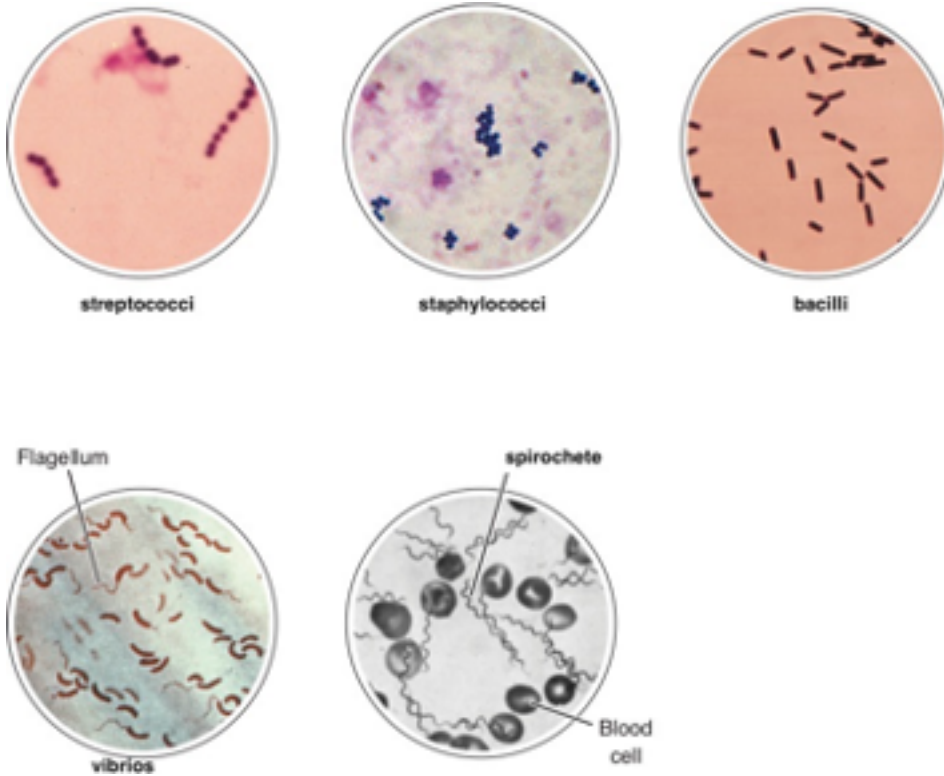
#### Answers

220. cardiac drugs	<i>beta-blocker, nitrate, antiarrhythmic, calcium channel blocker</i>
221. respiratory drugs	<i>expectorant, antitussive, mucolytic, bronchodilator</i>
222. drug preparations	<i>emulsion, tincture, elixir, aerosol</i>

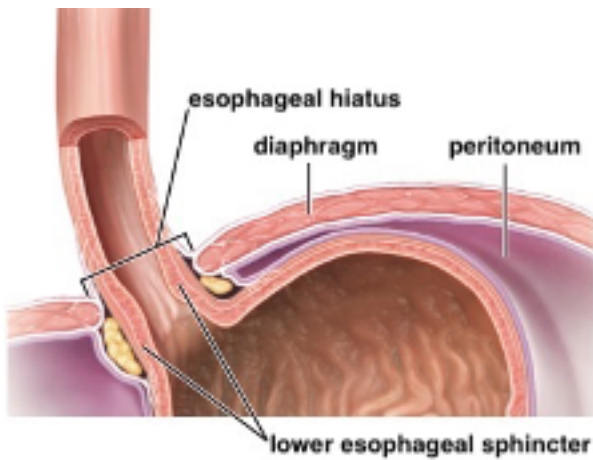
### Look and Label

For each image in this section, write each label indicated on the image in the correct location or near the image with a line pointing from the label to the correct location on the image.

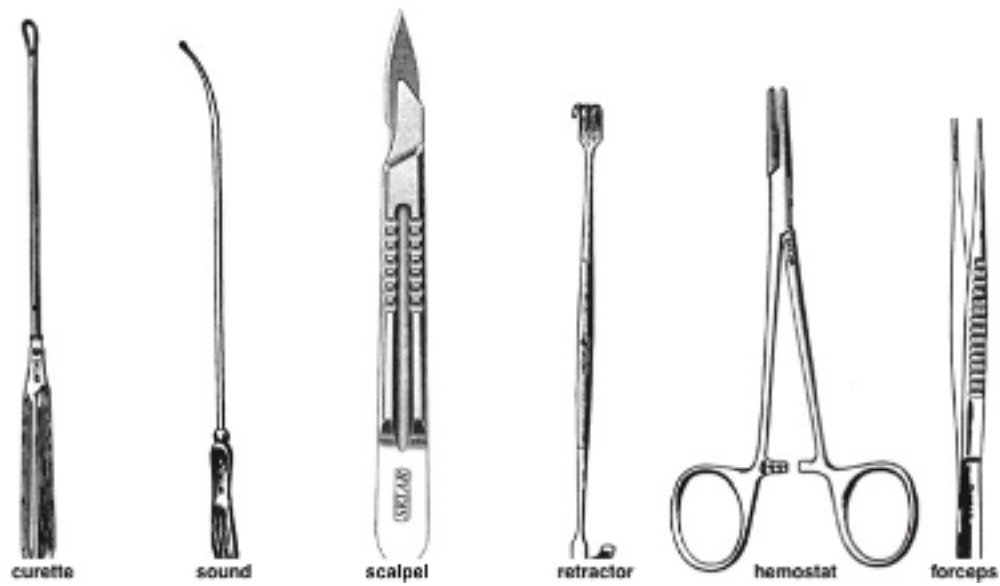
223. Labels: bacilli, spirochetes, staphylococci, streptococci, vibrios



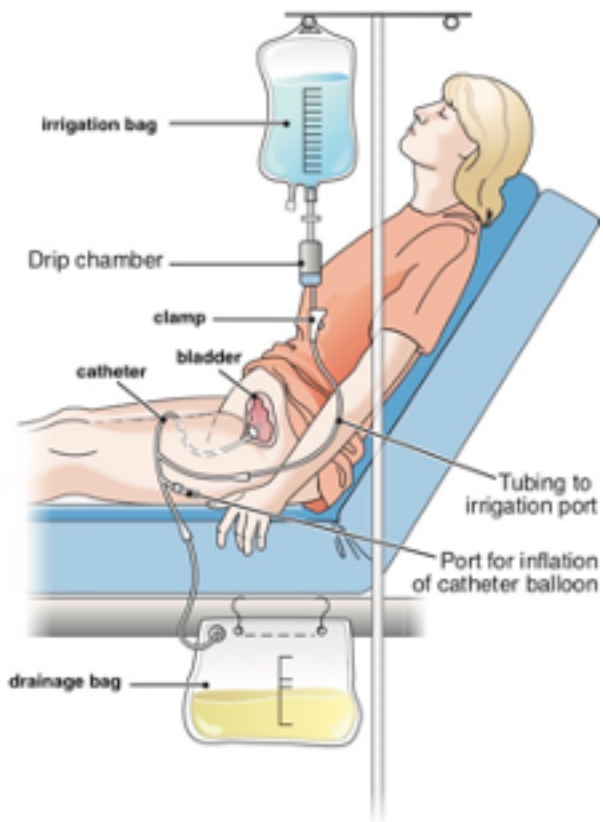
224. Labels: diaphragm, esophageal hiatus, lower esophageal sphincter, peritoneum



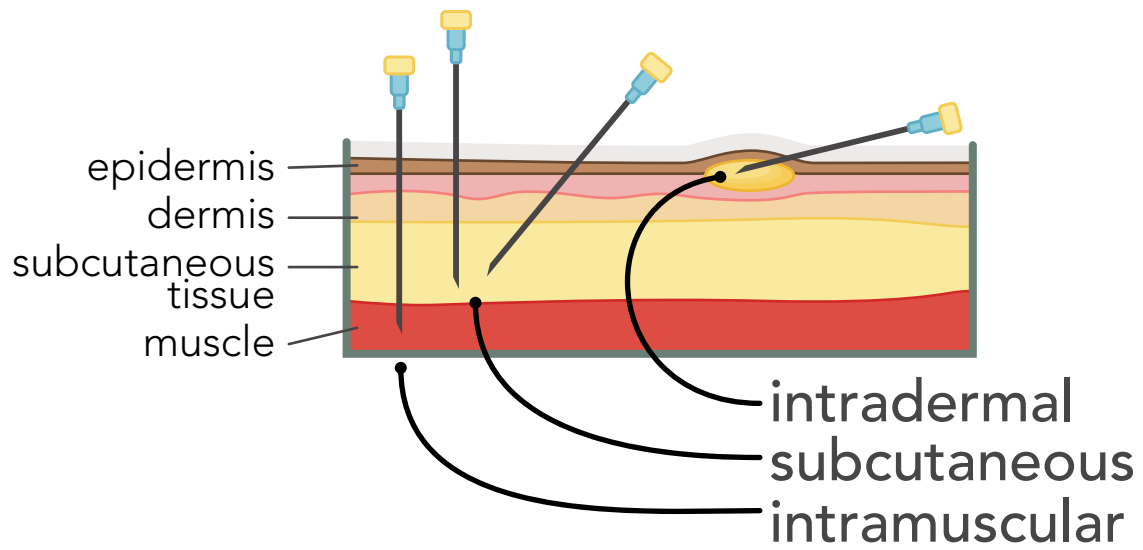
225. Labels: curette, forceps, hemostat, retractor, scalpel, sound



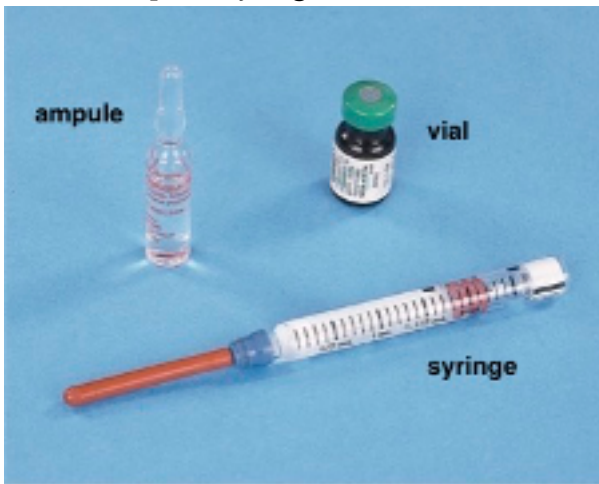
226. Labels: bladder, catheter, clamp, drainage bag, irrigation bag



227. Labels: muscle, skin, subcutaneous tissue



228. Labels: ampule, syringe, vial



## Case Studies

Read the following case studies carefully. Complete the sentence with the correct term(s).

### Case Study 1: Bacteremia Consultation

**HISTORY OF PRESENT ILLNESS:** This is an elderly gentleman, transferred from his nursing home for evaluation of positive blood cultures.

**PAST MEDICAL HISTORY:** The patient has a recent hospitalization for subdural hematoma that was managed conservatively. The patient has a prior history of hypertension, type 2 diabetes, significant obesity, benign prostatic hypertrophy with urinary outflow obstruction, history of diverticular disease, significant degenerative arthritis, chronic obstructive pulmonary disease, tobacco use, and chronic anemia. The patient also has a history of an exploratory laparotomy for a gunshot wound. The patient has chronic renal insufficiency but is not on dialysis at this time.

**FAMILY HISTORY:** Both parents with diabetes and coronary disease. One brother recently died of lung cancer.

**SOCIAL HISTORY:** The patient is widowed since 1985 and lived independently in his own apartment until recently. He has one son and one niece who assist with his care. The patient did smoke in the past, quitting several years ago. The patient denies history of heavy alcohol use. He worked in construction after leaving the military.

**ALLERGIES:** The patient has no known antibiotic allergies.

**REVIEW OF SYSTEMS:** The patient has some tenderness of his wrist. The patient states that he has constipation and abdominal distention. The patient reports dysuria and has a Foley catheter in place with some discomfort. The patient denies nausea, vomiting, or respiratory symptoms of cough or shortness of breath. No orthopnea or nocturnal dyspnea. No angina or other chest pain. The patient has degenerative arthritis. The patient has chronic dystrophic changes of skin but no ulcers or skin breakdown. The patient has poor dentition. The patient denies recent weight change. Review of systems, otherwise, is negative.

**PHYSICAL EXAMINATION:** The patient is an elderly, somewhat chronically debilitated gentleman in no acute distress, awake, nontoxic. The patient is somewhat vague on details and somewhat unreliable in history. Vitals signs: current temperature 98.4, blood pressure is 169/75 with a heart rate of 75 and respiratory rate of 22. HEENT with pupils equal and reactive to both light and accommodation, without overt icterus or conjunctivitis. Ears no pathology. Mouth no active oral lesions. The patient is missing teeth. No thrush, no adenopathy in cervical, jugular, axillary region. Neck with an 8-cm jugular venous distention, but no bruits. Lungs have good air entry bilaterally with few rales in both bases; no overt consolidation and no wheeze. Heart sounds S1 and S2 audible; there are no overt gallops, rubs, murmurs. Abdomen is soft, nontender; bowel sounds present. Liver normal size by percussion, 10-cm span. Spleen tip is not palpable. No renal angle tenderness, guarding, or rebound. The patient had mild abdominal distention. The patient does not have overt bladder distention. Foley catheter is in place. The patient has 1+ edema in his lower extremities with chronic dystrophic changes of skin and palpable pulses, but no critical ischemia. The patient moves upper and lower extremities symmetrically and has no overt cranial nerve abnormality. The patient has erythema, warmth, and swelling of his right wrist at the site of a prior IV, but no evidence of abscess or purulence. Good range of motion of wrist, elbow, knees, and ankles.

**LABORATORY DATA:** Labs drawn on admission: complete blood count and a comprehensive metabolic panel are pending. Chest x-ray pending.

## IMPRESSION AND PLAN

1. Bacteremia, most likely urinary tract infection. Blood cultures collected prior to discharge are positive for *Klebsiella pneumoniae*, susceptible to Zosyn, cefazolin, ceftriaxone, ceftazidime, and aztreonam, but resistant to ampicillin. Blood cultures to be repeated at this time to see if bacteremia persists.

2. The patient does have erythema and cellulitis of his wrist.

3. At this time the patient is afebrile, without sepsis.

4. Would request renal sonogram, specifically to evaluate for obstruction.

5. Will make dosage adjustments of medications when renal function is established.

6. At this time would favor stopping Zosyn, stop Levaquin, start ceftriaxone 2 g intravenously daily. If the patient remains afebrile and shows clinical improvement, would consider discharging on p.o. Levaquin 250 mg daily to complete a 14-day course.

The above findings were reviewed with Dr. Adams. Thank you for this consultation.

	Answers
229. The patient's family history indicates that his brother recently died of lung cancer. Cancer is a(n) ____ disorder.	<i>neoplastic</i>
230. The patient has a prior history of benign prostatic hypertrophy. This particular type of ____ will not spread.	<i>neoplasm</i>
231. The patient's physical examination indicated that he was not in acute distress. The opposite of acute is ____.	<i>chronic</i>
232. The patient presented with edema in his lower extremities. Another word for edema is ____.	<i>swelling</i>
233. The patient has redness, warmth, and swelling of his right wrist. These are classic signs of ____.	<i>inflammation</i>
234. There was no evidence of purulence in his right wrist, meaning there was no evidence of ____.	<i>suppuration</i>
235. Blood cultures collected prior to discharge were positive for the bacterium <i>Klebsiella pneumoniae</i> . Based on this information, the patient's disease is ____.	<i>infectious</i>
236. Prior to discharge, the patient was without sepsis. In other words, the patient did not have harmful microorganisms or their toxins in his ____.	<i>blood</i>
237. In addition to bacteremia, the patient is diagnosed with cellulitis. The word cellulitis means ____.	<i>spreading tissue inflammation</i>



## Case Study 2: Pneumocystis Pneumonia Assessment

REASON FOR CONSULTATION: Rule out Pneumocystis Pneumonia.

HISTORY OF PRESENT ILLNESS: This is a 53-year-old gentleman I am asked to evaluate for what appears to be Pneumocystis pneumonia and a new diagnosis of AIDS. I have reviewed the medical records and spoken to both the patient and his adopted son.

The patient indicates that about 3 weeks ago, he began experiencing a progressive dry, nonproductive cough, shortness of breath, dyspnea on exertion, and fevers. In addition, he has anorexia and approximately a 10-pound weight loss. Because of the progressive nature of his symptoms, he presented to his primary care physician, who thought he had an atypical infection. He was therefore given a 5-day course of Zithromax. Unfortunately, the patient did not show clinical improvement and reappeared 4 days later for reevaluation. His physician then obtained a chest x-ray, which demonstrated bilateral interstitial infiltrates, and for that reason, he was admitted. He was empirically placed on Levaquin and Rocephin and was seen by the specialist from pulmonary services. There were concerns about the possibility of HIV, and appropriate serology was obtained. Today the patient was informed that his HIV status was positive, and he was placed on Septra and steroids. In addition, he was continued with the Levaquin and Rocephin.

At present, the patient's primary complaints relate to his extreme shortness of breath, dyspnea on exertion, and dry and nonproductive cough. He is not aware of any new head and neck complaints, GI, or GU complaints. The patient is homosexual and has had multiple partners but has not been sexually active for about 4 years. He had checked his HIV status many years ago but not recently. He did not know the status of any of his partners. He resides in his own apartment. His only animal contact is with cats. He does not hunt, fish, camp, hike, or have any water exposures. He does not do any extensive gardening. His travels have included Vietnam in the 1970s, Brazil, and Australia, but nowhere in the Middle East, Egypt, or Africa. In the United States, he has been in central California, Texas, and New York, but not in the Mississippi Valley. With regard to tuberculosis (TB), he had never had an active disease, but he states his PPD was known to be positive for the last 20 years. He never recalled receiving INH prophylaxis. The other interesting aspect is that he is known to have both hepatitis B and C, although he has never received any therapy for these infections. He denies any intravenous (IV) drug abuse. He denies any history of syphilis, gonorrhea, or herpes. No previous hypertension, diabetes, cardiac, or kidney problems.

PAST MEDICAL HISTORY: Significant for hepatitis B and C, colonic polyps, and positive PPD.

PAST SURGICAL HISTORY: Significant for tonsillectomy, tympanoplasty, repair of the tendon on the right first toe.

MEDICATIONS: Include Levaquin, Rocephin, Septra, and steroids. ALLERGIES: None.

SOCIAL HISTORY: Smoked one pack per day x 45 years. Ethanol discontinued in 1985. He is a manager for a computer company.

REVIEW OF SYSTEMS: As above.

PHYSICAL EXAMINATION: Reveals acutely ill gentleman lying in bed who is in mild respiratory distress as soon as he starts talking. Vital signs reveal that initially his temperature was as high as 103 degrees, but today he is afebrile. Head was unrevealing. Eyes are benign. Sinuses are nontender. Oral cavity is without significant thrush. Neck is supple with no significant adenopathy. Back is benign with no costovertebral angle (CVA) tenderness. Chest demonstrates bilateral dry rales heard throughout. No pleural rub is heard. His heart was tachycardic, S1-S2 without significant rub. He does have a flow murmur of about 2/6. Bowel sounds are present. Abdomen is soft and nontender. No guarding or rebound. Liver and spleen are not palpable. Normal male genitalia without a Foley. Rectal exam deferred. Extremities without any unusual rash, lesions, or joint effusions. Neurologically he is awake, alert, and oriented x 3.

LABORATORY DATA: Potassium 3.4, glucose 191, BUN 10, creatinine 0.7, albumin 2.5, total bilirubin 1.2. SGOT of 90, SGPT 51, LDH 300, alkaline phosphatase 65. His white blood count is 1600, H&H 12.7 and 36.6. Platelets 66,000. Differential shows 87 polys, 7 bands, 5 lymphs. Chest x-ray shows

the diffuse interstitial changes consistent with Pneumocystis pneumonia. HIV is positive. Western blot pending.

ASSESSMENT: Rule out Pneumocystis pneumonia.

I respect your concerns and believe that Pneumocystis is the leading diagnosis. The fact that he did not show any response to Zithromax speaks against the atypical pneumonia. As such, I think it is unlikely that you are dealing with Legionella, Mycoplasma, or psittacosis. In light of the fact that he is now HIV positive, the 3-week history of fever, shortness of breath, dyspnea on exertion, dry cough, elevated LDH, and chest x-ray findings are all consistent with Pneumocystis. With that in mind, I certainly agree with using Septra at 15 mg/kg per day. In addition, I agree with steroids to reduce inflammation, but I believe that the dose can be reduced. Since I do not believe that we are dealing with a community-acquired pneumonia, I have discontinued the Levaquin and Rocephin. I did review with the patient and his son the nature of this infection, the magnitude of the illness, and the fact that mortality can reach 15 percent to 20 percent despite best efforts. In addition, Septra is not always well tolerated by patients, and it may lead to the formation of rashes or other complications. If he does fail Septra, he would need bronchoscopy to confirm the etiology. In light of all the above, we would expect to document that he has acquired immunodeficiency syndrome. I expect that his CD4 count is less than 200. We will not entertain antivirals until he has completely recovered from his pneumonia. This can be reviewed with him as an outpatient. Hepatitis B and C per primary care physician.

PLAN: Discontinue Rocephin and Levaquin. Change the Septra to 320 mg of trimethoprim IV q.8h. Decrease Solu-Medrol to 40 mg IV q.8h. Get an a.m. lymphocyte enumeration panel. HIV viral load by PCR. RPR. Hepatitis A total antibody. If the patient were to fail Septra, we would need bronchoscopy to establish a clear diagnosis.

	Answers
238. Dyspnea means _____.	<i>abnormal or painful breathing</i>
239. The prefix in atypical means _____.	<i>not</i>
240. Bilateral interstitial infiltrates appear _____.	<i>in both lungs</i>
241. The tuberculosis (TB) organism is identified with a(n) _____.	<i>acid-fast stain</i>
242. Hepatitis is inflammation of the _____.	<i>liver</i>
243. The term intravenous means _____.	<i>within a vein</i>
244. A colonic polyp is a(n) _____ in the colon.	<i>tumor</i>
245. An afebrile patient has _____.	<i>adenopathy</i>
246. Any disease of glands is a(n) _____.	<i>no fever</i>
247. Examination showed that the patient's back was benign. This means that _____.	<i>it showed no abnormalities or disorders</i>
248. A joint effusion is _____ in a joint.	<i>fluid</i>
249. A tachycardic heart shows a(n) _____ beat.	<i>rapid</i>
250. A disease's etiology is its _____.	<i>cause</i>

### Case Study 3: Operative Report

PREOPERATIVE DIAGNOSIS: Left temporal metastatic tumor.

POSTOPERATIVE DIAGNOSIS: Left temporal metastatic tumor by frozen section diagnosis of large cell adenocarcinoma, most probably from the lung.

#### PROCEDURES

1. Left temporal craniotomy for complete excision of the metastatic tumor.
2. Insertion of ICP monitor. ANESTHESIA: General endotracheal. ESTIMATED BLOOD LOSS: 25 cc.

CLINICAL SUMMARY: This 75-year-old woman presented with relative subacute dysphasia, agitation, and significant mental changes. Her H&P discovered a ring-enhancing lesion of the left medial temporal lobe. A very small possible lesion was also noted in the right parietal lobe. Furthermore, she was noted to have a lesion in the lung. Exact pathologic diagnosis of the lung lesion was not known. With the patient's significant speech problem and personality changes, it was decided to perform excision biopsy of the lesion for complete removal of the tumor.

Oncology consult also agreed that the excisional biopsy of the brain lesion will be more beneficial than taking a biopsy from the lung.

The indications, procedure, possible risks, complications, and alternatives to surgery were explained in detail to the patient's family, and they requested surgery.

DESCRIPTION OF PROCEDURE: The patient was taken to the CT scan suite and was anesthetized before the CT scan could be performed. After general endotracheal anesthesia had been accomplished a CT scan with contrast was taken. The patient was moved to the operating room and prepared for a craniotomy. Shaving, prepping, and draping of the left temporal region was performed in a sterile fashion, and an S-shaped incision was then marked centering at the site of the entry that had been noted to the anterior and temporal region. The incision line was

infiltrated with a dilute solution of epinephrine. The incision was taken down to the galeal layer, and self-retaining retractors were placed. The temporal muscle was incised, and self-retaining retractor was then deepened. One burr hole was made and the bone was then dissected from the underlying dura. The brain was noted to be quite swollen. The patient had been given 50 g mannitol and Lasix and cerebral relaxation was achieved. The brain tissue was retracted, and a solitary lesion that was well-encapsulated with cerebral edematous tissue was noted. The tumor was excised in total in one piece. After removing the tumor, hemostasis was secured with a cautery in the surrounding brain tissues.

After satisfactory hemostasis had been accomplished, the wound was irrigated with bacitracin solution, and the retractor was removed. A piece of Gelfoam was also placed in the tumor cavity, and closure was then performed by closing the dura with 4-0 Vicryl Surgilon sutures in a watertight fashion.

ICP monitor was placed through a separate stab incision to lay in the epidural space. The skin was approximated with skin staples; a sterile dressing was then placed, and the patient was taken to the recovery room in stable condition.

	Answers
251. A metastatic tumor is one that has _____.	<i>spread</i>
252. An adenocarcinoma is cancer of a(n) _____.	<i>gland</i>
253. Excision is _____.	<i>removal</i>
254. The patient underwent a craniotomy, which means cutting _____.	<i>the skull</i>
255. Examination of the patient revealed that she had a lesion of the left medial temporal lobe of the brain. A lesion is a distinct area of _____.	<i>damaged tissue</i>
256. A CT scan employs _____.	<i>computed tomography</i>
257. Pathology used a(n) _____ from the tumor to diagnose the patient with a left temporal metastatic adenocarcinoma, most probably from the lung. A(n) _____ is a determination of the nature and cause of a disease.	<i>sample; diagnosis</i>
258. Pathology needed a sample of tumor to make a diagnosis, so the surgeons performed a(n) _____.	<i>biopsy</i>
259. Hemostasis is _____.	<i>stoppage of blood flow</i>
260. The epidural space is _____ the dura mater.	<i>above</i>
261. The patient was placed on the operating table lying face up. This is called the _____ position.	<i>supine</i>
262. An incision is a(n) _____.	<i>cut</i>
263. The surgeons used several types of retractors throughout the operation. A retractor _____ tissue.	<i>holds back</i>
264. After removing the tumor, the surgeons stopped the patient's bleeding with electrocautery. The term electrocautery means _____.	<i>to destroy tissue using an electric current</i>
265. Near the end of the operation, the surgeons sutured the tissue that covers the brain. The verb to suture means to _____.	<i>stitch together</i>

## Case Study 4: Operative Report

PREOPERATIVE DIAGNOSIS: Incisional hernia

OPERATIVE PROCEDURE: Repair of incisional hernia with mesh.

The patient is a 56-year-old female, smoker, with past medical history of surgery for perforated diverticulitis with abscess and later closure of colostomy. She was evaluated in this office earlier in the week and was found to have an incisional hernia. There is a small hernial defect palpable at her umbilicus and a second one palpable at the superior aspect of the incisional scar. The patient was advised to undergo elective repair. The procedure, including risks, complications, and alternatives was discussed with the patient at length, and she agreed to have this done.

DESCRIPTION OF PROCEDURE: The patient was taken to the operating room and placed on the operating room table in the supine position. After having undergone spinal anesthesia, her abdomen was prepped with Betadine and draped in the usual sterile fashion. An incision was made through the patient's previous incisional scarring from just below the umbilicus. Dissection down to fascia revealed three small hernial defects. The first was at the umbilicus itself and appeared to be an umbilical hernia rather than a true incisional hernia in this area. A second defect at the superior aspect of the incision had a small bridge of fascia creating two smaller defects. The fascial margins were freed. The hernial defects were closed with sutures. A 6 x 3 inch piece of Marlex mesh was then placed over the fascial repair and secured to the midline and the edges using sutures. A small Jackson-Pratt drain was placed in the pocket created and exited via a separate stab incision and sutured in place. Hemostasis was affected with electrocautery.

Final check was made for hemostasis prior to closure.

The subcutaneous tissue was closed with suture, and the skin edges were closed with surgical clips. The patient tolerated the procedure well and was taken to the postanesthesia care unit in stable condition. Sponge, needle, and instrument counts were correct x 2.

ESTIMATED BLOOD LOSS: Nil SPECIMENS: None

	Answers
266. A hernia is protrusion through an abnormal _____.	<i>body opening</i>
267. The term for creation of an opening in the colon is _____.	<i>colostomy</i>
268. A(n) _____ abnormality can be felt.	<i>palpable</i>
269. Elective surgery can be delayed without _____.	<i>danger</i>
270. The patient's umbilicus is her _____.	<i>navel</i>
271. Fascia is a connective tissue membrane. Repair of fascia is a(n) _____.	<i>fasciorrhaphy</i>
272. A Jackson-Pratt was placed to allow escape of _____ from the wound.	<i>fluid</i>
273. The term for destruction of tissue with electrical current is _____.	<i>electrocautery</i>

## Case Study 5: Discharge Summary

**HISTORY OF PRESENT ILLNESS:** The patient is a 38-year-old white divorcee who was hospitalized into my services as a direct admission on September xx, 20xx in the later part of the day. Patient is quite confused, aggressive, irritable, not caring for the children or herself. It is important to know that the patient had been seen in our office last week on an emergency basis because of her extreme and bizarre behavior. IM Prolixin Decanoate was given to her after discovering that the patient had been quite noncompliant and forgetful about taking her medication for almost a week before the episode at the psychiatric center where she worked as a pharmacist. The patient's supervisor stated that the patient is not concentrating or focusing, had made mistakes, and had left work three times without approval.

This is one of several admissions that the patient had here and, therefore, I will not be describing aspects of the premorbid personality, divorce situation, children, noncompliance with medication, lack of insight, or occasional alcohol use on her part. There is no evidence of abnormal involuntary movement suggestive of tardive dyskinesia, despite the fact that the patient had been taking major tranquilizers. There are no neurological deficits affecting cranial nerves, motor system, or sensory system. Clearly the patient's ability to comprehend the magnitude of the problem was poor.

**ALLERGIES:** Allergic to penicillin, "Mellaril and atropine eye drops." **NOTE:** I am absolutely sure that she is not allergic to atropine as she had received atropine many times pre-ECT without any reaction. I am also not sure about reaction to Mellaril. The patient has not been able to describe the type of allergic reaction she experienced.

**RECENT STRESSORS:** None, other than noncompliance of the medication. Specifically, patient was supposed to refill Navane, which she did not do for at least a week.

**SIGNS AT THE TIME OF HOSPITALIZATION:** The patient is a 38-year-old white, single female of medium build. When seen initially, she appeared stable and neatly dressed and was not saying anything. As the interview progressed, she became quite agitated and restless. She stood up from the interview chair saying, "I just want to be left alone. I do not need to be here." Her eye contact was fairly good. Her general facial expression could be described as very anxious, distraught, and somewhat frustrated. At times she acted very frightened. Her affect was flat and inappropriate. Every so often she became very angry for no reason. She expressed her basic preoccupation by saying, "I am dominated by my mother; I want to go home." The fact is that she had only been dominated by her mother for a week, which began when she decompensated and had to frequently visit her mother. Prior to that, she was living in her own house.

The patient has been extremely irritable, distrustful, and paranoid toward mother and family. She has not been taking care of her children properly. Her mood could be described as irritable, anxious, angry, hostile, but not depressed, even though she occasionally broke down. Her appetite was fairly good. Her sleep was poor. Her concentration, attention span, insight, and ability to focus were very poor. Her orientation and memory was intact. There were no overt suicidal or homicidal ideations.

**PROGRESS IN THE HOSPITAL:** She received one-to-one, supportive, and insight-oriented psychotherapy on various issues that included importance of compliance, taking medication, and refraining from alcoholic beverages. After much discussion, the patient has agreed to take Prolixin Decanoate in the place of Navane, which was given to her on September xx, 20xx in the dose of 1 mL along with Ambien. Synthroid was continued. Considering the mild minor agitation and side effect of the Prolixin, she was given Cogentin 1 bid as of September xx, 20xx. Prolixin Decanoate was given in dose of 1.5 mL on October xx, 20xx. Depakote 125 tid was added as of September xx, 20xx. Once again, A privileges were resumed as of September xx, 20xx, B as of September xx, 20xx, and C as of September xx, 20xx.

Her participation through the program was less than adequate as she could not concentrate and focus, but she still participated in milieu and psychotherapy group. The patient's Depakote was increased to 125 bid qhs as of September xx, 20xx, and then 250 tid and hs as of September xx, 20xx, 250 tid and 500 hs as of September xx, 20xx. A day pass of 4 hours was granted, and a 4-day pass was granted later on, which went fairly well. In view of the above, the patient was discharged at a later date.

Her sleep and concentration had improved. Her need for IM medication or other medication was explained. Additionally, her need for close follow-up care and why she cannot work were explained and were found to be less than adequate at the time of discharge.

CONDITION ON DISCHARGE: Improving.

ABILITY TO MANAGE FUNDS AND FINANCES: Improving.

ABILITY TO USE GOOD JUDGMENT: Still impaired. PROGNOSIS: Guarded.

DIET: Low cholesterol.

FINAL DISCHARGE DIAGNOSES Axis I: 1. Schizoaffective disorder. 2. Nicotine dependence continues. 3. Alcohol abuse. Axis II: Personality disorder, not otherwise specified. Axis III: Mild hypercholesterolemia. Axis IV: Mild. Axis V: GAF of 45 currently and GAF of 55 in last year.

MEDICATIONS AT THE TIME OF DISCHARGE: Cogentin one bid daily, Synthroid 0.1 mg daily, Depakote 250 twice a day and 500 hs, Prolixin Decanoate 1.5 cc IM q4weeks. The next dose is due on October xx, 20xx. The patient was to have every 2-week CBC, liver profile, and ultimately the Depakote level.

FINAL MODE OF DISPOSITION AND FOLLOW-UP: The patient will be living in her own house, will be continued on medication, and will be sent to the writer's office for one-to-one psychotherapy and drug administration. Patient will get necessary blood work done, will not be going back to work, and will not be drinking alcoholic beverages.

	Answers
274. An IM drug is administered _____.	<i>into a muscle</i>
275. A premorbid personality was present _____ the occurrence of a disorder.	<i>before</i>
276. Dyskinesia involves _____ movements.	<i>abnormal</i>
277. To reduce agitation, the patient was given a(n) _____.	<i>sedative</i>
278. To treat anxiety, a patient would receive a(n) _____.	<i>anxiolytic</i>
279. The patient had mild hypercholesterolemia. Hypercholesterolemia refers to _____.	<i>elevated blood lipids</i>
280. A bid dose is given _____.	<i>twice a day</i>
281. A dose given tid and hs each day is given _____ times.	<i>four</i>