

Appendix A

Scenario Introduction

You arrive on the Cardiovascular ICU for your shift and clock in, coffee in hand. Surely, this day will be just like any other, but it is not so. You are at more than capacity with patients with every kind of cardiovascular disease. Tend to the imminent needs of those patients as quickly as possible, for you have a priority patient. A patient that is locked away, displaying compensatory symptoms of cardiogenic shock. You must tend to the needs of your other patients before you get to him. You have 60 minutes before you get the call that his shock has progressed.

Work quickly and smartly with those in your team of 4-5. In the game, your team color—the color of your box—will make a difference. You have access to four helps. Use them strategically: The Hospital Library [books at front of room]; The Pharmacy [drug book at front of room]; The Doctor [me]; and you Know-It-All-Coworker from New York [me]. You are competing against the clock, not against other teams.

Appendix B

Puzzle 1: Shock and Awe

Required Materials:

- Shock and Awe page
- Manilla envelope
- Black light
- Black light pen
- Paper money
- Lock box
- Various office supplies

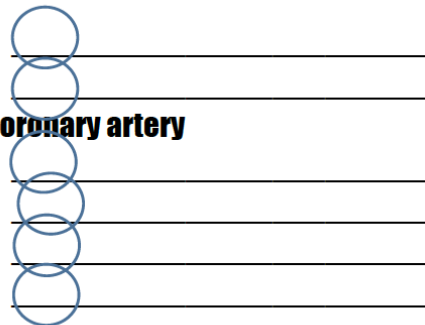
Objective: To differentiate between types and etiologies of types of shock

Shock and Awe Puzzle:

Shock and Awe

Write in the type of shock caused by the etiologies listed below or treated by the med listed below:

1. **Tension pneumothorax**
2. **Spinal cord injury**
3. **Heart attack caused by occlusion of the Left Main coronary artery**
4. **IM epi**
5. **Vasopressor of choice is norepinephrine**
6. **Surgical blood loss**



Your next clue is revealed _____ in Billing Department 1.

Shock and Awe Puzzle Answers:

Shock and Awe

Write in the type of shock caused by the etiologies listed below or treated by the med listed below:

- | | |
|--|-------------------|
| 1. Tension pneumothorax | obstructive_____ |
| 2. Spinal cord injury | neurogenic_____ |
| 3. Heart attack caused by occlusion of the Left Main coronary artery | cardiogenic_____ |
| 4. IM epi | anaphylactic_____ |
| 5. Vasopressor of choice is norepinephrine | septic_____ |
| 6. Surgical blood loss | hypovolemic_____ |

Your next clue is revealed o _ n _ c _ a _ s _ h _ in Billing Department 1.

Billing Department Set-Up:



Blacklight Reveal:



Appendix C

Puzzle 2

Required Materials:

- Rebus puzzles
- Manilla envelope

Objective: To recognize medications used in cardiovascular care

Puzzle Directions:

By the time you get done with report, it is already 0900. Your patient needs morning meds—and fast. Uncode the puzzles to find the names of medications needed at the Pharmacy.

[The images that would be in the puzzles are indicated and described below. The additions and subtractions of certain letters or sounds are indicated with a + or – sign, respectively.]

Rebus Puzzle 1 Clues: [image of a night sky] + [image of rowers in a boat] + [image of school glue] – U + Y + [image of siren]

Rebus Puzzle 1 Answer: night + row + glue – U + Y + siren = nitroglycerin

Rebus Puzzle 2 Clues: [image of fetus in a womb with an arrow pointing to the amniotic fluid] – N + [image of a DARE sign] – E + [image of the number 1]

Rebus Puzzle 2 Answer: amniotic – N + dare – E + 1 = amiodarone

Rebus Puzzle 3 Clues: [image of a dog] – G + [image of a boot] + [image of a child with mouth open and tongue depressor in the mouth, saying, “Ahh.”] + [image of a mine, such as a gold mine]

Rebus Puzzle 4 Clues: [image of a dog] – G + [image of a dog's paw] – W + [image of a mine, such as a gold mine]

Rebus Puzzle 4 Answer: dog – G + paw – W + mine = dopamine

Rebus Puzzle 5 Clues: [image of a man digging a hole] + [image of an ox] + [image that has an object in a box and another outside a box with the image of the object inside the box circled]

Rebus Puzzle 5 Answer: dig + ox + in = digoxin

Appendix D

Puzzle 3

Required Materials:

- Empty medication bottles
- Strips of paper with phrases in team colors
- Faux medication labels

Objective: To differentiate between key features of cardiac medications to select the appropriate medications

Puzzle Directions:

Use your knowledge of cardiac meds to select the correct medication bottle. Wrong colored slip or your message doesn't make sense? Try again.

Sample Medication Bottles:



Sample Paper Clues:

Clue for Correct Guess: *[Indicate the name of the next puzzle.]*

Clues for Incorrect Guesses:

Defibrillate asystole.

Give metoprolol to someone who is bradycardic.

Strip a chest tube.

Give atropine to someone in sinus tachycardia.

Give nitroglycerin to someone who takes sildenafil.

Give nitroglycerin to someone with a BP of 80/50.

Give amiodarone to someone with PEA.

Give dopamine in an arterial line.

Zero the CVP one foot below the phlebostatic axis

Appendix E

Puzzle 4

Required Materials:

- Chest tube case studies
- Image of dry chest tube system, labeled as number 1
- Image of wet chest tube system, labeled as number 2
- 4x4 gauze package or image of 4x4 gauze package, labeled as number 1
- Sterile water bottle or image of sterile water bottle, labeled as number 2
- Silk tape or image of silk tape, labeled as number 3
- Image of an office phone, labeled as number 4

Objectives:

1. To identify parts of the chest tube system
2. To solve chest tube related problem situations

Puzzle 4 Cases:

It can be hard to breathe without one.

Use the correct supplies for your patient's problem in order to determine what to do next.

T.P. is admitted with a tension pneumothorax on the right side. The physician emergently inserts a chest tube.

- The tube is connected to a dry suction system and is at -20 cmH₂O suction. Select the appropriate suction system.*
- Would this patient have bubbling in 0, 1, or 2 chambers? (Use the same number as the number of chambers that would be bubbling.)*
- When moving around in bed, the chest tube becomes disconnected from the suction system. When sending someone to get a new suction set-up, what supplies do you need to address this issue? If you need more than one set of supplies, add the numbers together.*

Use your supplies in order to “unlock” your next task in the box.

It can be hard to breathe without one.

Use the correct supplies for your patient's problem in order to determine what to do next.

G.S.W. is admitted with a hemopneumothorax on the left side. The physician emergently inserts a chest tube.

- The tube is connected to a dry suction system and is at -20 cmH₂O suction. Select the appropriate suction system.*
- Would this patient have bubbling in 0, 1, or 2 chambers? (Use the same number as the number of chambers that would be bubbling.)*
- When moving around in bed, the chest tube becomes disconnected from the suction system. When sending someone to get a new suction set-up, what supplies do you need to address this issue? If you need more than one set of supplies, add the numbers together.*

Use your supplies in order to “unlock” your next task in the box.

It can be hard to breathe without one.

Use the correct supplies for your patient's problem in order to determine what to do next.

P.L.E. is admitted with a pleural effusion on the left side. The physician inserts a chest tube.

- The tube is connected to a wet suction system and is at -20 cmH₂O suction. Select the appropriate suction system.*
- Would this patient have bubbling in 0, 1, or 2 chambers? (Use the same number as the number of chambers that would be bubbling.)*
- When moving around in bed, the chest tube is accidentally pulled out of the chest. What supplies do you need to address this issue? If you need more than one set of supplies, add the numbers together.*

Use your supplies in order to “unlock” your next task in the box.

It can be hard to breathe without one.

Use the correct supplies for your patient's problem in order to determine what to do next.

P.T. is admitted with a pneumothorax on the left side. The physician inserts a chest tube.

- The tube is connected to a wet suction system and is at -20 cmH₂O suction. Select the appropriate suction system.*
- Would this patient have bubbling in 0, 1, or 2 chambers? (Use the same number as the number of chambers that would be bubbling.)*
- When moving around in bed, the chest tube is accidentally pulled out of the chest. What supplies do you need to address this issue? If you need more than one set of supplies, add the numbers together.*

Use your supplies in order to “unlock” your next task in the box.

Answers to Cases:

- Case of T.P. 112*
- Case of G.S.W. 112*
- Case of P.L.E. 218*
- Case of P.T. 228*

Appendix F

Puzzles 5&6

Required Materials:

- Lock box
- Programmable 3-digit lock
- ECG rhythm strips
- Multiple choice question
- Cell phone with texting ability

Objectives:

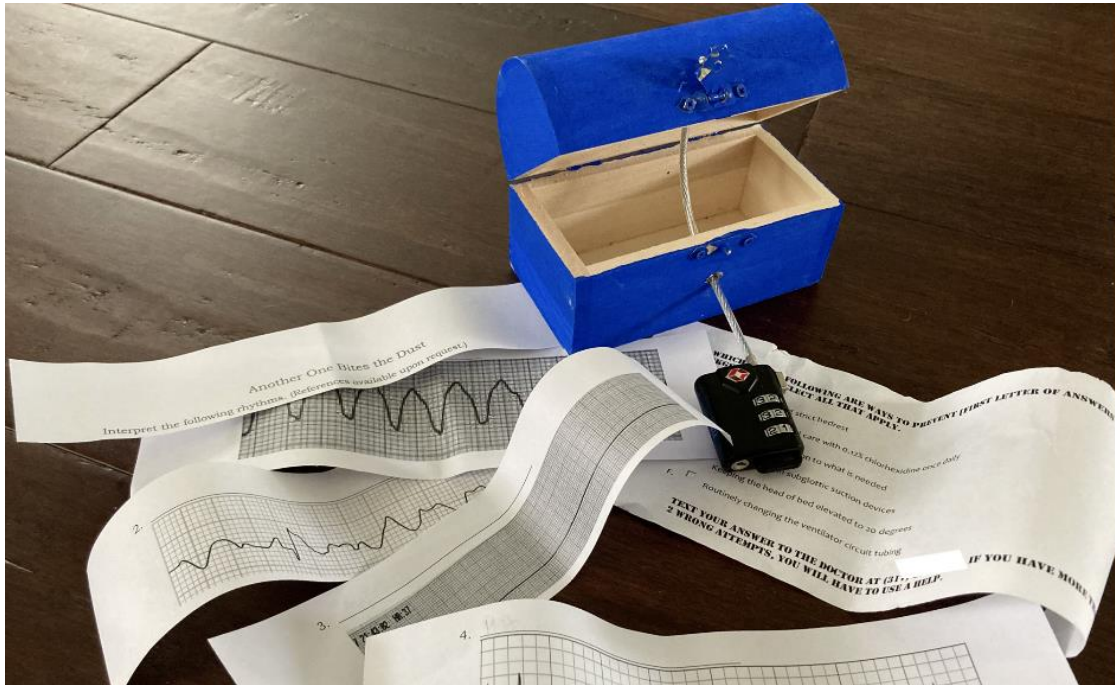
1. To analyze ECG rhythm strips
2. To identify prophylactic ventilator-associated pneumonia care steps

Puzzle Directions:

Don't let your patient bite the dust. Keep him alive. Text the doctor with your answer (123) 456-7890 *[include the number of the cell phone students will text].*

Puzzle Set Up:

A slip of paper indicates: "Interpret the following rhythms." Four other slips of paper are ECG rhythm strips.



Puzzle Answer: 1. Ventricular tachycardia, 2. Ventricular fibrillation, 3. Asystole, and 4.

Pulseless electrical activity

The box also includes a multiple choice question:

WHICH OF THE FOLLOWING ARE WAYS TO PREVENT [FIRST LETTER OF ANSWERS TO EKGS 2, 3, 4]? SELECT ALL THAT APPLY.

- A. ☐ Maintaining strict bedrest
- B. ☐ Performing oral care with 0.12% chlorhexidine once daily
- C. ☐ Minimizing sedation to what is needed
- D. ☐ Using ETTs with subglottic suction devices
- E. ☐ Keeping the head of bed elevated to 20 degrees
- F. ☐ Routinely changing the ventilator circuit tubing

TEXT YOUR ANSWER TO THE DOCTOR AT (123) 456-7890. IF YOU HAVE MORE THAN 2 WRONG ATTEMPTS, YOU WILL HAVE TO USE A HELP.

Puzzle Answer: C & D

Appendix G

Puzzle 7:

Required Materials:

- Drug dosage calculation page
- Manilla envelope
- Calculators
- Pencils

Objective: To calculate dosages of intravenous drip medications and mean arterial pressure

Puzzle:

Solve individually and then discuss answers.

1. A.A.A. has the following VS: P 95, BP 210/90, RR 18, SpO2 94%, T 98.7. He weighs 195 lbs. What is A.A.A.'s mean arterial pressure?
 2. The physician orders nicardipine to lower A.A.A.'s BP gradually. Nicardipine is available as 40 mg in 200 mL of 5% dextrose. The nurse starts the drip at 5 mg/hr. At what rate is the IV pump set? **Do not round until the end. If needed, round to the nearest tenths place.**
-

1. S.I.R.S. has the following VS: P 120, BP 85/52, RR 26, SpO2 93%, T 99.1. She weighs 223 lbs. What is S.I.R.S.'s mean arterial pressure?
2. Is S.I.R.S.'s mean arterial pressure adequate to perfuse organs?
3. After giving S.I.R.S. an IV bolus, the nurse practitioner orders dobutamine. The nurse starts the drip at 5 mcg/kg/min. Dobutamine is available as 400 mg in 250 mL. At what rate is the IV pump set? **Do not round until the end. If needed, round to the nearest tenths place.**

Add it up = _____ to open the mesh bag.

Puzzle Answers:

Solve individually and then discuss answers.

1. A.A.A. has the following VS: P 95, BP 210/90, RR 18, SpO2 94%, T 98.7. He weighs 195 lbs. What is A.A.A.'s mean arterial pressure?

130 mmHg

2. The physician orders nicardipine to lower A.A.A.'s BP gradually. Nicardipine is available as 40 mg in 200 mL of 5% dextrose. The nurse starts the drip at 5 mg/hr. At what rate is the IV pump set? **Do not round until the end. If needed, round to the nearest tenths place.**

25 mL/hr

1. S.I.R.S. has the following VS: P 120, BP 85/52, RR 26, SpO2 93%, T 99.1. She weighs 223 lbs. What is S.I.R.S.'s mean arterial pressure?

63 mmHg

2. Is S.I.R.S.'s mean arterial pressure adequate to perfuse organs?

No

3. After giving S.I.R.S. an IV bolus, the nurse practitioner orders dobutamine. The nurse starts the drip at 5 mcg/kg/min. Dobutamine is available as 400 mg in 250 mL. At what rate is the IV pump set? **Do not round until the end. If needed, round to the nearest tenths place.**

19 mL/hr

Add it up = **237** to open the mesh bag.

Appendix H

Puzzle 8

Required Materials:

- Poster board
- Hook and loop tape strips
- Cut out papers with symptoms and conditions
- Mesh bag
- Lock box with programmable 3-digit lock

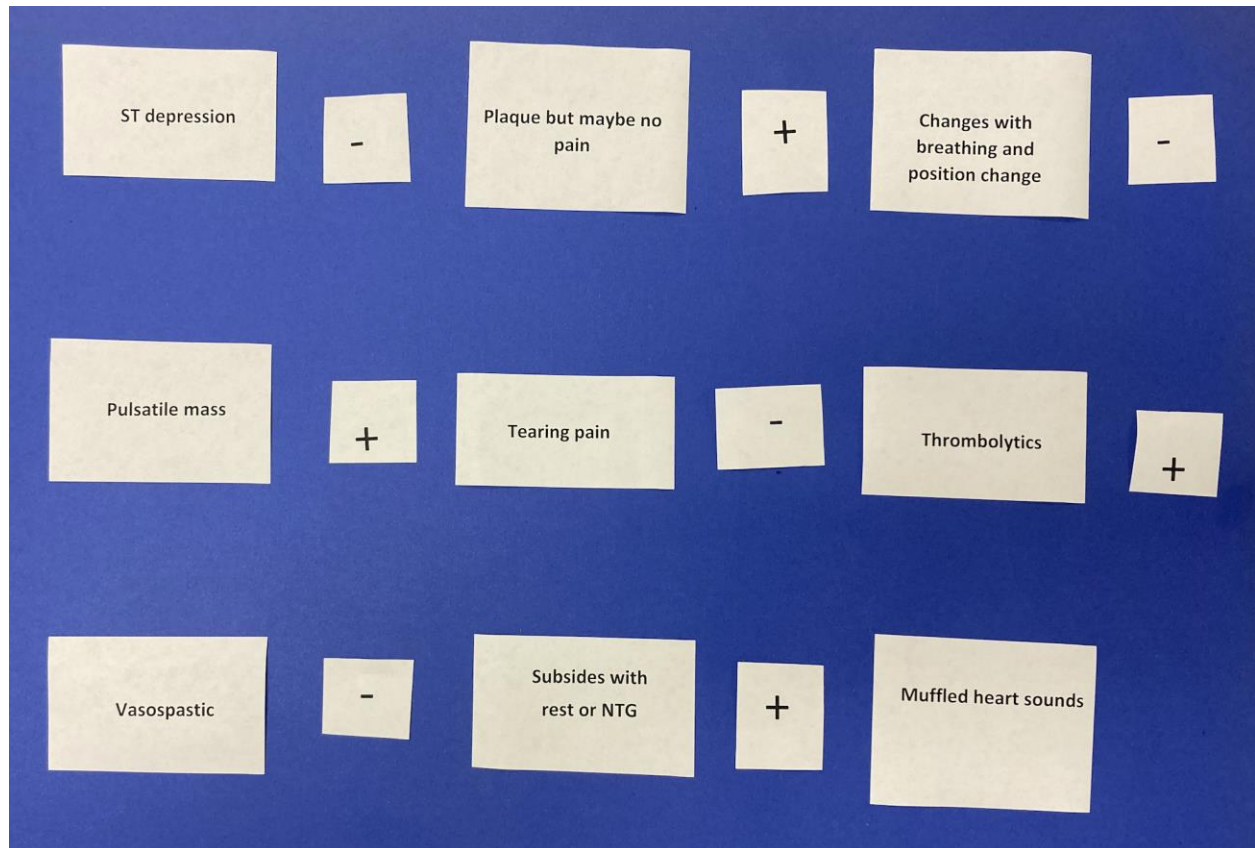
Objective: To differentiate between types and causes of chest pain

Puzzle Directions:

Match the s/s or treatment with the related achy heart diagnosis. Each is used once.

Use your final answer somewhere outside the box.

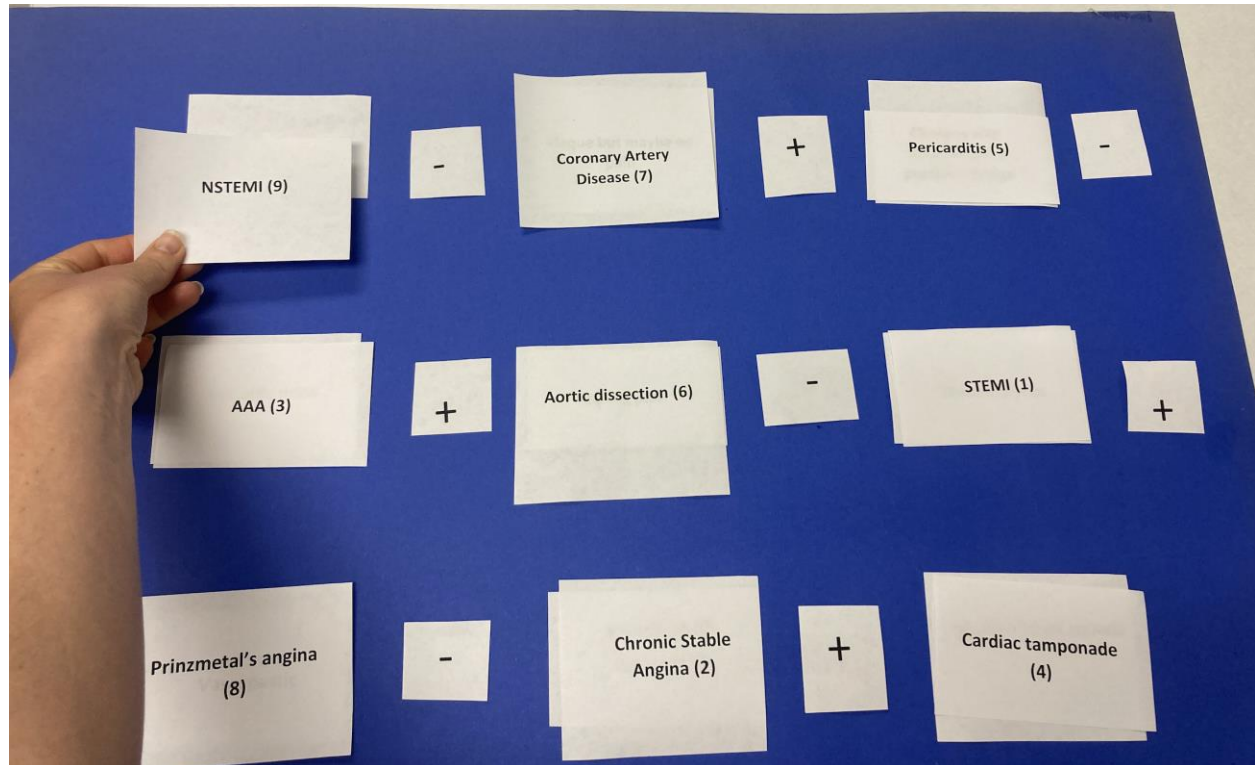
Poster Board:



Mesh Bag:



Puzzle Answers:



Appendix I

Puzzle 9

Required Materials:

- Multiple choice questions
- Lock box with programmable 3-digit lock
- Cell phone with countdown clock and ringer

Objective: To apply concepts of cardiovascular care in an nursing licensure exam style approach

Note: Some questions for this activity were adapted from nursing licensure resource practice questions. Those items are not depicted.

Sample of Items:

Question 2: Which initial action should the nurse perform when a client's rhythm changes from normal sinus rhythm to the rhythm pictured below?

[The image depicts Atrial fibrillation.]

1. Administer epinephrine.
2. Prepare for pacemaker insertion.
3. Perform cardiopulmonary resuscitation (CPR).
4. Measure blood pressure.

Question 5: When caring for a client with leathery, brown skin on the bilateral lower extremities, the nurse recognizes with of the following as an appropriate intervention?

1. Palpating for bilateral pedal pulses
2. Applying bilateral compression stockings
3. Encouraging sitting in the chair with feet dependent several times a day
4. Providing education on methods to reduce skin discoloration

Question 7: When caring for a client after a massive MI, the nurse recognizes which of the following s/s as indicative of cardiogenic shock? **Select all that apply.**

1. Decreased cardiac output
2. Decreased HR
3. Increased MAP
4. Increased ejection fraction (EF)
5. Decreased blood pressure

(Q1 x Q2) & (Q3 + Q4 + Q5) & (Q6 + all Q7)

Determine the code:

Appendix J

Shocking Escape: Escape Room Example Overview for Faculty

Puzzle	Type of Puzzle	Topic	Answers	Next Step
Puzzle 1	Fill-in-the-blank	Types of Shock	<u>O</u> bstructive <u>N</u> eurogenic <u>C</u> ardiogenic <u>A</u> naphylactic <u>S</u> epsis <u>H</u> ypovolemic ON CASH	Students go to the “Billing Department” in the room and find the name of the next task in blacklight on the cash money in the box.
Puzzles 2 & 3	Rebus puzzle	Uncoding puzzles to discover names of medications	Black: Dopamine, Amiodarone Blue: Dobutamine, Nitroglycerin Pink: Nitroglycerin, Digoxin Silver: Dopamine, Dobutamine	Students go to the “Pharmacy” area in the room to pick the correct bottles for the meds that were the answers to their rebus puzzles. The bottles do not have the medication names on them. They have clues about characteristics of each med. Students will know it’s the right med because the piece of paper inside that matches their team color will say the name of the next task.
Puzzle 4	Adding up items related to chest tube case study	Chest tube set up and chest tube troubleshooting	Black, Patient PLE = 218 Blue, PT = 228 Pink, Patient GSW = 112 Silver, Patient TP = 112	This code will open the wooden box in their larger box.
Puzzles 5&6	ECG interpretation and multiple choice (MC) question	Correctly interpret ECG strips and answer MC question on VAP	Ventricular Tachycardia <u>V</u> entricular Fibrillation <u>A</u> systole	They text their answer to “the physician.” The physician has them use a clue if they get it wrong two times. When they get it right, the doctor texts back, “Stop texting me now. I’m Under so much Pressure.”

			<u>P</u> ulseless Electrical Activity Answer to MC is C, D	
Puzzle 7	Dosage calculation	Correctly solving drug dosage questions	$130+25+63+19=$ Answer is 237	Answers add up to create code (237) to open the lock on the mesh bag in their box.
Puzzle 8	Matching	Matching characteristics/ treatment for heart disorders with the name of the disorder	$9-7+5-3+6-1+8-2+4$ Code is 019	Code (019) opens the box at the front of the room. Each team will get a set of MC questions.
Puzzle 9	Nursing licensure exam style questions	MC and select- all-that-apply	Answers are: Question 1: 2 Question 2: 4 Question 3: 3 Question 4: 4 Question 5: 2 Question 6: 2 Question 7: 1 & 5 (Q1 X Q2) & (Q3 + Q4 + Q5) & (Q6 and all Q7) 2×4 & $3+4+2$ & 2 + 1+ 5 898	Code (898) opens the box in the front of the room to “stop the clock” on the phone to save the patient. They should not actually open the phone. They’ll get a set of QR codes to open up practice questions to do until time is called.