

Creative Coaching & Educational Strategies To Develop Critical Thinking Skills

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Introduction:

- What is learning?
- Setting the stage for learning
- Benner's Stages of Clinical Expertise – from novice to expert
 - Novice
 - Learns the rules of practice
 - These rules are often applied universally because the new nurse is unable to make decisions based on individual differences
 - Advanced Beginner
 - Has some experience and can recognize common cases
 - Begins to formulate principles to guide practice
 - Competent
 - Mastery of the environment
 - Lacks speed, efficiency and seamless practice of the expert
 - Proficient
 - Sees the situations more holistically rather than in parts
 - Able to look toward long-term goals and anticipate future needs, goals, and expectations
 - Expert
 - Does not rely on rules of practice
 - Able to view the situation holistically and make judgments based on a wide range of experiences

What is Critical Thinking?

- Critical thinking in nursing is an essential component of professional accountability and quality nursing care. (Rubenfeld M, Scheffer B)
- Critical Thinking bridges the gap between knowledge and action.
- Is Goal directed
- Is Thinking with a purpose
- Involves questioning...
 - Why?
 - Who?
 - What if?
 - When?
 - Where?

Critical Thinking Habits of the Mind (Rubenfeld M, Scheffer B)

- Confidence
- Contextual Perspective
- Creativity
- Flexibility
- Inquisitiveness
- Intellectual Integrity
- Intuition
- Open-Mindedness
- Perseverance
- Reflection

Critical Thinking Cognitive Skills (Rubenfeld M, Scheffer B)

- Analyzing
- Applying Standards
- Discriminating
- Information Seeking
- Logical Reasoning
- Predicting
- Transforming Knowledge

Teaching critical thinking

- Are you a positive influence on the thinking of your learners?

Thinking-Promoting Teaching Style Checklist

In my teaching I:

- Evaluate & give credit for thinking processes
- Use multisensory techniques
- Encourage lots of questions
- Do not get defensive when questioned or challenged
- Help students find information resources
- Describe to students how I think, model my thinking
- Use deliberate methods to decrease anxiety
- Develop teaching objectives/expected competencies that go beyond recall of information & require transforming information into useable knowledge
- Use humor
- Create a thinking-friendly environmental culture that accepts "mistakes" as opportunities to grow
- Vary teaching methods & strategies throughout each session
- Engage students in peer review activities
- Provide written reflection time in class
- Ask students to expand on their answers
- Promote students' positive self-concepts
- Emphasize collaborative learning between teacher & student
- Allow/encourage the student to be the teacher

Source: Rubenfeld M, Scheffer B. *Critical Thinking Tactics for Nurses*. Sudbury, MA: Jones & Bartlett Publishers; 2006.

- Examples of teaching Critical Thinking
- Critical thinking can be developed through observation and reflective learning from an experienced nurse who is a critical thinker.

- A critical thinker....
 - Remains unbiased
 - Is adaptable
 - Is able to change focus when new facts are presented
- Describe some strategies other nurses used to help you become a nurse who is a critical thinker

- List the characteristics of someone you consider a great thinker.

Critical Thinking Self-Checklist

Directions: Place an X on the line to indicate your self-rating

1. How confident am I in my reasoning ability?

← Not very confident Very confident →

2. Do I tend to look at situations with their context in mind, or do I tend to see things as separate compartments?

← Compartmentalized thinking Contextual thinking →

3. How creative am I in my thinking?

← Not very creative Very creative →

4. How flexible is my thinking?

← Rigid Very flexible →

5. How inquisitive am I?

← Not naturally curious Innately inquisitive →

6. How much intellectual integrity do I have?

← Go with my assumptions Seek the truth no matter what →

7. How intuitive am I?

← Not very intuitive Always go with my gut →

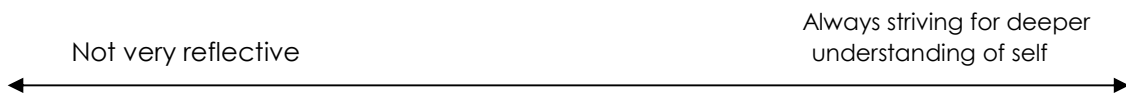
8. How open-minded am I?

← Quite biased Open to all possibilities →

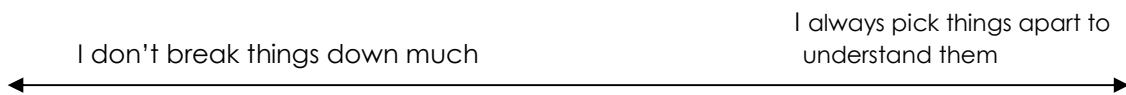
9. How much perseverance do I have in my thinking?

← Once I have problems I'll stop Keep at it no matter what gets in the way →

10. How reflective am I? Do I think about my thinking?



11. How good am I at analyzing situations?



12. How much do I pay attention to standards with my thinking?



13. How finely do I discriminate among things?



14. How good am I at seeking out information?



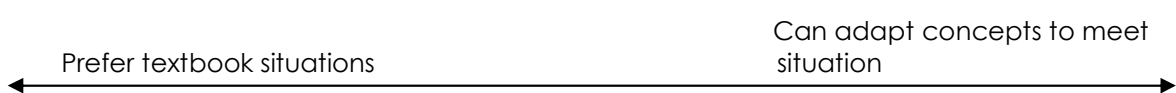
15. How strong is my logical reasoning?



16. How good are my abilities to predict consequences in situations?



17. How well do I transform knowledge from one situation to the next?



Source: Rubenfeld M, Scheffer B. *Critical Thinking Tactics for Nurses, 2nd ed.* Sudbury, MA: Jones & Bartlett Publishers; 2010.

What are the barriers to critical thinking?

Teaching Goals

- Motivate
- Engage into the learning process
- Challenge intellectually
- Focus on active learning rather than rote memorization
- Develop Critical Thinkers
- The aim of learning is to apply what we learn and to extend the learning to new situations.

Learner Outcome/Application Failure

- Four reasons knowledge and skill do not transfer to the job
 1. Poor organizational support
 2. Transfer skills taught were too general and not specific
 3. Learner is taught “how” not “why”
 4. Failure to apply a skill from one context to a different situation

Generational differences in learning styles

- Veterans, Boomers, Gen X & Y
- Digital Natives
- Digital Immigrants

Piecing Together the Puzzle of Generational Diversity

Veterans: Born pre-1946 (Over 62 y/o) Traditionalists, Silent Generation, Schwarzkopf : Take Charge & Do What is Right, Hard Work & Sacrifice			
Influential Events	Characteristics	Management Strategies	Teaching Strategies
<ul style="list-style-type: none"> • Star Spangled Banner becomes National Anthem • First Transatlantic flight • The Great Depression • Social Security established • Franklin D Roosevelt • WW II, Korean War 	<ul style="list-style-type: none"> • Patriotic • Killed & Died for important principles • Loyal to marriages & companies • Faith in Institutions • Respect for authority • Played by the rules • Patience, Discipline • Duty before pleasure • Fiscally Conservative- save & pay cash • Saving bread sacks, aluminum foil, & twist ties 	<ul style="list-style-type: none"> • Appreciate their dedication • Value their experience • Like Consistency & Uniformity • Comfortable with Directive Management style & workplace formality • Honor the Chain of Command • Prefer personal conversations & handwritten notes to email • Show an interest in what they have to say • Use Veterans to coach new hires 	<ul style="list-style-type: none"> • Show respect for age • Address formally: Mr, Mrs, Miss • Will need technology training • Use personal interaction especially when teaching about computers– they are use to interacting with people not machines • Use handouts with large font • Use proper grammar at all times • Don't rush education • Don't dismiss the value of life experiences
Baby Boomers: Born 1946 – 1964 (Ages 44 – 62 y/o) Trendsetters to the End : “We are cool” “We are the stars”			
Influential Events	Characteristics	Management Strategies	Teaching Strategies
<ul style="list-style-type: none"> • Salk Vaccine • Rosa Parks refused to move to the back of the bus • Civil Rights Act Passed • 1st Nuclear power plant • Birth control pills introduced • Kennedy elected • John Glenn circles the earth • Martin Luther King leads march on Washington DC • Vietnam • National Organization for Women Founded • Martin Luther King, John F & Robert Kennedy assassinated • 1st lunar landing 	<ul style="list-style-type: none"> • Workaholics- Belief that work is most important • Strong work ethic • Competitive • Idealistic • Optimistic • Teamwork • Believe in consensus building • Belief that you have to prove yourself to get somewhere • Redefined roles --- promoted equality • Driven to work & please • Seek immediate gratification • Buy now – pay later • Health & Wellness 	<ul style="list-style-type: none"> • Be a coach who facilitates, not dictates • Challenge is high on the boomer's motivation list • Provide opportunity for team work & consensus building • Ask opinions • Want to solve problems • Respect for skills, knowledge, wisdom, and contributions • Show how they can make a difference • “We need you” • “Your contribution is unique & important” • Honor their historical memory • Don't treat as “old” • Favor informal work environment • Reward them with money & visible recognition 	<ul style="list-style-type: none"> • Committed to life long learning • Stress over grades --- want “A+” -- “tell me what to do to get it” • Grades are earned • Influenced by the written word --- like to read • Becoming more technologically literate • Give a chance to talk in classroom & ask a lot of questions so they can demonstrate what they know

Generation X, Xers: Born 1965 – 1981 (28 – 43 y/o) Generation “I” or “L” for Invisible or Lost: “What is the big deal today?” “I have to keep my options open”			
Influential Events	Characteristics	Management Strategies	Teaching Strategies
<ul style="list-style-type: none"> • Women’s liberation protests & demonstrations • Watergate • Energy crisis • Tandy & Apple market PCs • Mass suicide in Jonestown • Three Mile Island nuclear reactor nears meltdown • US corporations begin massive layoffs • John Lennon shot killed • Iran holds 66 Americans hostage • Reagan inaugurated • Challenger Disaster • Stock market plummets • Terrorist Bomb blows up flight 102 over Lockerbie • Valdez oil tanker spill • Fall of Berlin Wall • Operation Desert Storm • Rodney King Beating 	<ul style="list-style-type: none"> • Self Reliant • The “me” generation: Self-focused – • “We can do it better” – don’t trust • Cynical – Skeptical -- too many promises have been broken • “Work to Live” because saw parents “Live to work” • Fun/balance • Have a nontraditional orientation about time & space – don’t think much of work hours • Feel they have the right to have fun– want life outside work. • Work “smart” - Think through issues • Like informality/fun – -- want to see things lighten up. • Are seeking a sense of family • Approach to authority is casual • Technologically savvy • Need ongoing education, challenge, and upward mobility • Cautious about money: Want to get out of debt. • Planning a retirement without social security 	<ul style="list-style-type: none"> • Challenge them: Give opportunities to learn new skills • Offer flexible work arrangements • Expect managers to earn their respect • Provide wise mentors • Empower by increasing responsibility • Multitaskers: Enjoy lots of simultaneous tasks & projects; work they can juggle • Mentors & coaches are important • Not known for good manners, etiquette or personal skills so need strong leaders to provide structure & priorities. • Need constructive feedback to become more effective. • Don’t confuse having a career with having a life • Unintimidated by authority & titles • Coach don’t direct or pull rank • Usually are good leaders because they have never been “good soldiers” • Reward with freedom 	<ul style="list-style-type: none"> • Short attention span • Want learning to be entertaining... not work. • Use humor when teaching • “Is that going to be on the test?” • Gear information to specific & practical outcomes • Provide clear statements of what is expected & what they need to know to be successful • Be visual & dynamic • They resist reading... poor writing skills • Use headlines, bullets and graphics • Need lots of feedback

Generation Y, Gen Y: Born 1982 – 2000 (8 - 26 y/o) Millennials, Millennial Generation, Nexters: “We are here Today!” Global Citizens			
Influential Events	Characteristics	Management Strategies	Teaching Strategies
<ul style="list-style-type: none"> • Child Focus Environment • Technology • Busy, over planned lives, stress • Violence: Oklahoma City Bombing, schoolyard shootings • Columbine High School Massacre • Sept 11th • Clinton/Lewinsky • Beanie Babies & American Girl Dolls 	<ul style="list-style-type: none"> • “Digital” Generation • Practical & Realistic • Confident • Media Savvy • Globally Aware • Diverse & expect diversity • Network with others • Honesty & Integrity are important. • If Gen Y is going to change society, it will do so by working within the system • Experts believe this generation will make heroes of themselves • Estimate they will have 8 careers in a lifetime • Concerned about safety 	<ul style="list-style-type: none"> • High maintenance = high performance • Will need supervision & structure especially when starting a new job or learning a new skill • Provide frequent feedback: What they are doing well <u>today</u>. How to improve <u>today</u>. • Inexperienced with dealing with difficult people & issues • Seek supportive working relationships • Take time to get to know each one’s capabilities, dreams, & aspirations • Want to make a Difference. Feel an obligation to ‘give back’ • Facilitate to meet their high expectations of themselves • Great Team players– have the best rapport with the other three generations • Establish a coaching relationship. Work well with seasoned employees • Reward with work that has meaning or an opportunity to acquire new skills 	<ul style="list-style-type: none"> • “Education is cool” -- Position yourself as a dynamic source of their learning. • Believe that education is the key to success • Life long learners – this ‘Digital Generation’ is ready to learn anywhere, anytime • Need structure “Are you going to give us a study guide/review session for this test?” • Incorporate teamwork in your teaching strategies • Technology is expected • Give instant & frequent feedback • Expect teachers to know more than they do --- demonstrate your knowledge • More likely to read than Gen X • Provide more backup information than for Gen X • Do best with prolonged job orientation and extensive mentoring

Herrmann 2008

Generational differences in learning styles

- Digital Native
 - Born into the Digital World
 - “Native speakers” of the digital language of computers, video games and the Internet
 - Grew up in “twitch speed”
 - “Digital Native” Learners Prefer...
 - Receiving information quickly from multiple multimedia sources
 - Parallel processing and multitasking
 - Processing pictures, sounds and video before text
 - Random access to hyperlinked multimedia information
 - To interact/network simultaneously with many others
 - To learn “just in time”
 - Learning that is relevant, instantly useful and fun
 - Have little patience for lectures, step-by-step logic and “Tell-test” education
- Digital Immigrants
 - Not born into the digital world and have needed to adopt it into their lives

The Disconnect

- Digital Immigrant Teachers Prefer...
 - Slow & controlled release of information from limited sources
 - Singular processing & single or limited tasking.
 - To provide text before pictures, sounds and video.
 - To provide information linearly, logically and sequentially
 - Students to work independently rather than network and interact
 - To teach "just-in-case" (it's on the exam)
 - Deferred gratification & deferred rewards
 - To teach to the curriculum guide & standardized tests

Breaking the Disconnect

- Educators need to learn to communicate in the language & style of their learners
- It *does not mean* changing
 - "What is important"
- It *does mean*
 - Going faster
 - Less step-by-step
 - More in parallel, with more random access.

Creative educational strategies to develop critical thinking in nursing.

- Critical Care & Cardiac Jeopardy
 - Template

 - Presenting teaching points

 - Creating critical thinking questions
 - Notes throughout the year
 - MD input
 - Conferences
 - Medication events
 - New protocols
 - Joint Commission standards
 - New procedures/new diseases
 - Formal or informal needs assessments
 - Case studies

 - Rules of the game
 - Team Captains
 - Equal number of nurses from each unit on each team
 - Time allotment for questions

 - Jeopardy Tips
 - Need to be a good facilitator of discussion
 - Can intimidate the new RNs
 - Divide teams evenly based on experience
 - Don't make questions/answers too long
 - May be used without having teams

Jeopardy

Critical Care & Cardiac Crossword Challenge

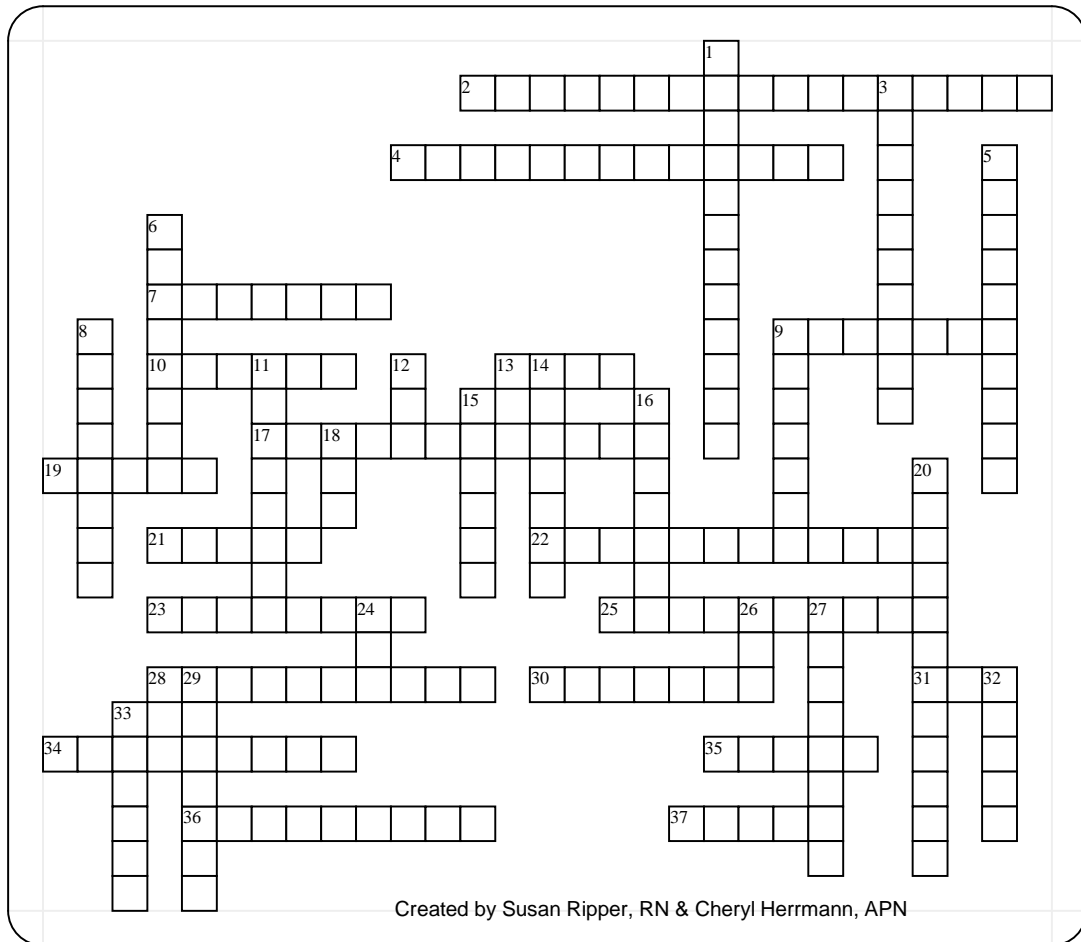
- Topic & article selection
 - OVID electronic articles

- Creation of puzzles
 - www.wintools.com
 - www.SuperCrosswordCreator.com
 - Use direct sentences from articles
 - Write answer and clue on separate sheet of paper and then transfer to crossword creator
 - State if answer is “two words” or “abbr”.
 - Avoid several two word answers and long words
 - Select specific articles for each unit
 - Correct spelling is important!
 - Attempt to get clues on the same page as crossword
 - Copy each crossword on a different color paper– easier to sort!
 - Include article reference on crossword

- CNEs
 - Self Study Learning Application
 - CNEs determined by CNEs offered by article or an article similar to it.
 - Typically use an article that is at least 5 pages long

- Prize cart

Women & Heart Disease



Created by Susan Ripper, RN & Cheryl Herrmann, APN

Reference: Herrmann, C. Raising Awareness of Women & Heart Disease – A Women’s Heart is Different. Critical Care Clinics of North America. 2008:20(3), 251-263.

Across:

- 2 - Increases the risk for atherosclerotic CVD by 1.5 - threefold and raises the risk for type 2 diabetes by 3 - 5 times (2 words)
- 4 - ____ risk factors are age and positive family history for premature CVD
- 7 - The greatest preventable cause of deaths in USA
- 9 - ____ Americans develop hypertension earlier in life, have much higher average BPs, and have 1.5 times greater risk of cardiac death.
- 10 - ____ percent of women report having no leisure time physical activity
- 13 - ____ portions have increased in the last 20 years, resulting in larger waistlines and heavier body weights
- 17 - Defined as elevated LDL, low HDL, elevated total cholesterol, and elevated triglyceride levels
- 19 - ____ are typically 10 years older than men when they develop CVD
- 21 - The ____ age of onset of CVD makes them more likely to have comorbidities such as hypertension,

Down:

- 1 - Women have more depression and ____ after AMI
- 3 - ____ or exercise stress testing is an accurate and cost effective technique for detecting CAD in women
- 5 - The ____ point score is an estimate of the likelihood that a woman will develop CVD within 10 years
- 6 - A ____ family history is premature CVD in a male relative younger than 55 or a female younger than 65.
- 8 - Helps protect women from CVD by increasing HDL and lowering LDL
- 9 - The ____ lifetime risk for a women to get heart disease is approaching one in two
- 11 - The symbol for heart disease awareness that was introduced in 2003 (two words)
- 12 - After ____ the mortality rate in women younger than 65 is twice that of men of comparable age. (abbr)
- 14 - Apple-shaped ____ or central obesity is associated with a higher risk of heart disease than pear-shaped obesity

diabetes, and heart failure

22 - _____ elevation has greater atherogenic significance in women than men

23 - women should accumulate a minimum of moderate-intensity _____ activity on most, preferably all, days of the week

25 - The _____ from diabetes are 2 - 4 times higher among women who have diabetes than those who do not. (two words)

28 - _____ risk factors include smoking, hypertension, diabetes, poor diet, sedentary lifestyle, and obesity

30 - _____ hypertension treatment of high risk women should be with beta-blockers and/or ACEI or ARBs.

31 - The leading cause of death in women worldwide (abbr)

34 - African-American women did not report _____ but experienced SOB, weakness, and dizziness with myocardial infarction. (two words)

35 - A total cholesterol/HDL _____ of 2.9 - 4.0 indicates average risk for CVD, while > 4.0 indicated above average risk.

36 - _____ after Cardiac surgery is double for women than men

37 - As an adjunct to diet, _____-3 fatty acids in capsule form may be considered for women who have CVD

15 - _____ % of women experienced prodromal symptoms, including unusual fatigue, sleep disturbances, SOC, indigestion, and anxiety before AMI

16 - Shortness of breath, extreme _____, and weakness are typical symptoms that many women report with myocardial infarction

18 - The risk of heart attack is up to _____ times greater for women who smoke.

20 - In a 1990 poll most women believed that this was the greatest threat to their health (two words)

24 - In 2007, the _____ recommended a heart healthy lifestyle and stratified risk categories for women. (abbr)

26 - A lower _____ is of greater concern in women than in men (abbr)

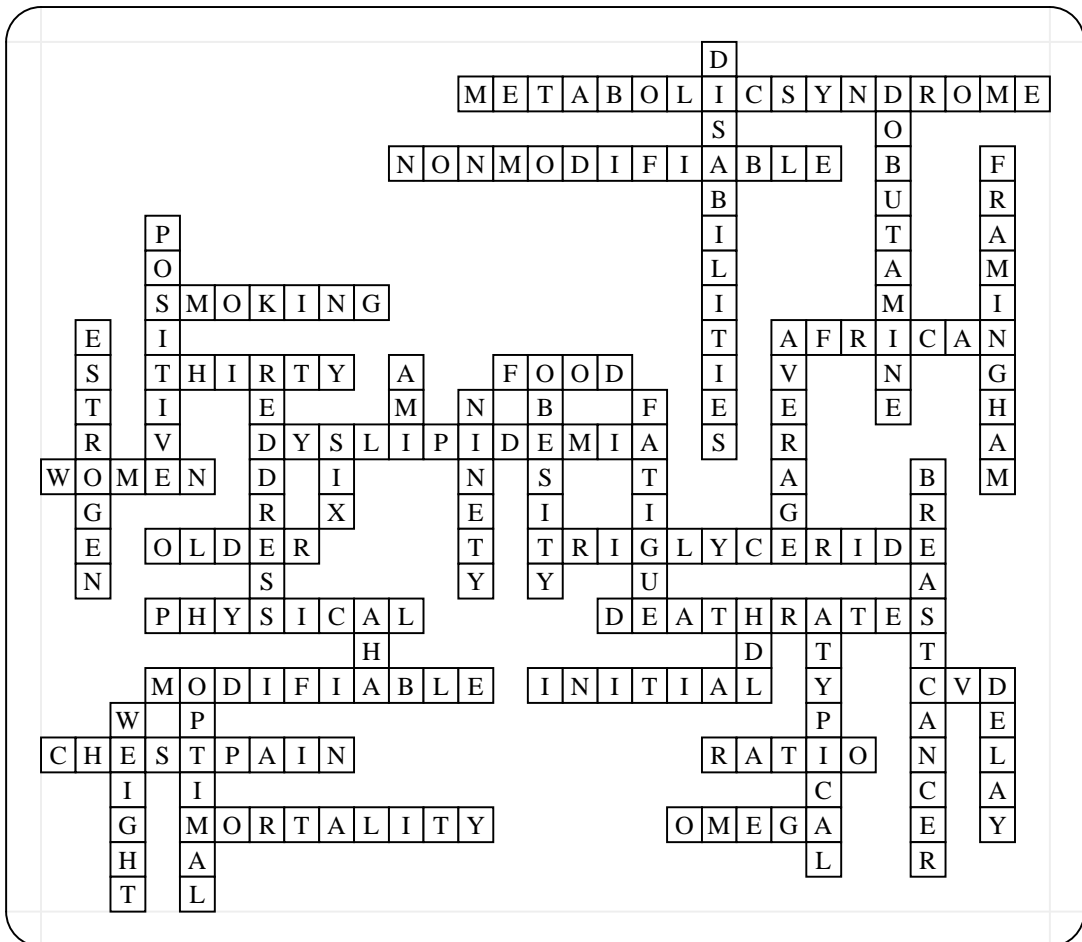
27 - Women may have _____ chest pain consisting of chest discomfort, heaviness, tightness, or indigestion, or may not report any chest pain with myocardial infarction

29 - The goal for all women is to be at their _____ risk.

32 - Because of their atypical symptoms and _____ in seeking treatment, women need more education about heart disease

33 - Women who need to lose _____ or sustain weight loss should accumulate a minimum of 60 - 90 minutes of moderate intensity physical activity.

Women & Heart Disease Answers



Critical Thinking Algorithms

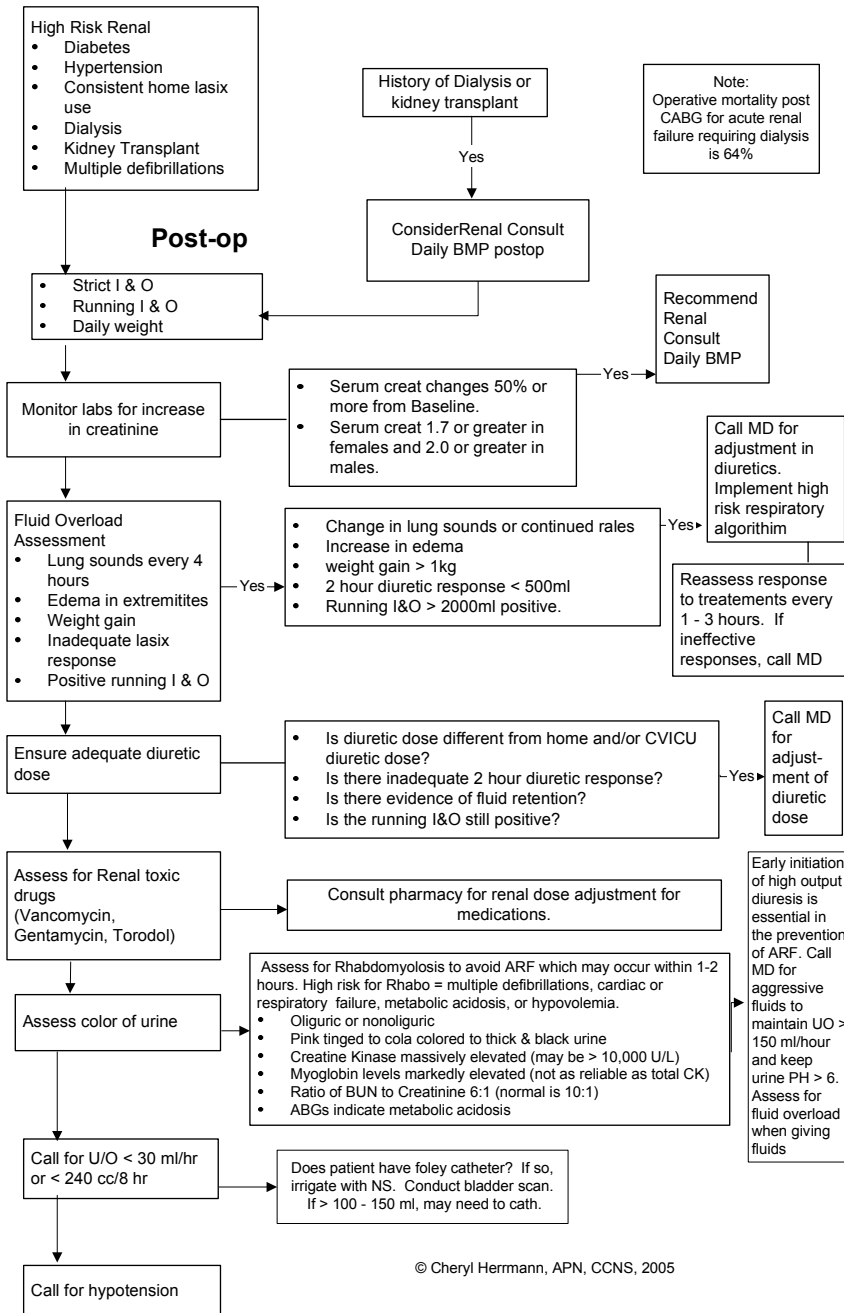
- Break tasks into yes/no steps to solve complex problems
 - Map out ideas & the connections among them
 - Help visualize priorities & identify relationships
 - Help organize thought processes
 - Build critical thinking skills
-
- Building algorithms
 - High Risk Respiratory
 - High risk renal
 - Low EF
 - High risk nutrition
 - High risk bleeding
 - High risk activity
 - High risk infection
 - Tachycardia
 - Hypotension
 - Flowchart symbols
 - <http://www.edrawsoft.com/flowchart-symbols.php>
 - <http://www.breezetreec.com/articles/flow-chart-symbols.htm>



- Implementation & Education
 - Handouts
 - Pocket cards
 - Computer resource
 - Reinforced at competency day or on Jeopardy

Cardiac Surgery High Risk Renal Postop Algorithm

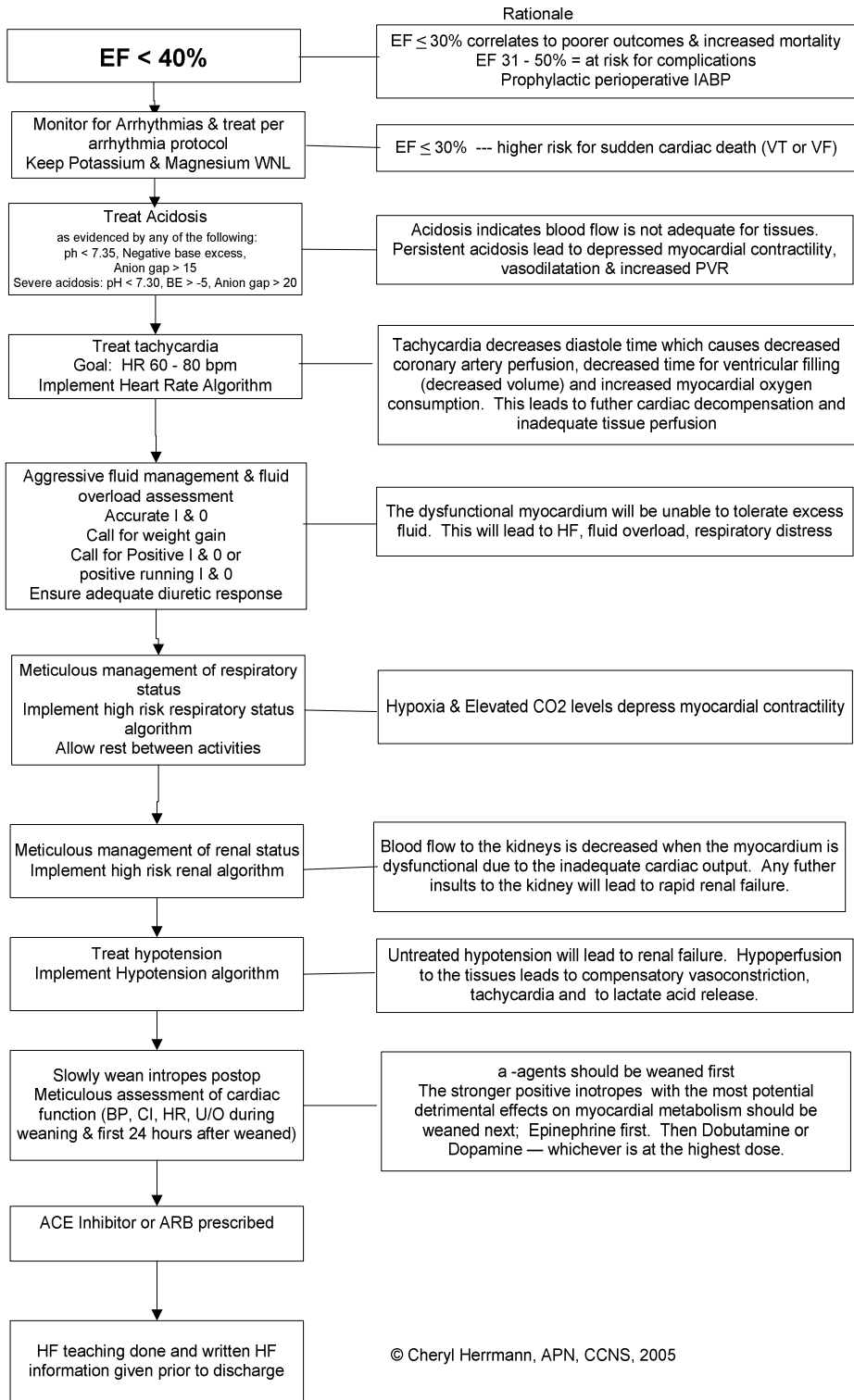
This is a guideline and not to be substituted for individual clinical judgment



© Cheryl Herrmann, APN, CCNS, 2005

Cardiac Surgery Low EF Algorithm

This is a guideline and not to be substituted for individual clinical judgment



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Cardiac Surgery Algorithms Competency Discussion

1. Renal

- a. What level of creatinine constitutes a high risk renal patient?
- b. Name the 8 things that need to be implemented postop.
- c. Discuss interventions with the 8 things – may discuss as a group.

2. Respiratory

- a. What is a high risk respiratory patient?
- b. When is the patient at high risk for VAP? (after 3 days)
- c. What measures do you do to prevent VAP?
- d. For an extubated high risk respiratory patient, discuss how you would change the plan of care.

3. Low EF

- a. What is the value for low EF?
- b. Discuss how you would modify the care of the patient with low EF.
- c. A patient with low EF needs to be discharged with _____

4. Hypotension

- a. A patient is hypotensive --- what items do you assess (must be able to state at least 5 of the 8)

5. Heart Rate

- a. Why is tachycardia so bad?
- b. What are things to consider to treat tachycardia?

6. SVR

- a. What is normal SVR?
- b. What do these values tell you?
- c. How often should you do SVR?
- d. Discuss high and low SVR.

7. Low Contractility

- a. What are the causes of low contractility? Must state hypoxia, low calcium, acidosis, volume status, and low EF
- b. Discuss the treatment plan for low contractility.

8. SVO₂

- a. What does SVO₂ tell you?
- b. What are the four things that affect SVO₂?

**Creative Coaching & Educational Strategies
To Develop Critical Thinking Skills
Part II – Critical Thinking & Evidenced Based Projects**

Self Assessment: Are you promoting EBP in your teaching plan?

- Am I handing down information or helping students SEEK knowledge?
- How old is the information I am using?
- How many times do I use the word evidence or EBP?
- Have I searched for the latest evidence on this topic?
- If I searched, how did I evaluate the evidence I found?
- Do any of my course objectives address EBP and thinking?

Source: Rubenfeld M, Scheffer B. *Critical Thinking Tactics for Nurses, 2nd ed.* Sudbury, MA: Jones & Bartlett Publishers; 2010.

Refer to power point slides for part ii handout.

Developing /Brainstorming an idea for a clinical question

<p>Start asking the question WHY? WHY? WHY? Why Do we do what we do?</p>	
<p>Why Do we do it that way? There has to be a better way to do this!</p>	
<p>Why do we always see this complication?</p>	
<p>Why do we do different things for the same type of pt?</p>	
<p>What are the weak areas on your unit?</p>	
<p>What are your clinical frustrations on your unit?</p>	
<p>Think of practices that are currently in place on your unit</p> <ul style="list-style-type: none"> ▪ What is the knowledge base for the practices? ▪ How can research improve/influence these interventions? 	
<p>What interventions do you use in practice?</p> <ul style="list-style-type: none"> ▪ What is the knowledge base for the practices? ▪ How can research improve/influence these interventions? 	

Creative Coaching & Educational Strategies To Develop Critical Thinking Skills Part III – “At the Bedside”

Urgent Assessment Team

- Nurse to Nurse Consult
 - CNS/Nursing Supervisor
 - ICU RN
 - Respiratory Therapist
- Preventing A Crisis Workshops
 - Data analysis
 - Needs assessment
 - Focus on assessment, pathophysiology, and nursing interventions

Case studies

- Stimulate critical thinking by using real situations to think through situations before experiencing them with real patients
- Allow nurses to examine & reexamine nursing actions from a variety of perspectives
- Assist nurses to identify and select care options and set priorities
- Bridge the gap between novice and experienced nurses
- Need to be a good facilitator of the discussion

Case selection

- Base on real patients
- To protect specific patient information, data can be combined from similar cases so it represents many patients not just one.
- Leave scenario open-ended or lacking detail so case can evolve through discussion
 - What other assessments, interventions or evaluations might be helpful?
- Give information as would be seen from the computer so they can learn “how” to look for information

Good Analytical Questions to Improve Critical Thinking

Abstracting	What is the general pattern underlying this information? To what other situation do these apply?
Analyzing errors	What were the processes that led to the error? How could it be corrected or improved? How is the _____ misleading? (The physician order, communications, etc.) What are the issues/conflicts, the intended or desired outcomes? What are the alternative strategies or responses?
Analyzing perspectives	What is the reasoning behind his or her perspective? What is an alternative perspective and the reasoning behind it? What are the pros and cons?
Classifying	What are the clinical presentation, laboratory values, and presenting s/s that would lead you to believe this is happening? What is the classification of this drug? What are the defining characteristics of this drug?
Comparing	How are these things alike/different? Analogies or metaphors
Constructing support	What are some of the limitations of this argument? What evidence-based research would support this argument? What makes your action unacceptable/undesirable? What actions should have been taken?
Deductive reasoning	Based on the following clinical problems or information, what orders would you predict or what conclusions can you draw?
Inductive reasoning	Based on the following information, what complications could occur? What clinical data would lead you to believe this? Why are these particular interventions relevant for this patient? What clinical data would lead you to believe this? Why are these particular interventions relevant for this patient? What clinical data would indicate the patient needs immediate intervention? Why? (Prepares the nurse to anticipate changes in patient condition)

Source: Loyola S. Evidenced-based teaching guidelines: transforming knowledge into practice for better outcomes in healthcare. *Crit Care Nurs Q.* 2010;33(1):27.

Creative Unit Based Competencies

- Sim Man – human patient simulation
- Competency packets

Creating a Culture of Certification

- Certification Motivators & Promoters
- Creative Study Strategies
- Recognition

2010 Cardiac Education Critical Thinking Assessment

Each question is worth 1 point unless marked otherwise. Please choose the BEST answer for each question. Each question has only one correct answer. **23 points total**

Questions # 1- 4 refer to this scenario.

Ms Breath Less Ness was admitted for exacerbation of her heart failure. Her EF is 30%. She is scheduled for a Biventricular pacemaker with an ICD tomorrow.

1. How do you explain to her the Biventricular pacemaker with ICD?
 - a. It is a device that will detect fast abnormal rhythms (ventricular tachycardia or ventricular fibrillation) and will pace or shock you out of the rhythm.
 - b. It is a device that will detect when your heart is too slow and will pace to increase your heart rate.
 - c. It is a device that will pace both your ventricles at the same time. With the ventricles beating together, it helps your heart work better and cause less shortness of breath.
 - d. A & B
 - e. A & C

Ms Breath's medications include:

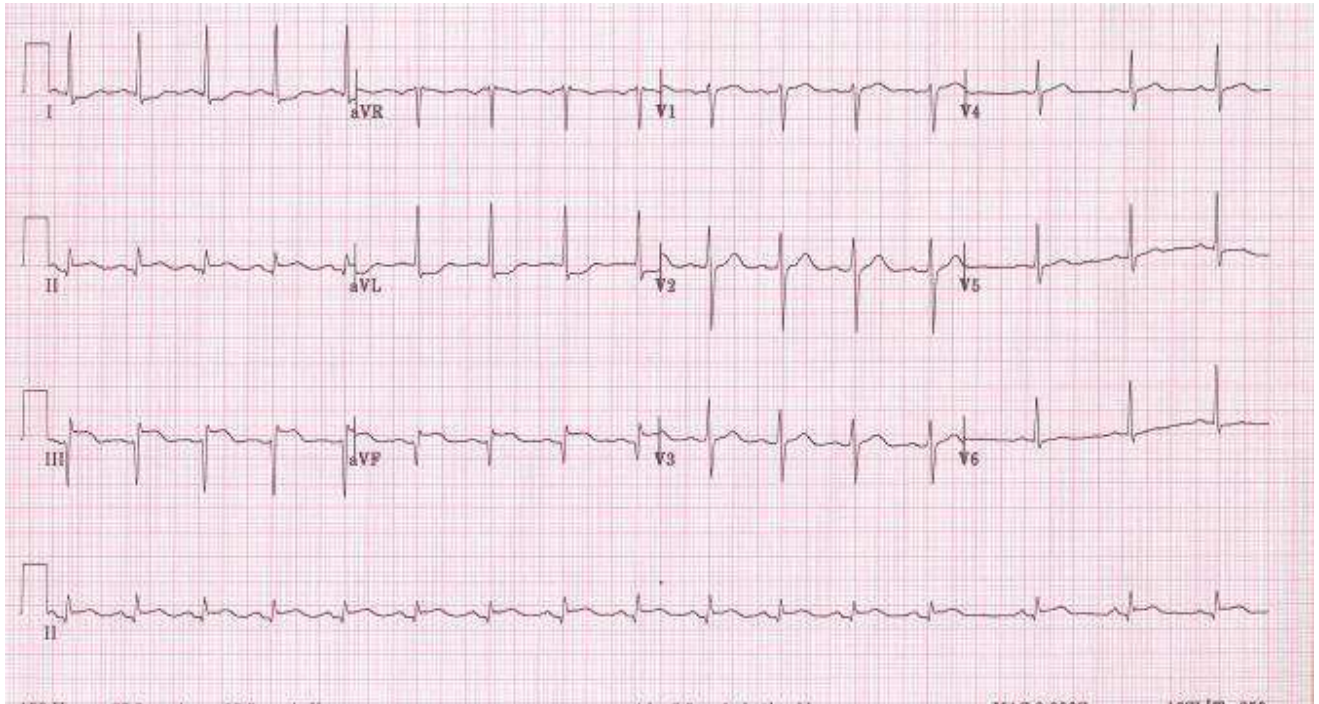
Coreg 3.125 mg BID
Lasix 40 mg BID
Lisinopril 5 mg every day
Metformin 500 mg BID
Proventil 2 puffs every four hours as needed
Spironolactone 25 mg BID

Her preop orders are NPO after midnight, Ancef 1 gm on call to cath lab. She is scheduled for 11am

2. What time do you give the Ancef?
 - a. When cath lab calls
 - b. 10:30
 - c. Do not give, send Ancef with patient to cath lab to meet the SCIP core measure of antibiotic within 60 minutes of incision time.
3. It is time for 10 am medications. Which of the above medications would you hold and which would you give?
4. Post Biventricular implant, what should you see on the EKG strip?
 - a. One atrial, and two ventricular spikes
 - b. Atrial spikes only when there is no p wave, ventricular spike only when there is no QRS.
 - c. 100 % pacing of both the atria and ventricles
 - d. Atrial pacing only when no p waves and 100 % pacing of the ventricles following p waves or atrial spike.

Questions 5 – 8 refer to this scenario

Mr Pack a Day, a 45 y/o was admitted to ED with crushing chest pain. ED did a 12 Lead EKG and started the chest pain protocol.



5. The area(s) of the myocardium showing injury pattern on the above 12 Lead EKG is/are:
 - a. Inferior wall
 - b. Lateral wall
 - c. Anteriorseptal wall
 - d. Posterior wall
 - e. Inferior and posterior walls
 - f. Anteriorseptal and lateral walls
 - g. Inferior and anterior septal walls.

6. The coronary artery(s) showing occlusion on the above 12 Lead EKG is/are:
 - a. LAD
 - b. Circumflex
 - c. PDA
 - d. RCA
 - e. RCA, LAD, Circumflex
 - f. RCA, PDA
 - g. RCA/LAD
 - h. LAD, Circumflex

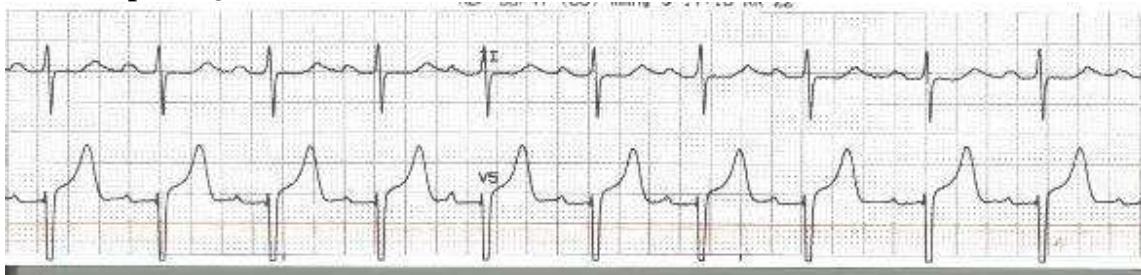
7. Would you expect the initial troponin in ED to be normal or elevated?
Give rationale for your answer.

8. According to the ST fingerprint protocol, where would you place the V lead for bedside monitoring on the above patient?

9. EKG changes with AMI.
Match Column A with Column B

Column A	Column B
Ischemia	1. Q waves
Injury	2. ST depression
Injury with necrosis	3. ST elevation
Infarction (necrosis)	4. ST elevation with Q waves
	5. T wave inversion

EKG strip for Questions 10 & 11



10. What is the QT interval? _____?

11. Is this a normal QT interval for this patient?

12. What are two ways to identify the correct QT interval measurement for each heart rate?.

a.

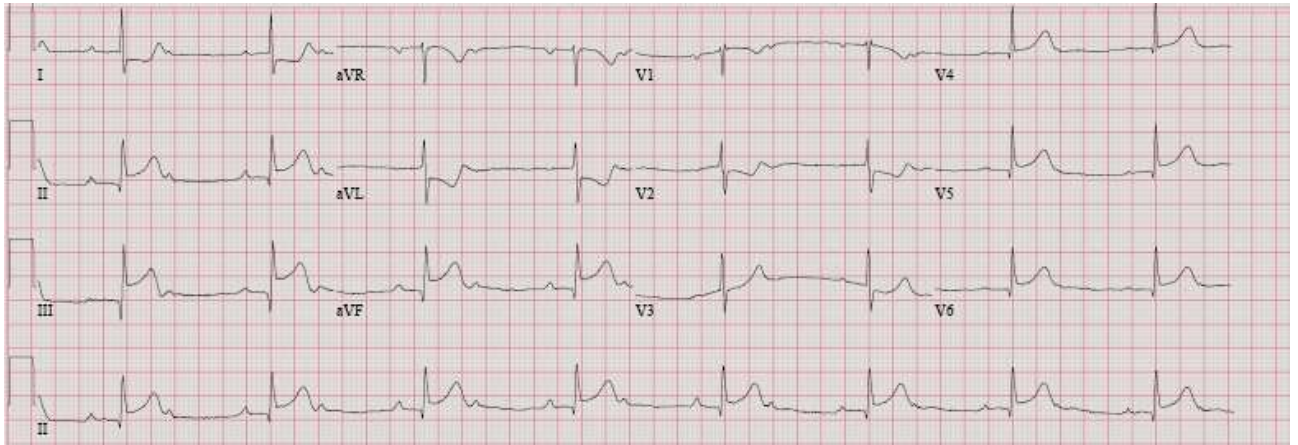
b.

13. Why is it important to know if your patient has a prolonged QT interval?

14. Name at least two classifications of medication that can prolong QTs.

Questions 15 – 19 refer to this scenario.

Ms STEMI, a 65 y/o diabetic patient comes to the ED with shortness of breath at 1624 on 4/3. She is also a smoker. This is her 12 Lead EKG.



15. What is the rhythm on this STEMI EKG?

16. Would you expect this rhythm with this type of AMI? Why or why not?

Ms STEMI went to cath lab and had three stents to her proximal, mid, and distal RCA. The documented time to open the artery was 1700. Dr Eedar documented in the chart acute ST elevation inferior- posterior myocardial infarction with EF 65%.

17. What is the “door to balloon” time for Ms STEMI _____?. Did she meet the target time?

18. What two medications do you need to ensure she received in ED and if not, she gets within 24 hours of arrival?

19. Ms STEMI’s Troponins are listed below. Lab has called you each time to inform you of critical labs results, which means you need to call and document in the SBAR. Which of these will you call & how will you document in SBAR? (Hint – review the *calling Troponon Algorithm* in chart forms)

4/3 1635 = 0.69 in ED

4/3 2000 = 71.20

4/4 0500 = 85.70

4/4 1700 = 48.6