A REVIEW OF THE 2 CARDIOLOGY STATIONS: WHAT TO SAY & WHAT TO DO

TO GET PAST THE 2 HARDEST STATIONS AT STATE PARAMEDIC BOARDS

VERSION 8 AHA ECC 2005 STANDARD---BY JAMES ROFF
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**CARDIOLOGY STATION**

You are the 9th paramedic class to use this handout/program to prepare for the cardiology station and, like all the others before you, you too will pass if not on the first try then certainly on the 2nd. The following is some useful information that will be helpful in preparation for the static cardiology portion of the cardiology station at boards.
STATIC CARDIOLOGY--

Remember that static cardiology is just regurgitation of the appropriate algorithm in a timely manner it is not particularly detailed and if you just recite the algorithm it is usually all that is needed. Remember too that if the evaluator is not satisfied with the extent of the information you give him he should ask a clarifying question. (i.e. what are the causes of PEA?) Of course you must be able to recognize the problem before you can treat it and that can be a little tricky.

Start every session off by reading the scenario that accompanies the rhythm slowly, trying to separate the important information from the unimportant. Pay particular attention to whether the pt has a pulse or not as this will determine your initial treatment of the pt. Also as you read determine if the pt is stable or unstable.

Next identify the rhythm. Do this prior to stating your treatment. ALWAYS IDENTIFY THE RHYTHM FIRST TO THE EVALUATOR.

You should spend some time reviewing the method for rhythm interpretation. (see quick reference cheat sheet in appendix)

You should also deliver your best diagnosis of the pt's problem. Not every evaluator will require a diagnosis of the problem if you identify the rhythm and treat the patient appropriately. But depending on how much of a Richard cranium they want to be they can gig you for failing to diagnose the pt's problem (I know we don’t diagnose in the field but these are their rules and we are playing their game). It should follow this format:

“This rhythm is _______ This patient is_______ “

For example:
" this rhythm is a second degree mobitz type 1 but without a pulse this patient is in PEA"
or
“this rhythm is sinus brady. This patient is suffering from calcium channel blocker overdose”
or
“this rhythm is normal sinus rhythm. This patient is in neurogenic shock”
or
“this rhythm is sinus tachycardia This patient is in septic shock” (obviously a nursing home run)

“this rhythm is idioventricular. This patient is symptomatic from a myocardial infarction”
or
“this rhythm is ventricular fibrillation this patient is in cardiac arrest”
“this rhythm is SVT. This patient is stable”
or
“this rhythm is junctional bradycardia. This patient is unstable due to the bradycardia” (no other obvious cause)

Now based on whether your pt has a pulse or not you will say 1 of 4 **chants** to start your treatment.

These **chants** are important because they ensure you hit all the bases and keep you within the prescribed time limits.

**MEMORIZE THEM!!!**

1) If the pt has no pulse and is in PEA say the following:
“this rhythm is _____ the patient is pulseless so this is PEA I would treat the patient:
“BSI”

“Assess ABC’s”

determining PEA. I will perform high quality uninterrupted cpr for 2 minutes **while searching for and treating possible causes.**

I will establish an IV, Intubate with hi-flow O2 & confirm tube placement

I will promptly administering epi 1 mg now and **EVERY** 3-5 minutes from this point on.

After 2 minutes I will perform a rhythm check lasting no more than 10 seconds,

**if bradycardic add** "I will also administer atropine 1mg every 3-5 min. up to 0.04mg/kg "(or 3mg)

I will continue with 2 minute cycles of high quality uninterrupted cpr followed by a brief rhythm check, drug administration and search for possible causes as long as this rhythm persists.

Rapid transport
2) If the rhythm is asystole use the following:

“BSI”

“Assess ABC’s”

determining asystole I will confirm in a 2nd lead & perform high quality uninterrupted cpr for 2 minutes while searching for and treating possible causes.

I will establish an IV, Intubate with hi-flow O2 & confirm tube placement

I will promptly administer epi 1 mg now and EVERY 3-5 minutes from this point on.

After 2 minutes I will perform a rhythm check lasting no more than 10 seconds

I will also administer atropine 1mg every 3-5 min. up to 0.04mg/kg "(or 3mg)

I will continue with 2 minute cycles of high quality uninterrupted cpr followed by a brief rhythm check, drug administration and search for possible causes as long as this rhythm persists.

I may also consider termination of efforts with proper medical direction

For the above 2 rhythms be sure to add the appropriate treatments for any possible reversible causes you may note in the scenario.

(i.e. drug overdose etc…)

Know all the reversible causes of asystole & pea and be able to recite them on request.

Hypovolemia
Hypoxia
Hydrogen ion acidosis
Hypo/hyperkalemia
Hypoglycemia
Hypothermia
Toxins
Tamponade
Tension Pneumothorax
Thrombosis (coronary and pulmonary)
Trauma
3) **Verbal treatment for V-FIBB/PULSELESS V-TACH**

BSI
assess abc
determining v-fibb (OR pulseless v-tach)I would:
Clear and defibrillate @ 200 joules biphasic

**I WILL IMMEDIATELY PERFORM HIGH QUALITY UNINTERRUPTED CPR FOR 2 MINUTES AFTER ALL DEFIBRILATIONS FROM THIS POINT ON**

I will establish an IV, Intubate with hi-flow O2 & confirm tube placement

After 2 minutes I will perform a rhythm check lasting no more than 10 seconds, clear & defibrillate @ 200 joules biphasic

Immediately following this I will perform high quality uninterrupted cpr for 2 minutes while promptly administering epi 1 mg now and **EVERY** 3-5 minutes from this point on.

After 2 minutes I will perform a rhythm check lasting no more than 10 seconds, clear & defibrillate @ 200 joules biphasic.

Immediately following this I will perform high quality uninterrupted cpr for 2 minutes while promptly administering amioderone 300 mg iv push.

I may repeat this drug once in 5 minutes at 150 mg if **needed**.

I will continue to alternate epi administration with an antiarrythmic

I will continue with 2 minute cycles of high quality uninterrupted cpr followed by a brief rhythm check, defibrillation & drug administration as long as this rhythm persists.

Sodium bicarbonate may be indicated for extended time down with good ventilations

Rapid transport

Know all of the other anitarrythmics and be alert to any other circumstances to deal with (ie. Drug overdoses, pregnancy, anaphylaxis etc…).

These three pulseless ones are pretty easy.
4) The ones **with** a pulse are a little harder but they **ALL** start with the same **chant** memorize this:

"BSI"

"Assess the ABC's"

"Secure the airway"

"O2"

"IV"

"Monitor"

"Pulse ox"

"vital Signs"

"Pt. History"

"Physical Exam"

"12 lead EKG"

This covers all your bases in one breath and you can now go on to treat the particular signs and symptoms and arrhythmia.

This is the first thing you say when treating a pt with a pulse FOLLOWING IDENTIFICATION OF THE RHYTHM & DIAGNOSIS. (i.e. "this rhythm is SVT This pt is in acute pulmonary edema. I would treat the pt by assessing the abc's, secure the airway, O2, IV etc.") Then you choose the appropriate algorithm to follow. This is usually based on whether the pt is stable or unstable.

***** What makes a pt unstable?----- serious signs or symptoms: ALTERED MENTAL STATUS, ONGOING CHEST PAIN OR DIFFICULTY BREATHING, HYPOTENSION OR OTHER SIGNS OF SHOCK.. These make a pt unstable.*****

REMEMBER THE GREY PATIENTS WHO ARE NOT DEFINITELY STABLE OR REALLY UNSTABLE. LOOK AT THE WHOLE PT. IS THE PT MORE GOOD THAN BAD OR MORE BAD THAN GOOD? MORE GOOD THAN BAD CAN GET MORE CONSERVATIVE TREATMENT MORE BAD THAN GOOD SHOULD BE TREATED AS AN UNSTABLE PATIENT (better living through electricity usually).

Form a synopsis of the pt condition as this will determine your additional specific treatments.

Some algorithms require cardioversion for the unstable pt. Know what to say prior to cardioversion. i.e. "prior to synchronized cardioversion I would:

Check O2 sat
Prepare the Suction device
Establish an IV
Prepare my Intubation equipment
Consider Pre-medicating the pt.
Clear and deliver synchronized cardioversion (50) 100j, 120j, 150j, 200j
According to the synchronized cardioversion algorithm you are entitled to a brief trial of medications this may or may not be apropos. (SEE PAGE 92 IN THE ACLS PROVIDER MANUAL) Use good judgment on this.

Additionally there may be other “non-cardiac related treatments” that need to be performed that may not seem to have anything to do with CARDIOLOGY but they are needed nonetheless. For example you may need to:

- Start 2 large bore IV of lactated ringers
- Take full spinal immobilization
- Perform a needle decompression of the chest
- Place an occlusive dressing
- Transport to the nearest level I trauma center

Lastly, there is the pt. who is stable. The ekg is normal with perhaps a minor anomaly or some ectopy. This pt. has some minor or vague signs or symptoms and has STABLE vital signs. For this patient say the following (in addition to chant #4):

“ADDITIONALLY. I WILL PROVIDE SUPPORTIVE CARE AND RAPID TRANSPORT TO THE NEAREST MEDICAL FACILITY.”

It is common that one of your 4 static cardiology scenarios will be a stable patient requiring nothing more than supportive care and transport.

YOU ABSOLUTELY HAVE TO KNOW THE ALGORITHMS if you are going to be able to recite them back to the evaluator. This is the key to passing the static portion of the cardiology station. Some of the algorithms may appear quite daunting to memorize but they should be broken down into smaller algorithms. (i.e.- PULSELESS ARREST CAN BE BROKEN DOWN INTO SHOCKABLE AND NON-SHOCKABLE RHYTHMS. and pulmonary edema -- hypotension/shock should be looked at in the same way. ) this makes learning them less daunting of a task.

Don't forget there is an algorithm for chest pain. (acute coronary syndromes) you only need to recite the "EMS SYSTEM" of the algorithm (usually) on this one:

(note: some of these things may have already been done i.e. IV Intubation. Therefore they would not need to be mentioned if you did not want to.)
After you recite chant #4 say “Additionally I will administer nitro SL up to 3
doses titrated to blood pressure, 324 mg ASA and morphine per medical
direction as well as perform the pre-hospital fibrolityc survey & provide rapid
transport with advanced notification of our arrival to the ED.”

There is also a stroke algorithm it can be briefly recited in this way:
“I will perform a prehospital stroke assessment and establish the time when the
patient was last known to be normal. I will also check the glucose and provide
rapid transport to the nearest stroke center with advanced notification the facility”

If you practice reciting the "chants" and the algorithms to yourself over and
over again you will not have any problem with this.

Lastly you should end your spiel by saying “RAPID TRANSPORT”. This
will indicate to your evaluator that your are done if there is any doubt.

I have included 4 sample rhythm scenarios for the
static cardiology station in the appendix of this
publication.
DYNAMIC CARDIOLOGY

Now forget everything about static cardiology. Trying to perform for the dynamic station in the same manner as you did for the static (regurgitating the algorithm quickly) will not work! You are being evaluated on 2 basic things. Can you safely and correctly operate the defibrillator as well as identify and treat actively changing rhythms per acls guidelines.

You will be allowed to use the multi-purpose hands free defibrillation pads. This is a good thing as previous classes have had to use the manual defibrillator.

This is a learn by doing station and practice is verrrrrrrrry important. This you will see as we get into it. The station will run like this:

When starting the station you will be presented with a scenario. One serious mistake that most students make is they don’t **LISTEN** to the scenario, so be sure and do so.

The first three statements out of your mouth are ALWAYS Letters.

1) BSI  2)LOC  3)ABC’s

**First** state the obvious “BSI”.

Then start off by assessing the LOC.
Followed by assessing the ABC’s

If unresponsive- open the airway and put your fingers on the manikin’s neck and state that you are assessing for breathing and circulation. Say “ABC’s”

   If there is no pulse- Immediately apply the combo pads and proceed from there.

   If there is a pulse- ask for breath sounds, vital signs put the pt on oxygen (as appropriate for v.s.) and state you will put the pt on the 3 lead monitor. (do this quickly and in one motion/breath) LISTEN to the info the evaluator gives you. **THEN** look at the monitor, state the rhythm and proceed from there with the appropriate treatment.*
If responsive- state “what are the abc’s”

After that- ask for breath sounds, vital signs put the pt on oxygen (as appropriate for v.s.) and state you will put the pt on the 3 lead monitor. (do this quickly and in one motion/breath) LISTEN to the info the evaluator gives you. THEN look at the monitor, state the rhythm and proceed from there with the appropriate treatment.*

* I will show you the exact way to perform this step.

Here are some other pointers:

Don’t forget the clear chant:

ONE I AM CLEAR
TWO YOU ARE CLEAR
THREE WE’RE ALL CLEAR

Also don’t forget to hit the sync button every time you perform a synchronized cardioversion

Don’t forget to check for a pulse between and before synchronized cardioversions

Use the defibrillator with confidence and the evaluator may be more inclined to overlook small mistakes

After every defib always remember to say “resume CPR.”

During the rhythm check if a change in rhythm is noted say “I SEE A CHANGE IN THE RHYTHM, DO I FIND A PULSE?”

If no pulse “START CPR”

If a pulse is noted ask “is the pt breathing and what are the vitals”

Any time you have ASYSTOLE say the following “I WILL CHECK MY LEADS, MY CABLE AND CONFIRM THIS IN A SECOND LEAD.”

Don’t be discouraged if you do not perform well at first. The key is practice and you should take advantage of every opportunity to do so. Apply all the pointers (a nice word for constructive criticism) you get, this is important because if
you perform just like everyone else you will pass just like everyone else. The one who is different from everyone else will stand out and be subject to extra attention from the evaluator (generally accepted to be not a good thing). Become consistent in performing your skills for example:

**Always** confirm v-fibb by looking at the monitor screen just prior to defibrillating (and say “v-fibb on the monitor”)

**Always** say that you would confirm correct tube placement after intubation

**Anytime** you direct ventilations to be given **always** state “with high flow oxygen” etc…..

Develop parrot phrases so that you always say the same thing when verbalizing a skill such as “I will administer 1 mg epinephrine followed by a 20 ml flush”. or “I will resume with 2 minutes of high quality uninterrupted CPR”

Remember you are running the show and operating the defib/monitor and the rest is fantasy land where everything you say is done just right and there are no complications (yeah that'll happen in the real world).

So, once again, pay close attention to the hands on instruction sessions and practice, practice, practice this is crunch time and the night before boards wishing you had just one more practice session is a truly miserable feeling. You don't want to get caught:
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