

Step 1: General Principles

The Step 2 exam will ask to either **identify the rhythm** or **choose an intervention**. In order to identify the rhythm, follow these simple principles. 1) Determine the **rate**: **tachycardia** is  $> 100$ , **bradycardia**  $< 60$ . 2) Determine the **QRS complex**: **wide** is  $> .12\text{msec}$  and means it's a **ventricular** rhythm while **narrow** is  $< .12\text{msec}$  and means it's an **atrial** rhythm. These two things will give you 80% of the answers on the test. The third and final decision is if the rhythm is **regular** or **irregular**. Of course, to determine any of this an **ECG**, preferably a **12-lead**, is needed.

With the ECG ask if there's an arrhythmia or not. Note that there are two, maybe three, rhythms that aren't arrhythmias. **Normal Sinus Rhythm** is what everyone should be in. **Sinus tachycardia** is typically a normal, physiologic response to an underlying stressor. **Sinus bradycardia** may be a normal rhythm in a competitive athlete, though they usually do not appear in a vignette or in the hospital as an "arrhythmia."

Step 2: Symptoms or No Symptoms

Ask, "are there symptoms?" An arrhythmia without any symptoms does not warrant attention. Simply: if there are **no symptoms** then **do nothing**. "Nothing" means routine care: IV, O<sub>2</sub>, and Monitor. Likely, this will be a question about rhythm identification.

Step 3: Stable vs Unstable

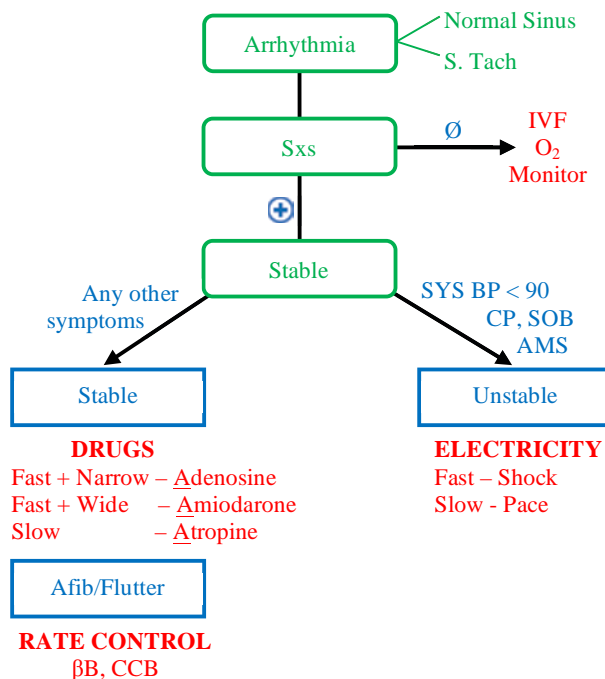
If the patient has symptoms decide whether there's time to stay and play or if definitive therapy is needed right now. Stability is a product of your own comfort. But for a test, if there's **chest pain, shortness of breath, altered mental status**, or a **systolic BP  $< 90$** , then the patient is considered **unstable**. If they're unstable use **electricity**.

If instead the patient has symptoms, but not any one of those listed above, the patient is **stable**. A patient who is stable has time to fix the rhythm. They're not going to die at this moment; **pharmacotherapy** can be used.

Step 4: Choose an intervention

If you've chosen **unstable/electricity** only one question needs to be asked - fast or slow. If the rhythm is **fast + unstable** then **shock**. If the rhythm is **slow + unstable** then **pace**.

If you've chosen **stable/electricity** it's a slightly more difficult task. For stable rhythms, there are three, maybe four, options. 1 - If the rhythm is **fast + narrow + stable** use **adenosine**. 2 - If the rhythm's **fast + wide + stable** use **amiodarone**. 3 - If the rhythm's **slow + stable** use **atropine** (epi drips can also be used in the new ACLS roll out). 4 - If the rhythm's **Afib/Aflutter** (note this is the only rhythm that actually had to be identified to do the right intervention), **rate control** is preferred. If they were unstable shock them since afib usually presents as a tachycardia. By "rate control" we mean **Beta Blockers** or **Calcium Channel Blockers**.

Tachy Rhythms

- Sinus Tachycardia
  - Supraventricular Tachycardia
  - Multifocal Atrial Tachycardia
  - Afib
  - Aflutter
  - Vtach
  - Vfib
  - Torsades
- { Atrial Narrow  
 { Ventricular Wide

Brady Rhythms

- Sinus Bradycardia
  - 1° Block
  - 2° Block
  - 3° Block
  - Junctional
  - Idioventricular
- { Varying degree of PR intervals

Intervention	Heart Rate	QRS Complex	Stability
Pacer	Brady	Any	Unstable
Cardioversion	Tachy	Any	Unstable
Atropine	Brady	Any	Stable
Adenosine	Tachy	Narrow	Stable
Amiodarone	Tachy	Wide	Stable
Rate Control	Tachy	Afib/Flutter	Stable

"Rate Control" = Verapamil / Diltiazem, Metoprolol