Facilitator Handout
A 24 year old F presents complaining of feeling light-headed and short of breath.
Vitals: T 36.8 / BP 120/60 / HR 180 / RR 20 / Pulseox 100% on room air.
EKG#1: SVT (Have participants read EKGs in pairs)

1)What is the best management strategy? A) IV Fluids, B) Carotid massage or valsalva, maneuvers, C) Beta blocker, D) Calcium channel blockers

Answer: B. Rhythm is SVT. The initial management in a stable, well-perfused patient is to attempt vagal maneuvers: carotid massage, valsalva, ice water application. Can follow with lifting of the legs.

2) You attempt vagal maneuvers but the patient remains in what appears to be SVT. What medication can be administered for therapeutic and/or diagnostic purposes? A) Adenosine, B) Amiodarone, C) Amitriptyline, D) Atenolol

Answer: A. Adenosine 6mg followed by 12mg if patient does not convert back to normal sinus rhythm.

3) You administer 6mg of adenosine. There are no changes in the EKG. What is your next step in management? A) Administer beta blockers, B) Administer calcium-channel blockers, C) Re-assess vitals, D) Transfuse

Answer: C. Treatment: identify underlying cause (dehydration, anemia, anxiety, pain, etc.). The patient may require tachycardia to augment cardiac output and blunting that response with medication may harm the patient.

4) The patient originally felt improved but now complains of feeling light-headed again.
Repeat vitals: T 36.8 / BP 70/40 / HR 180s / RR 24 / Pulseox 100% on room air. What is your next step in management? A) Administer calcium channel blocker, B) Defibrillate, C) Cardiovert, D) Carotid massage

Answer: C. More unstable, less perfused, symptomatic (light-headed), hypotensive. Cardiovert. Defibrillation would not be appropriate as patient has a pulse. Calcium channel blockers would be inappropriate as the patient is unstable and medication can further decrease the blood pressure.

5) What Joules should be used for cardioversion?

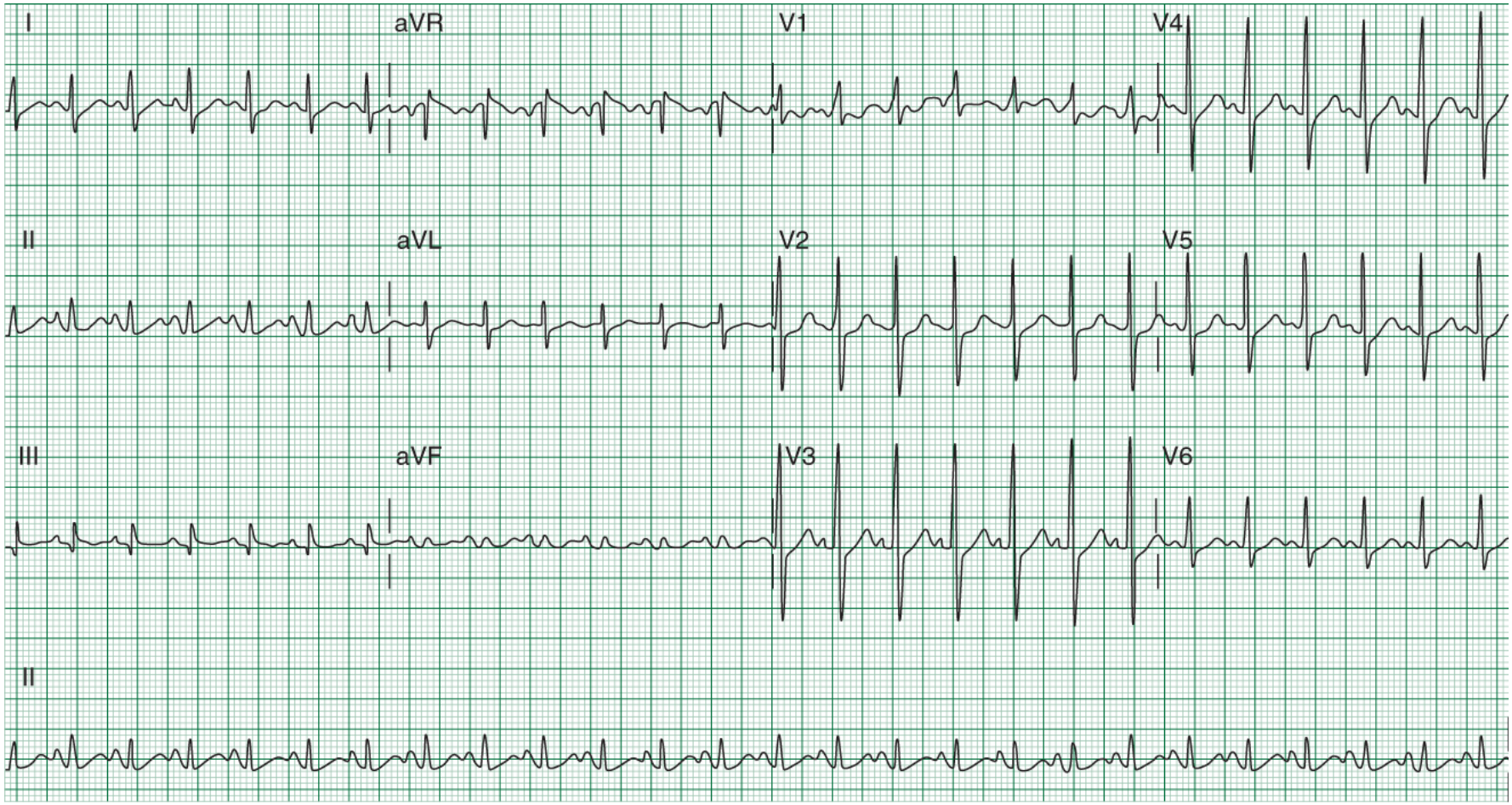
Answer: 50-100J, based on ACLS algorithm. Cardioversion treats arrhythmias. It looks similar to a defibrillation and is done using and AED. The main difference between the two is that cardioversion is synchronized, meaning it’s aligned to the current heartbeat.

EKG #1

Resident Readiness®: Internal Medicine > A 30-Year-Old Woman with Palpitations and Anxiety

Debra L. Klamen, Susan Thompson Hingle

FIGURE 11-1.



Source: Klamen DL, Hingle ST: *Resident Readiness™: Internal Medicine:*
www.accessmedicine.com

Participant Handout

A 24 year old F presents complaining of feeling light-headed and short of breath.
Vitals: T 36.8 / BP 120/60 / HR 180 / RR 20 / Pulseox 100% on room air.
EKG#1: Read EKG in pairs.

1)What is the best management strategy?
A) IV Fluids, B) Carotid massage or valsalva, maneuvers, C) Beta blocker, D) Calcium channel blockers

2) You attempt vagal maneuvers but the patient remains in the same heart rhythm. What medication can be administered for therapeutic and/or diagnostic purposes?
A) Adenosine, B) Amiodarone, C) Amitriptyline, D) Atenolol

3) You administer 6mg of adenosine. There are no changes in the EKG. What is your next step in management?
A) Administer beta blockers, B) Administer calcium-channel blockers, C) Re-assess vitals, D) Transfuse

4) The patient originally felt improved but now complains of feeling light-headed again.
Repeat vitals: T 36.8 / BP 70/40 / HR 180s / RR 24 / Pulseox 100% on room air. What is your next step in management?
A) Administer calcium channel blocker, B) Defibrillate, C) Cardiovert, D) Carotid massage

5) What Joules should be used for cardioversion?

___

If time permits, another common arrhythmia that you will see on the inpatient service is atrial fibrillation. It would be helpful to review basic management.

Participant Handout (along with Adult Tachyarrhythmia Algorithm)

Diagnosis: Supraventricular Arrhythmias, Supraventricular Tachycardia
SVT refers to paroxysmal tachyarrhythmias that involve the atria, the atrioventricular (AV) junction, or both. It should be noted that while all of the above terms are technically causes of SVT, clinicians should use the specific diagnosis, when possible, such as atrial flutter and atrial fibrillation with rapid ventricular response.

Most SVTs have a narrow QRS complex on ECG, but SVT with aberrant conduction can produce a wide complex tachycardia that may mimic ventricular tachycardia (VT). These tachycardias commonly occur as a result of a precipitating illness or drug interaction.

Treatment
Managing SVT is relatively straightforward. If the patient is hemodynamically unstable, proceed to cardioversion. If the patient is hemodynamically stable, treatment includes carotid massage, IV adenosine, beta-blockers, and/or calcium channel blockers.

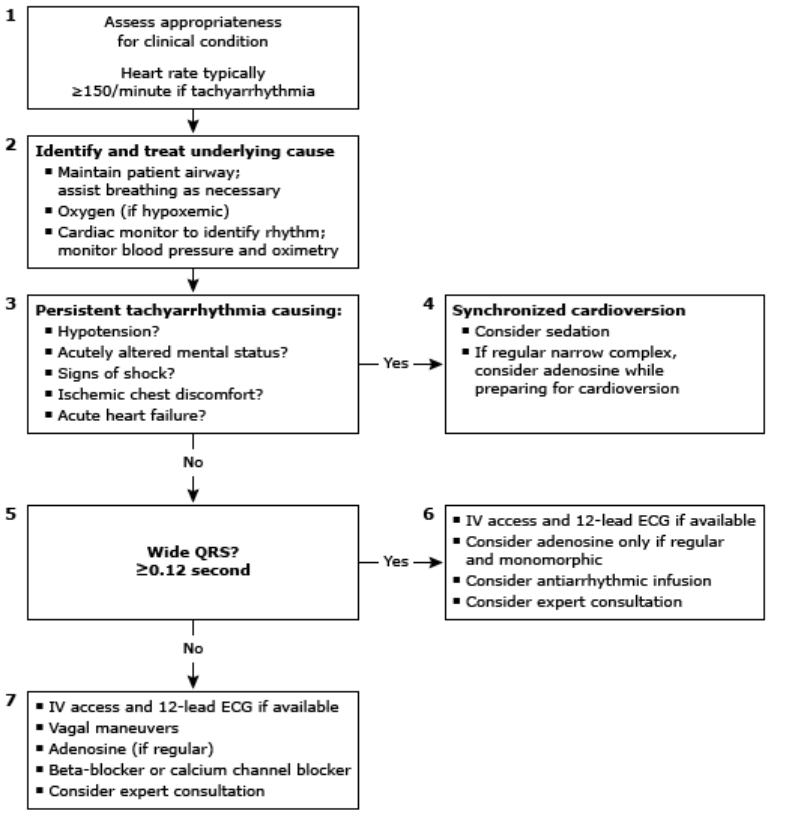
Tips to Remember
Quick recognition of arrhythmias is important and comes with practice and experience.

Anticoagulation with warfarin has significant risks, so should be reserved for patients with high CHADS2 scores.

Mortality outcomes are similar for patients with atrial fibrillation who are treated with rhythm control compared with those treated with rate control.

Source: Resident Readiness®: Internal Medicine. Author(s): Debra L. Klamen; Susan Thompson Hingle

Adult tachycardia algorithm



DOSES/DETAILS

Synchronized cardioversion

Initial recommended doses:
- Narrow regular: 50 to 100 J.
- Narrow irregular: 120 to 200 J biphasic or 200 J monophasic.
- Wide regular: 100 J.
- Wide irregular: defibrillation dose (NOT synchronized).

Adenosine IV dose:
- First dose: 6 mg rapid IV push; follow with NS flush.
- Second dose: 12 mg if required.

Antiarrhythmic infusions for stable wide-QRS tachycardia

Procainamide IV dose:
- 20 to 50 mg/minute until arrhythmia suppressed, hypotension ensues, QRS duration increases >50%, or maximum dose 17 mg/kg given.
- Maintenance infusion: 1 to 4 mg/minute.
- Avoid if prolonged QT or CHF.

Amiodarone IV dose:
- First dose: 150 mg over 10 minutes. Repeat as needed if VT recurs.
- Follow by maintenance infusion of 1 mg/minute for first 6 hours.

Sotalol IV dose:
- 100 mg (1.5 mg/kg) over 5 minutes. Avoid if prolonged QT.

The algorithm presented above has been modified to make it more consistent with the 2015 update to the ACLS Guidelines while we await permission from the AHA to reproduce the latest version.

IV: intravenous; ECG: electrocardiogram; J: joules; NS: normal (isotonic) saline; CHF: congestive heart failure; VT: ventricular tachycardia.

Graphic 62714 Version 15.0