	COUNTY OF SACRAMENTO EMERGENCY MEDICAL SERVICES AGENCY	Document #	8024.37
	PROGRAM DOCUMENT: **Cardiac Dysrhythmias**	Initial Date:	10/26/94
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Signature on File	Signature on File
EMS Medical Director	EMS Administrator

Purpose:

A. To establish treatment standards for Bradycardic, Supraventricular Tachycardia, and Ventricular Tachycardia Dysrhythmias with pulses for stable or unstable patients.

Authority:

A. California Health and Safety Code, Division 2.5
B. California Code of Regulations, Title 22, Division 9

Protocol:

Symptomatic Bradycardia and Tachycardia Dysrhythmias frequently have an underlying cause that should be recognized and treated. It is critically important to determine the cause of the patient's instability in order to properly direct treatment.

Search for and treat possible contributing factors:

1. Hypovolemia
2. Hypoxia
3. Hydrogen Ion (acidosis)
4. Hypo-/hyperkalemia
5. Hypoglycemia
6. Hypothermia
7. Tamponade (Cardiac)
8. Thrombosis (coronary or pulmonary)
9. Tension Pneumothorax
10. Trauma (hypovolemia, increased ICP)
11. Toxins

- **ADULT BRADYCARDIA**

- Protocol applies to adults who are symptomatically bradycardic with a heart rate of < 50 bpm ~~documented by monitor,~~ a systolic blood pressure (SBP) < 90 mmHg, -AND- other signs or symptoms of hypoperfusion that may include decreased sensorium, diaphoresis, chest pain, capillary refill greater than two seconds, cool extremities, or cyanosis.
- **Supplemental O2 as necessary to maintain SpO2 ≥ 94%. Use the lowest concentration and flow rate of O2 as possible. Profound bradycardia may require Cardiopulmonary Resuscitation (CPR)**

Electrocardiogram Monitoring; Perform a 12-Lead ECG.
Establish vascular access with Normal Saline; titrate to SBP ≥ 90 mmHg.
Advanced airway adjuncts as needed.

Symptomatic Type II 2nd degree block or 3rd degree block?

NO

Atropine*:
0.5 mg – 1.0 mg IV/IO push every 3-5 minutes until max dose of 3.0 mg total given

Transcutaneous Cardiac Pacing at 80 bpm, adjust mA to capture.

YES

Transcutaneous Cardiac Pacing (TCP) without delay at 80 bpm, adjust mA to capture.

Atropine 0.5mg IV/IO shall be given if administration does not delay TCP.

If TCP is unavailable

Atropine*:
0.5 mg – 1.0 mg IV/IO push every 3-5 minutes until 3.0 mg total given.

If SBP remains < 90mmHG after Atropine/TCP:
Push Dose Epinephrine 0.01 mg/ml (10mcg/ml)
Dose: 0.5-2 ml (5-20mcg) IV/IO every 2-5 minutes.
Titrate to SBP > 90 mmHg.

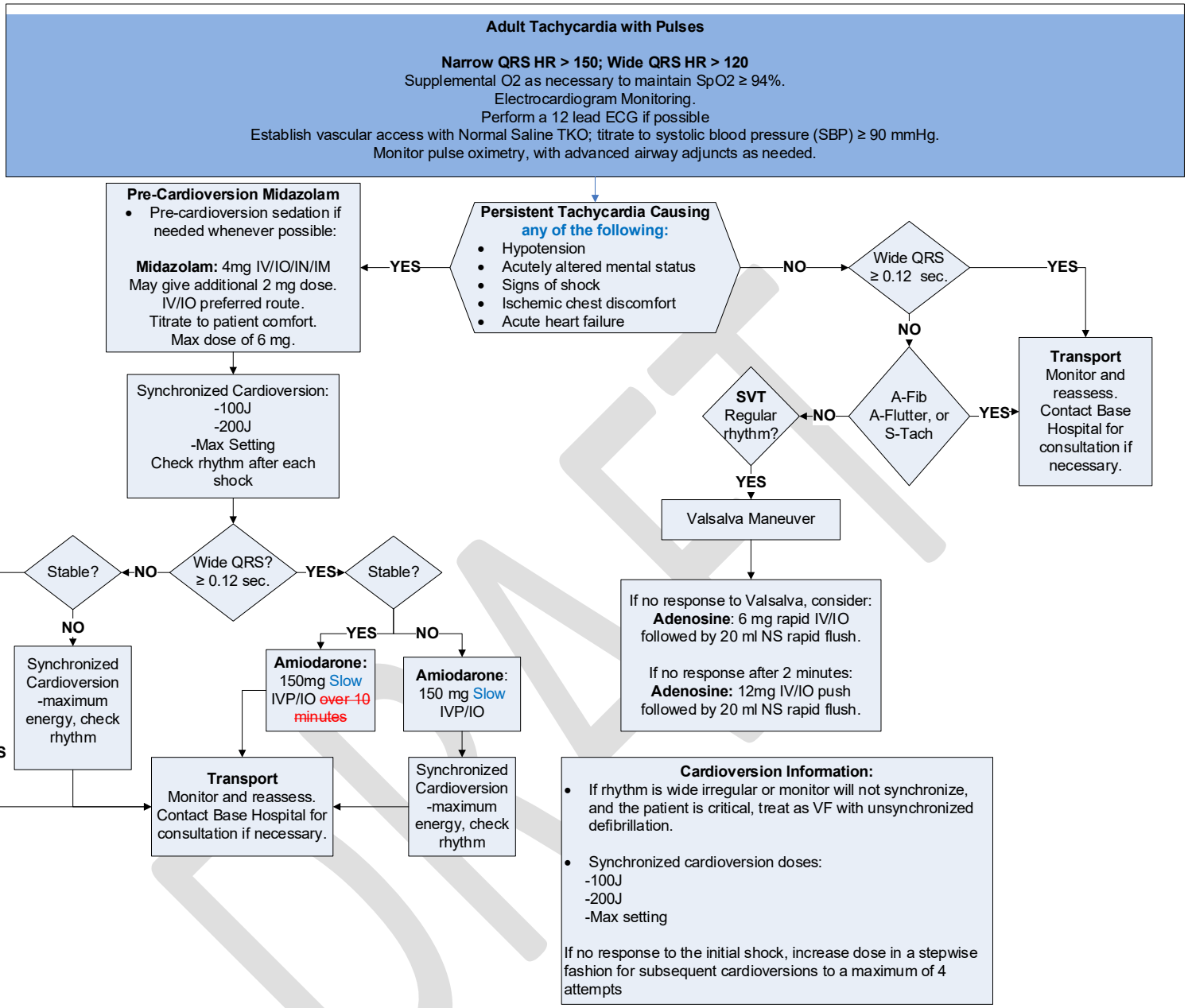
NOTE: Monitor SBP while administering/titrating.

Transport

*Atropine should be avoided in patients with acute MI in 12-Lead setting as defined in PD# 8827

Midazolam
if needed for sedation:

- IV/IO/IN/IM- 4mg.
- May give an additional 2mg dose.
- IV/IO preferred route. Titrate to patient comfort.
- Max dose of 6 mg.



Cross Reference: PD# 8810 – Transcutaneous Cardiac Pacing