	COUNTY OF SACRAMENTO EMERGENCY MEDICAL SERVICES AGENCY	Document #	8024.30
	<u>PROGRAM DOCUMENT:</u> Cardiac Dysrhythmias	Draft Date:	10/26/94
		Effective:	11/01/16
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		Review:	05/01/18

 EMS Medical Director

 EMS Administrator

Purpose:

To serve as the treatment standard for Bradycardic Dysrhythmias, Supraventricular Tachycardias, and Ventricular Tachycardias with pulses for patients who are either stable or unstable.

Authority:

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

Protocol:

Symptomatic Brady and TachyDysrhythmias frequently have an underlying cause which should be recognized and treated in addition to any treatment directed at the dysrhythmia itself. 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 less than 50 bpm documented by monitor, a systolic blood pressure (SBP) less than 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; 12 Lead ECG, if possible.
Establish Intravenous (IV) or Intraosseous (IO) access with Normal Saline at to keep open rate; titrate to SBP ≥ 90-100 mmHg.
Advanced airway adjuncts as needed.

Symptomatic Type II 2nd degree blocks and 3rd degree blocks shall have pacing implemented without delay

Atropine*:
0.5 mg IV/IO push.

Persistent Symptomatic Bradycardia

NO

Transport

YES

Transcutaneous Cardiac Pacing

Available

NOT Available

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

Transport

Midazolam
if needed for sedation:
IV/IO/IN/IM –4 mg 1-6 mg slow IV-push-
~~–OR–~~
Intramuscular (IM)-~~OR–~~
Intranasal (IN)-single 2 mg dose. May repeat times 2 at 5 minute intervals.
May repeat 2mg dose IV/IO preferred route
Titrate to patient comfort

Institute transcutaneous cardiac pacing at 80 bpm, adjust mA to mechanical capture.

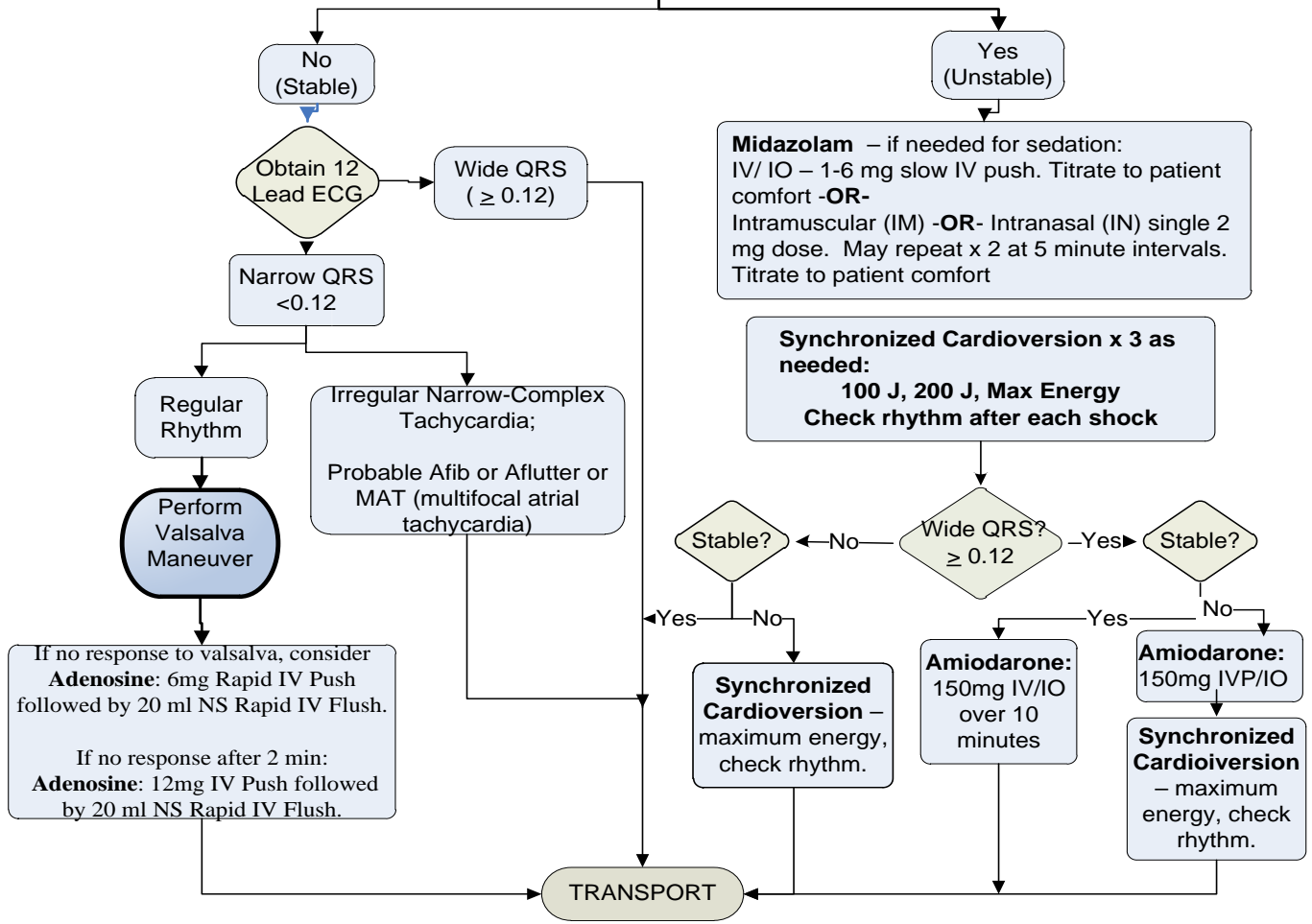
***Atropine should be avoided in patients with acute MI in 12-Lead setting as defined in PD# 8827**

Base Hospital Order Only
Dopamine:
Begin with an infusion of 10 mcg/kg/min if bradycardia persists and if SBP < 90 mmHg

ADULT TACHYCARDIA WITH PULSES
(Narrow QRS HR > 150; Wide QRS HR > 120)
 Supplemental O2 as necessary to maintain SpO2 > 94%. Use the lowest concentration and flow rate of O2 as possible.

Electrocardiogram Monitoring.
 Establish Intravenous (IV) or **Intraosseous (IO)** access with Normal Saline at to keep open rate; titrate to systolic blood pressure (SBP) ≥ 90-100 mmHg.
 Monitor pulse oximetry, with advanced airway adjuncts as needed.

UNSTABLE?
 SBP < 90 mmHg **-AND-** Hypoperfusion, decreased sensorium, diaphoresis, chest pain, capillary refill greater than 2 seconds, cool extremities, or cyanosis.



NOTE: If unstable tachycardia returns after transiently converting (rather than persists without ever converting) repeat energy level that was previously successful for cardioversion.

Cross reference: Transcutaneous Cardiac Pacing, PD# 8810