

EMERGENCY ACLS REFERENCE guide

ECG RHYTHM EXAMPLES
and
AHA ACLS 2015 ALGORITHMS

by:

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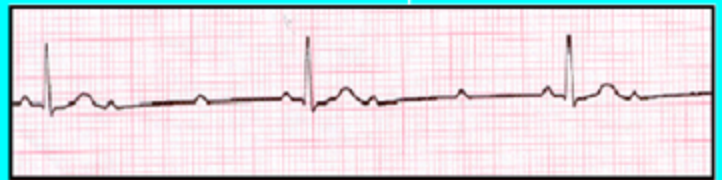
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SYMPTOMATIC BRADYCARDIA

ALL BRADYCARDIAS and HEART BLOCKS WHERE PATIENT EXHIBITS SIGNS OF SHOCK.



Sinus Bradycardia with 1st Degree AV Block



2nd Degree Type II AV Block



3rd Degree Heart Block with Junctional Escape Rhythm



3rd Degree Heart Block with Ventricular Escape Rhythm

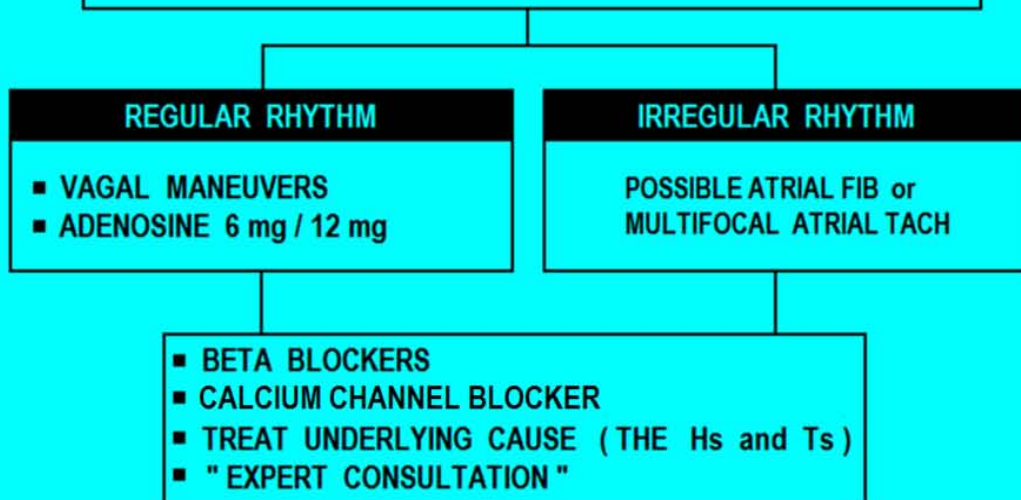
- **ABC s + GENERAL SUPPORTIVE CARE**
- **ATROPINE 0.5 mg. IV**
 - MAY REPEAT 0.5 mg. DOSES IF NEEDED
 - MAXIMUM 3.0 mg.
- **TRANSCUTANEOUS PACEMAKER**
 - PREFERRED PRIMARY Tx FOR HIGH GRADE A-V BLOCK
- **DOPAMINE gtt.**
 - 2 - 10 mcg / kg. / min. INFUSION RATE
 - IF PACING NOT AVAILABLE or EFFECTIVE
- **EPINEPHRINE gtt.**
 - 2 - 10 mcg / min INFUSION RATE
 - IF PACING NOT AVAILABLE or EFFECTIVE
- **TRANSVENOUS PACEMAKER**

SVT - STABLE PATIENT

(NARROW QRS)



ABCs + GENERAL SUPPORTIVE CARE



SVT - UNSTABLE PATIENT

(NARROW QRS)



ABCs + GENERAL SUPPORTIVE CARE

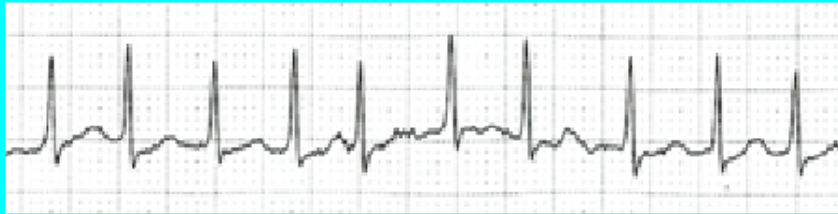
(OXYGEN, ECG / VS / SAO2 MONITORING, IV ACCESS)

IMMEDIATE SYNCHRONIZED CARDIOVERSION

- CONSIDER SEDATION
 - ADENOSINE - IF IT DOES NOT DELAY CARDIOVERSION !
- SYNCHRONIZED CARDIOVERSION

REGULAR RHYTHM:	IRREGULAR RHYTHM:
50 - 100 j biphasic	100 - 200 j biphasic
----- monophasic = 200 j -----	

ATRIAL FIBRILLATION / FLUTTER with RAPID VENTRICULAR RESPONSE



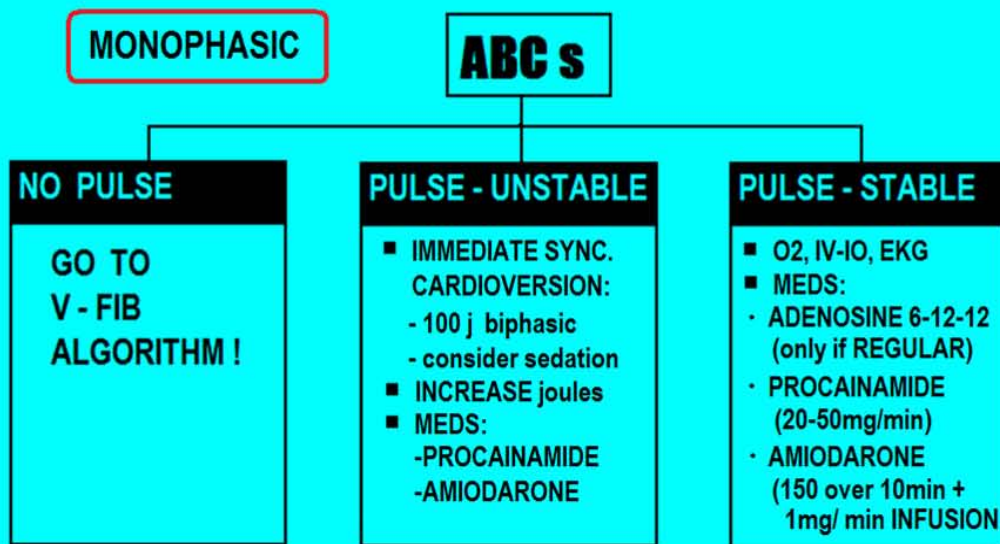
COULD PATIENT HAVE BEEN
IN A - FIB FOR AT LEAST
48 HOURS ? _____ **YES**

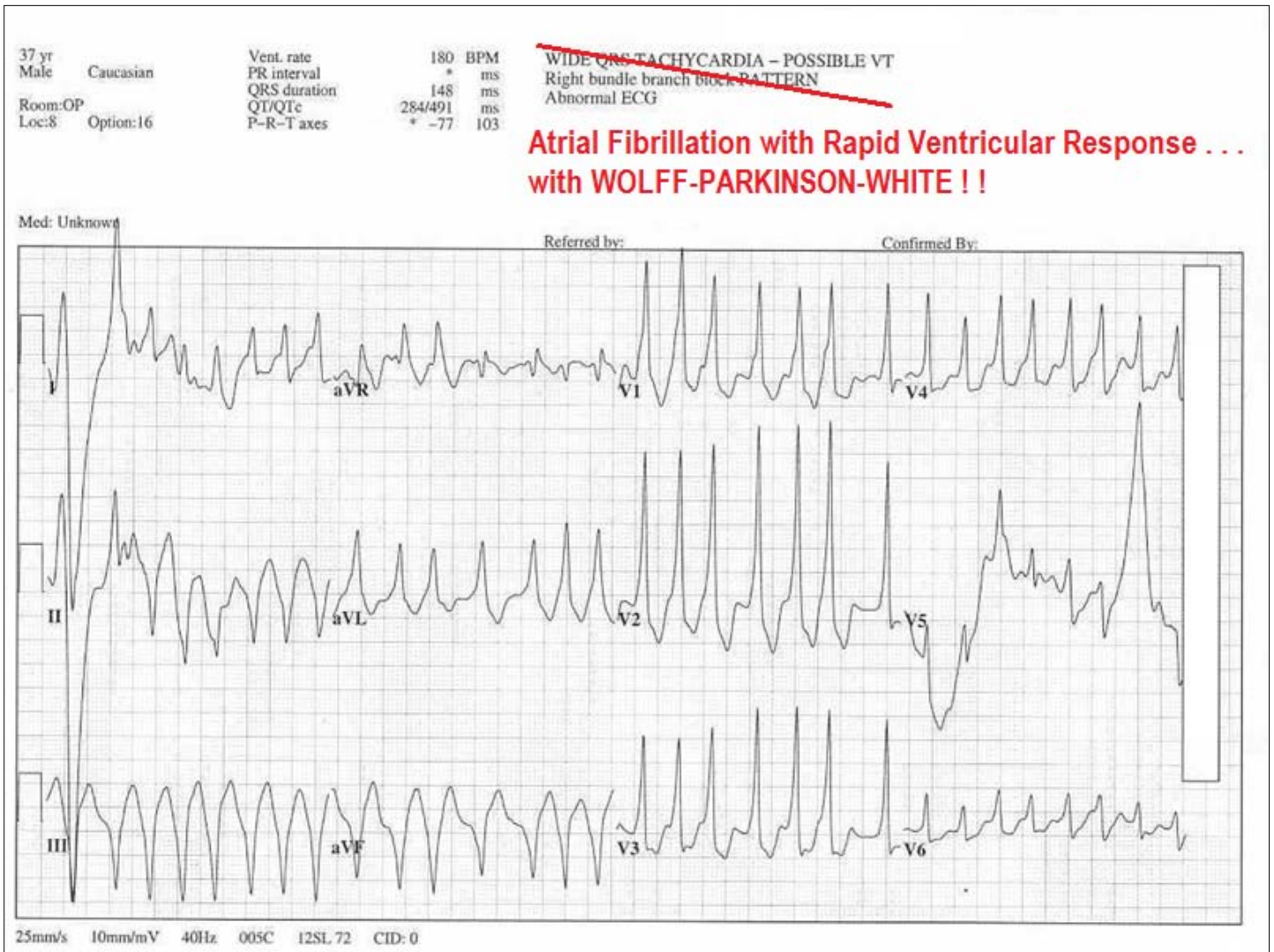
IS PATIENT ON
ANTICOAGULANTS ? _____ **NO**



**THEN RULE OUT EMBOLI IN ATRIUM
WITH EITHER A STAT ECHO or T.E.E.
BEFORE CONVERTING TO SINUS
RHYTHM !**

WIDE COMPLEX TACHYCARDIA (QRS > 120 ms)





This is the EKG of a patient with WIDE QRS COMPLEX TACHYCARDIA that is due to ATRIAL FIBRILLATION with RAPID VENTRICULAR RESPONSE with WOLFF-PARKINSON-WHITE.

in such cases AVOID AV NODAL BLOCKING AGENTS such as ADENOSINE, and CALCIUM CHANNEL BLOCKERS !!

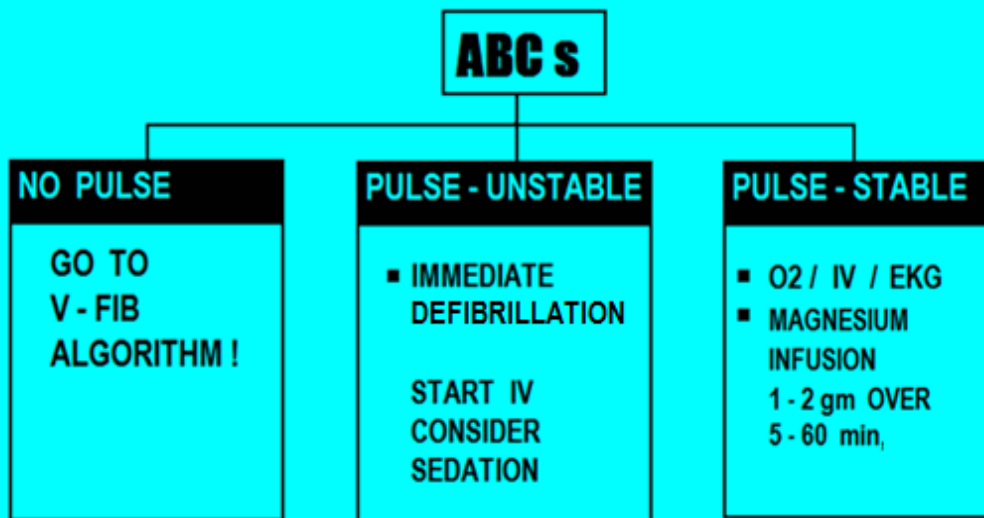
PATIENT STABLE:
- PROCAINAMIDE
- AMIODARONE

PATIENT UNSTABLE:
- SYNCHRONIZED
CARDIOVERSION

WIDE COMPLEX TACHYCARDIA

TORSADES de POINTES

(QRS > 120 ms)



DO NOT give PROCAINAMIDE, AMIODARONE, or SOTALOL to patients with TORSADES or POLYMORPHIC VT !!!

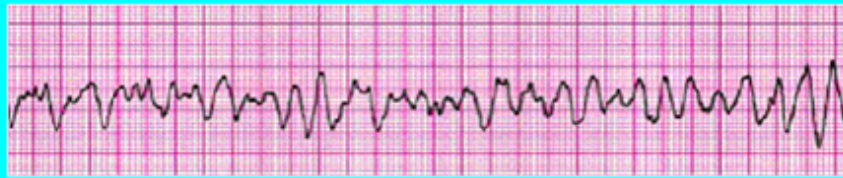
OTHER CONSIDERATIONS:

- EVALUATE BASELINE ECG RHYTHM FOR PRONGED Q-T INTERVAL.
- EVALUATE PATIENT'S MEDS FOR Q-T PROLONGING DRUGS
 - ... if PATIENT HAS BEEN RECEIVING ANY Q-T PROLONGING DRUGS, IMMEDIATELY DISCONTINUE AND CONTACT PHYSICIAN STAT.
- EVALUATE PATIENT HISTORY FOR PREVIOUS EVENTS OF "SYNCOPE OF UNKOWN ETIOLOGY"
- EVALUATE PATIENT FOR FAMILY HISTORY FOR SUDDEN CARDIAC DEATH

REPORT ANY ABNORMAL FINDINGS TO PHYSICIAN.

V-FIB & PULSELESS VT

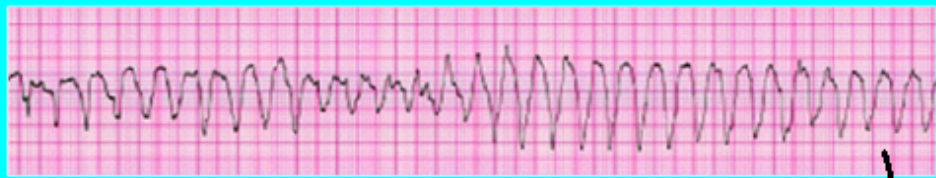
V - FIB



MONOMORPHIC V - TACH



TORSADES de POINTES / Polymorphic VT



ABCs (CAB)

CPR --

- SEND FOR MONITOR / DEFIB or AED
- CALL CODE or 911 (DELEGATE !)

ASSESS ECG SHOCK x 1
120 - 200 j BiPHASIC
360 j MONOPHASIC

CPR - 2 min

- START IV / IO
- EPI 1 mg every 5 min
- ADVANCED AIRWAY

ASSESS ECG SHOCK x 1
120 - 200 j BiPHASIC
360 j MONOPHASIC

CPR - 2 min

- AMIODARONE (1st DOSE - 300 mg)
(2nd DOSE - 150 mg)

AFTER AMIODARONE - CONSIDER MAGNESIUM SULFATE
1 - 2 gm AND / OR LIDOCAINE 1.5 mg/kg

PULSELESS TORSADES:
USE
MAGNESIUM
SULFATE
FIRST

ASYSTOLE - P.E.A.

ASYSTOLE



PULSELESS ELECTRICAL ACTIVITY



AGONAL RHYTHM



* IF AGONAL QRS COMPLEXES HAVE A PULSE -- APPLY PACEMAKER IMMEDIATELY !!

ABCs (CAB)

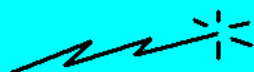
CPR --

- SEND FOR MONITOR / DEFIB or AED
- CALL CODE or 911 (DELEGATE!)

- START IV/IO
- EPI 1 mg every 5 min
- ADVANCED AIRWAY

CONSIDER H's & T's:

- HYPOXIA
- HYPOVOLEMIA
- HYPOTHERMIA
- HYPOGLYCEMIA
- HYDROGEN ION (ph)
- HYPERKALEMIA
- TOXINS (includes all meds, legal & illegal)
- TAMPONADE
- TENSION PNEUMOTHORAX
- THROMBUS (PE & CARDIAC)
- TRAUMA



ELECTRICAL THERAPY.

	<u>BiPHASIC</u>	<u>MONOPHASIC</u>
<u>SYNCHRONIZED CARDIOVERSION:</u>		
NARROW SVT / REGULAR RHYTHM:	50 - 100j	200j
NARROW QRS, IRREG RHYTHM:	120 - 200j	200j
WIDE QRS / MONOPHASIC / REG:	100j	
<u>DEFIB (unsynchronized):</u>		
WIDE QRS, IRREGULAR: (TORSADES / POLYMORPHIC VT)	DEFIB 120 - 200j	360j
V-FIB / PULSELESS VT:	120 - 200j subsequent doses may be equivalent or escalated>	360j

THE " H's " and the " T's "

- **HYPOVOLEMIA**
- **HYPOXIA**
- **HYDROGEN ION (Ph)**
- **HYPOGLYCEMIA**
- **HYPOTHERMIA**
- **HYPERKALEMIA**

- **TOXINS**
- **TAMPONADE (CARDIAC)**
- **TENSION PNEUMOTHORAX**
- **THROMBOSIS (CORONARY or PULMONARY)**
- **TRAUMA**