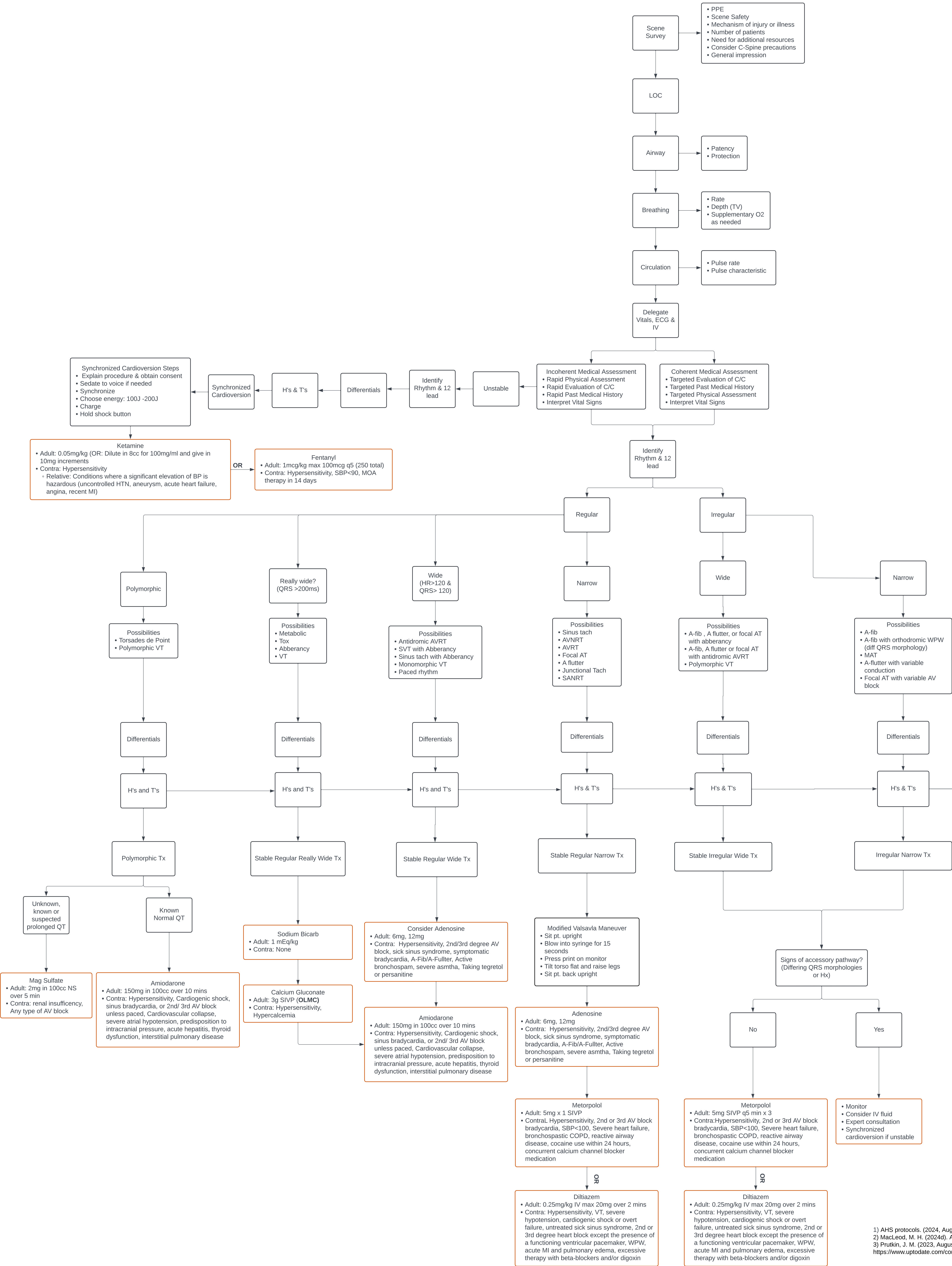


Stable/ Unstable Tachycardia



Condition	H's and T's (ACLS Reversible Causes)		Cardiac Arrest Findings	Treatment
	Common associated clinical settings / Hx (up to Date - Treatable conditions associated with cardiac arrest)	Pre-Cardiac Arrest Findings (i.e. cardiac arrest findings)		
Hypoxia	Upper airway obstruction, hypoventilation (CNS dysfunction, neuromuscular disease), pulmonary disease	*Abnormal lung sounds, ↓ RR with ↑ CO2 and ↓ SpO2	*Abnormal breath sounds	PPV, 100% O2, advanced airway, specific treatments
Hypovolemia (fluid losses)	Significant burns, diabetes, gastrointestinal losses, malignancy, sepsis	Compensated shock (↑ HR, ↓ BP)	↓ CVP	Fluid boluses
Hypovolemia (Internal)	Gastrointestinal bleeding, nutritional deficiencies, recent trauma	Compensated shock (↑ HR, ↓ BP), vasovagal syncope	↓ CVP	Fluid boluses until blood products available
Hydrogen Ions (Acidosis)	DKA, diarrhea, drug overdose, renal dysfunction, sepsis, shock	Respiratory compensation (TMs, ↑ Hb)		Adequate Mn, NaHCO3, Calcium Gluconate
Hyperkalemia	severe metabolic acidosis (see above), hemolysis, rhabdomyolysis, major soft tissue injury, tumor lysis syndrome, excessive potassium intake	ECG changes: peaked T, Prolonged PR interval, AV blocks, brady arrhythmias, wide QRS widening, ...		
Hypokalemia	Alcohol abuse, diabetes mellitus, diuretics, drug overdose, prolonged gastrointestinal losses	ECG changes: Prolonged PR interval, ST depression and T wave flattening / inversion, prominent U waves, long QT interval due to loss of T and U waves		Rapid transfer for treatment of potassium levels
Hypothermia	Alcohol intoxication, significant burns, drowning, drug overdose, older patient, endocrine disease, environmental exposure, spinal cord disease, trauma	Hypothermia (MIB 32-35°C, Moderate 28-32°C) ECG changes: bradyarrhythmia, Osborne waves, PNC	Hypothermia (< 35°C)	Warm
Toxins (Poisoning)	History of alcohol or drug abuse, altered mental status, classic syndromes (eg. sympathomimetic), occupational exposure, psychiatric disease	See ECGs - Toxidrome Chart Below		Specific treatment / antidote
Tamponade - cardiac	Post-cardiac surgery, malignancy, post-myocardial infarction, pericarditis, trauma	JVD, muffled heart sounds, ECG may show low voltage, or electrical alternans	↑ CVP	IV bolus, pericardiocentesis
Tension pneumothorax	Central venous catheter, mechanical ventilation, pulmonary disease (eg. asthma, chronic obstructive pulmonary disease), recent thoracostomy, thoracic surgery	High airway pressure, JVD, asymmetric lung sounds / cx rise.	↑ CVP	Needle decompression
Thromboembolism	Immoblized patient, recent surgical procedure (eg. orthopedic), peripartum, risk factors for thromboembolic disease, recent trauma, presentation consistent with acute pulmonary embolism	DVT, Unexplained hypoxemia, sudden onset pleuritic or pain and SOB, lower ext. swelling (DVT), ↑ CVP		O2, CMC consult re thromboembolism or Rapid transport
Thrombolysis - Coronary (MI)	Cardiac arrest	ECG changes: Sinus tach (44%), STBBB (18%), R wave (16 %), Dominant R wave in V1, Prolonged QTc, ST QRS TTP pattern (25%), and arrhythmias 8 %; Non-specific ST segment and T wave changes including ST elevation and depression (50%)		O2, CMC consult re thromboembolism or Rapid transport

(MacLeod, 2024d)

References

- 1) AHS protocols. (2024, August 8). <https://www.ahs.com/public/protocols/templates/desktop/#home>
- 2) MacLeod, M. H. (2024d). ACLS Reversible Causes – HS & TS.
- 3) Prutkin, J. M. (2023, August 31). *Overview of the acute management of tachyarrhythmias*. UpToDate. <https://www.uptodate.com/contents/overview-of-the-acute-management-of-tachyarrhythmias#H1041109>