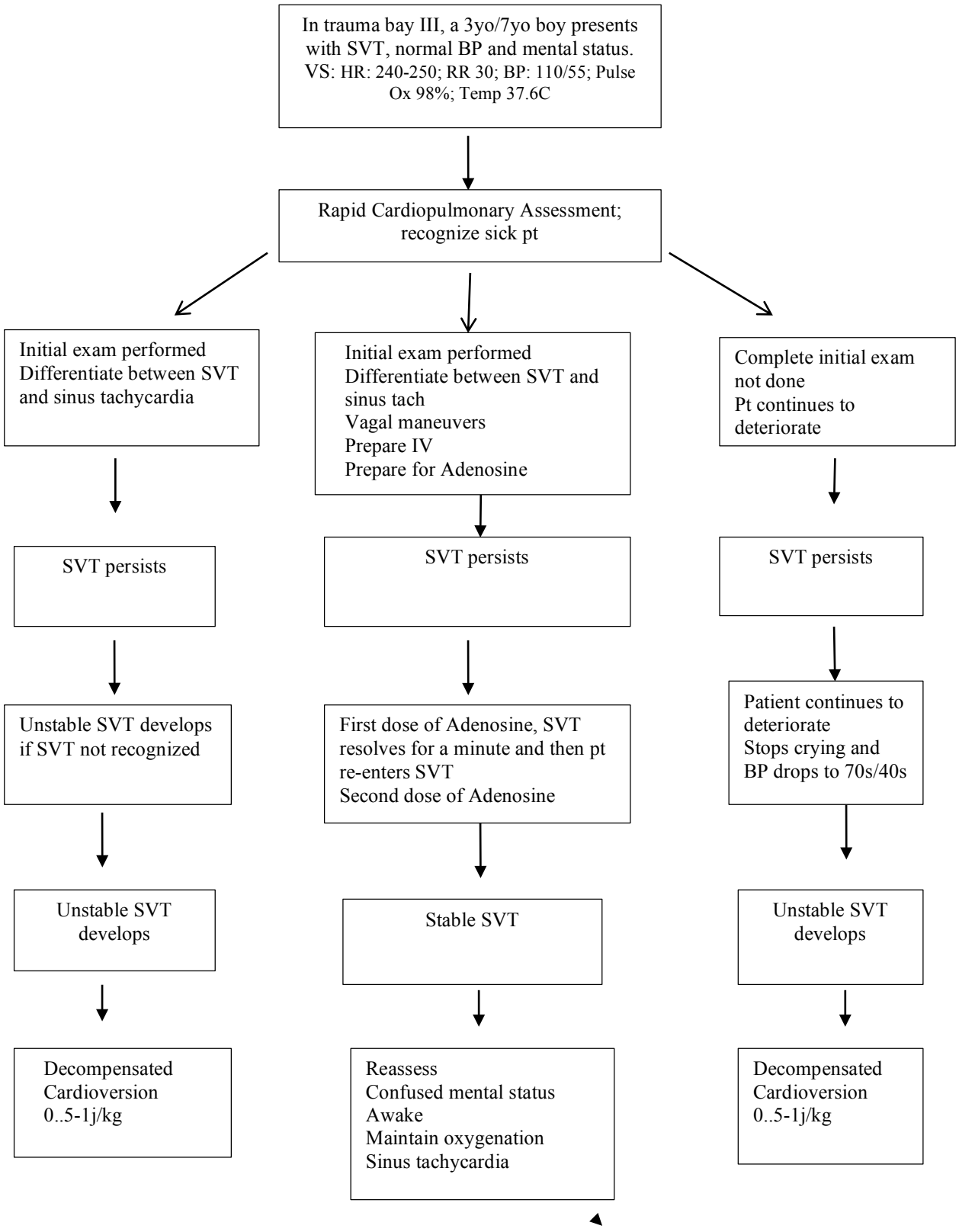
Goals and objectives Technical and non-technical **Friday Morning ED In Situ Simulation** **SUPRAVENTRICULAR TACHYCARDIA**	The focus of this simulation is around: Non-Technical • Recognizing features of a pediatric patient with stable and unstable SVT (focus on blood pressure and mental status) • Identification of Team Leader • Verbalization of Primary Survey/Rapid Cardiopulmonary Assessment • Initial medical decision making: recognize a pt in SVT, attempt vagal maneuvers, IV access with emphasis on location close to the heart, Adenosine administration, and recognition of a pt with unstable SVT Technical • Performance of primary survey/Rapid Cardiopulmonary Assessment • Vagal maneuvers • IV access close to the heart (antecubital fossa) • Adenosine administration • Sync'd cardioversion
Target participants (roles, specialty)	Resident physicians and medical students rotating through the emergency department
Clinical setting (ED, OR, patient room) sim lab or insitu	Shock Trauma Suite
Basic scenario information (outline)	3yo (or 7yo) boy (depending on simulator availability) who presents to the ED with complaints of heart palpitations that began this morning. • Presenting History: Pt is a little boy with history of "heart palpitations" as an infant that resolved without intervention who presents to the PED with complaints of "my heart is beating fast." Pt's mom also notes that the pt has seemed more cranky on the morning of presentation. • In Triage: pt noted to have a heart rate of 240-250 and so he was brought to the trauma bay. Pt tearful but otherwise acting appropriately. o Other history if asked: history of heart palpitations as an infant, evaluated in the PED and seen by a pediatric cardiologist once but no history of heart palpitations since this event; no significant PSH, NKDA, immunizations UTD including flu shot • Presenting VS: HR: 240-250; RR 30; BP: 110/55; Pulse Ox 98%; Temp 37.6C • Presenting Exam: pt is tearful and scared, pupils equal, normal aeration in bilateral lung fields, tachycardic rate, no murmurs, intact central pulses and distal pulses • Other physical exam findings (if asked): soft abd, mild distention, 2-3 sec cap refill, on mental status appears tearful and scared, no rash, TMs normal
Simulator to be used	METI Child/Toddler
Fluids and medications to have available	Normal Saline flushes Adenosine 0.05-0.1mg/kg initially; increase sequential doses 0.05-0.1mg/kg until max of 0.3mg/kg (up to 12 mg) Amiodarone 5 mg/kg load, may repeat 5mg/kg up to 15 mg/kg (max 300 mg); then 5-15 microgram/kg/min infusion
Equipment needed (IV's, ET tubes, Chest tubes,)	IV set up Defibrillator with rhythm generator set on SVT
Paperwork, labs, X rays and EKG's, photos, videos	12-lead EKG demonstrating SVT (on Corinne's laptop)
Medication intervention	Adenosine 0.05-0.1mg/kg initially; increase sequential doses 0.05-0.1mg/kg until max of 0.3mg/kg (up to 12 mg) Amiodarone 5 mg/kg load, may repeat 5mg/kg up to 15 mg/kg (max 300 mg); then 5-15 microgram/kg/min infusion Sedative agents (in case of cardioversion): midazolam 0.05-0.1 mg/kg; etomidate 0.1-0.2 mg/kg; ketamine 1-1.5 mg/kg

Airway intervention (oxygen, BVM, intubation)	Supplemental oxygen via NC or penguin mask
Physiologic intervention (CPR)	Potential for synchronized cardioversion, depending on stability and reaction to medical management
Procedures and other interventions	PIV placement, specifically antecubital or more proximal to heart Synchronized cardioversion, if indicated
Number of and education of instructors	1-2 Educators 1-2 Facilitators
Evaluation tools and measurement points	None
Advance organizer/pretest and how delivered	None
Personnel-simulation specialist, Actors/family members	Corinne will act as pt's mom
Estimated time to run simulation and debriefing	This simulation will be run three times and last 10 minutes each time • Team debriefing after all teams have run through the simulation • Deliberate practice in an A pod room while the simulation is occurring with other teams
Need for reevaluation (time frame)	None

Scenario Development:

Flowchart for scenario development



- Vital signs and interventions associated with each step should be delineated.
- Additional steps and processes may be added, this is an example.
- Evaluation Points and fatal flaws should be annotated.
- Process may transition from one line to another (incorrect to desirable or vice versa)
- Time frames prior to transition from one step to another should be delineated along the arrows.