Title:	Emergency Interventions	Page 1 of 3
Policy No:	2 CC 208	Approval Date 03/31/2005

Objective
To ensure the consistent provision of care for patients requiring emergency interventions.

Scope
RNs with Critical Care skills and education related to this policy.

Policy
1. This clinical policy has been accepted as the Standard of Practice for the Detroit Medical Center to ensure the consistent provision of patient care. See CC 100 Critical Care Provisions of Care and CC 204 Cardioversion, Elective and Emergent.
2. If Progressive Care nurses have not taken Advance Cardiac Life Support (ACLS), the DMC Tier 2 PCD Emergency Protocol is followed.
3. House physicians/designee are paged STAT for all emergencies.

Provisions
1. In the absence of a physician, the RN initiates the following emergency interventions based on the American Heart Association (AHA), ACLS algorithms. See attached appendixes. The following AHA ACLS algorithms have been modified to include nursing interventions and settings related to Transcutaneous Pacing (TCP).
    a. Universal algorithm
    b. Ventricular fibrillation (VF) and Pulseless Ventricular tachycardia (VT)
    c. Asystole
    d. Pulseless Electrical Activity (PEA)
    e. Bradycardia
    f. Unstable Ventricular Tachycardia Overview
2. In the absence of a physician, the RN initiates the following interventions for patients in Acute Respiratory Distress.
    A. For non-mechanically ventilated patients.
        a. Open airway, using head tilt, chin lift method.
        b. If patient is breathing, apply non-rebreather mask at 100%.
        c. If patient is unresponsive and not breathing, ventilate patient with Manual Resuscitation Bag (MRB) with mask using 100% oxygen until anesthesia/physician arrives. Insert oral or nasal pharyngeal airway if needed. Assess for chest expansion during ventilation.
        d. Page anesthesia, physician, and respiratory therapy STAT.
    B. For mechanically ventilated patients.
        a. Disconnect and manually ventilate with MRB using 100% oxygen.
        b. Page respiratory therapy and anesthesia STAT if indicated.

c. Assess airway patency, breath sounds, chest expansion, endotracheal tube (ET) placement, tracheal position, ET balloon integrity, pulse oximetry, and arterial blood gases as needed.

d. If inadequate ventilation occurs due to dislodged ET tube:
   i. Page respiratory therapy, anesthesia, and physician STAT and ventilate using 100%.
   ii. If patient stable, wait for anesthesia and / or physician.
   iii. If patient unstable, and unable to ventilate with ET secondary to obstruction or ET tube in esophagus, remove ET and ventilate with MRB with mask using 100%.

e. If inadequate ventilation occurs due to a suspected mucous plug:
   i. Page respiratory therapy, anesthesia and physician STAT while suctioning patient.
   ii. If patient continues to deteriorate, or becomes unstable, and unable to ventilate with ET, remove ET and ventilate with MRB with mask using 100%.

f. If inadequate ventilation occurs due to loss of ET balloon integrity:
   i. Page respiratory, anesthesia, and physician STAT.

   ii. Attempt to maintain ventilation through ET with MRB using 100% oxygen.

   iii. If patient decompensates despite attempts to ventilate through ET:
      1. Prepare for reintubation
      2. Consider obtaining ET tube exchanger (where available).
      3. Attempts to ventilate fail, remove ET tube and ventilate with MRB with mask using 100% oxygen.
      4. Insert oral pharyngeal airway if needed.
      5. Follow-up - obtain Arterial Blood Gases and pulse oximetry.

Documentation:

- Critical Care Flow Sheet, Code Blue form, and/or Progress Notes.
- Copies of code blue documentation form are sent to pharmacy and appropriate departments after completion.

EQUIPMENT:

HOSPITAL	DRH	SINAI-GRACE	HARPER	HUTZEL	HVSH	TOSH
Devices	HP CodeMaster XL	Physiocontrol Lifepak 9 & 12	HP CodeMaster XL	HP CodeMaster XL	HP CodeMaster XL	HP CodeMaster XL Lifepak
Crash Cart Availability	During transcutaneous pacing (TCP),	Back up available on other Critical Care units.	During TCP contact 4 ICU and 9ICU for extra CodeMaster.	Back up CodeMaster available in ED	Back up available on unit.	Back up CodeMaster available in ED

	contact another ICU for back up CodeMaster with pacing capability.		If in use or unavailable, call CPD and ask for Crash Cart back up with pacing capabilities.			
Progressive Level of Care		Progressive Level of Care Unit available				

APPENDIX
Appendix A-F

ADMINISTRATIVE RESPONSIBILITY
The Chief Nursing Officer/Senior Vice-President, Patient Care has overall authority and responsibility for the administration of all policies, procedures, and guidelines related to patient care.

Approval Signature

_____
Iris Taylor, Ph.D., RN, Chief Nursing Officer

_____
Date

REVIEW DATE:
03/31/2006

SUPERSEDES:
6/2001

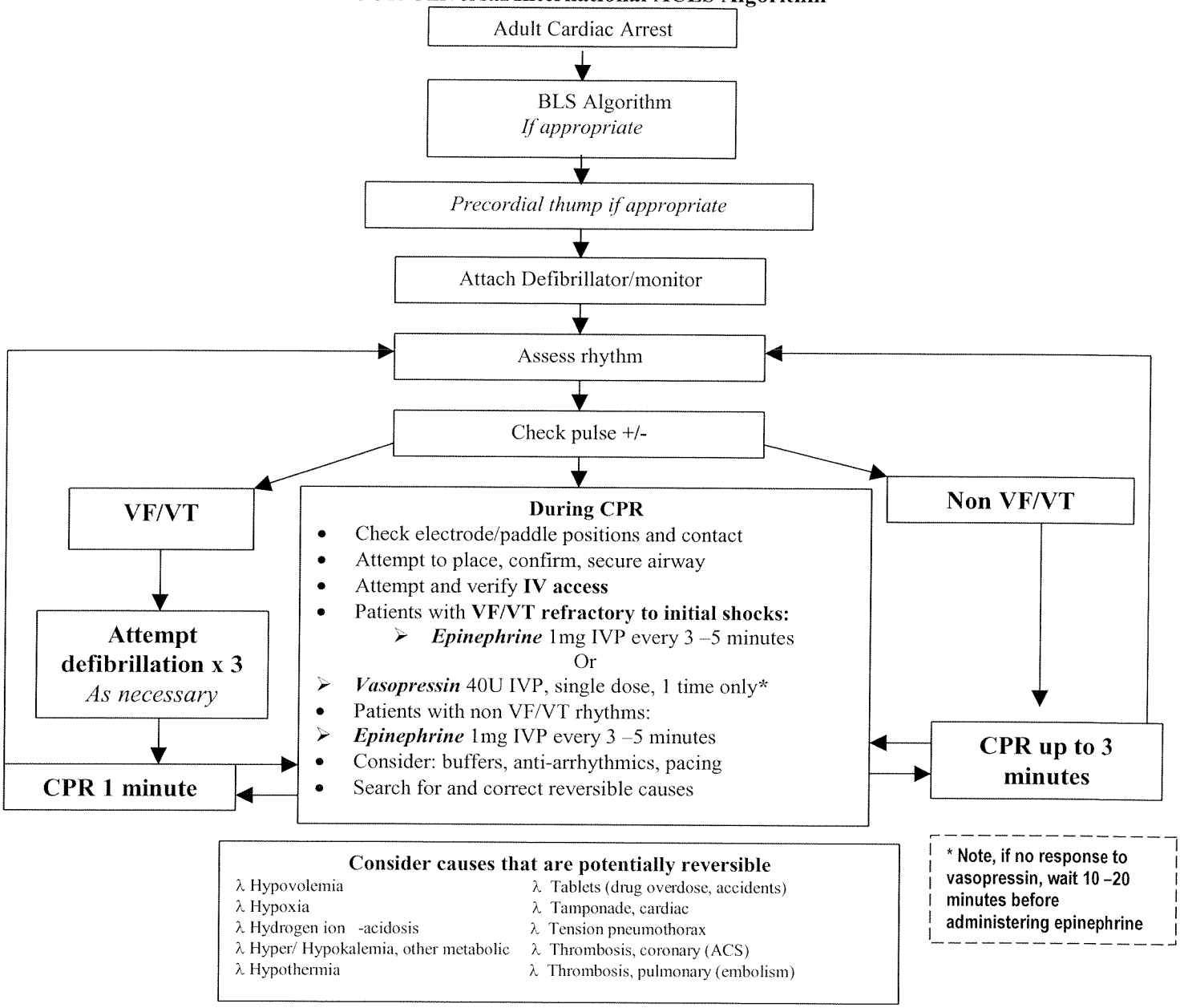
References

Lynn-McHale, D.J; Carlson, K.K. (2001). AACN Procedure Manual for Critical Care, 4th Ed. W.B. Saunders; Philadelphia, PA.

American Heart Association Advanced Cardiac Life Support, October 2000. JAMA supplement.

See Appendix A through F
Algorithms courtesy of American Heart Association Advance Life Support Provider Manual 2000.

Appendix A
ILCOR Universal/International ACLS Algorithm



Appendix B
Ventricular Fibrillation/Pulseless VT Algorithm

Primary ABCD Survey
Focus: basic CPR and defibrillation
λ Check responsiveness λActivate emergency response system λCall for defibrillator

A **Airway:** Open the airway
B. **Breathing:** Provide positive-pressure ventilation
C. **Circulation:** Give chest compressions
D. **Defibrillation:** Assess for and shock VF/pulseless VT up to 3 times (200J, 200 –300 J, 360J, or equivalent biphasic) *if necessary*

↓

Rhythm after first 3 shocks?

↓

Persistent or recurrent VF/VT

↓

Secondary ABCD Survey
Focus: more advanced assessments and treatments

A Airway: Place airway device as soon as possible
B Breathing: Confirm airway device placement by exam plus confirmation device
B Breathing: Secure airway device; purpose made tube holders preferred
B Breathing: Confirm effective oxygenation and ventilation
C Circulation: Establish IV access
C Circulation: Identify rhythm and monitor
C Circulation: Administer drugs appropriate for rhythm and condition
D Differential Diagnosis: Search for and treat identified reversible causes

↓

Epinephrine 1 mg IVP, repeat every 3 – 5 minutes Or Vasopressin 40 U IVP single dose, 1 time only*

↓

Resume attempts to defibrillate 1 x 360 J (or equivalent biphasic within 30 - 60 seconds)

↓

Physician to consider anti-arrhythmics: amiodarone (IIb, lidocaine (indeterminate), magnesium (IIb if hypomagnesemic state), procainamide (IIb for intermittent/recurrent VF/VT). **Physician considers buffers.**

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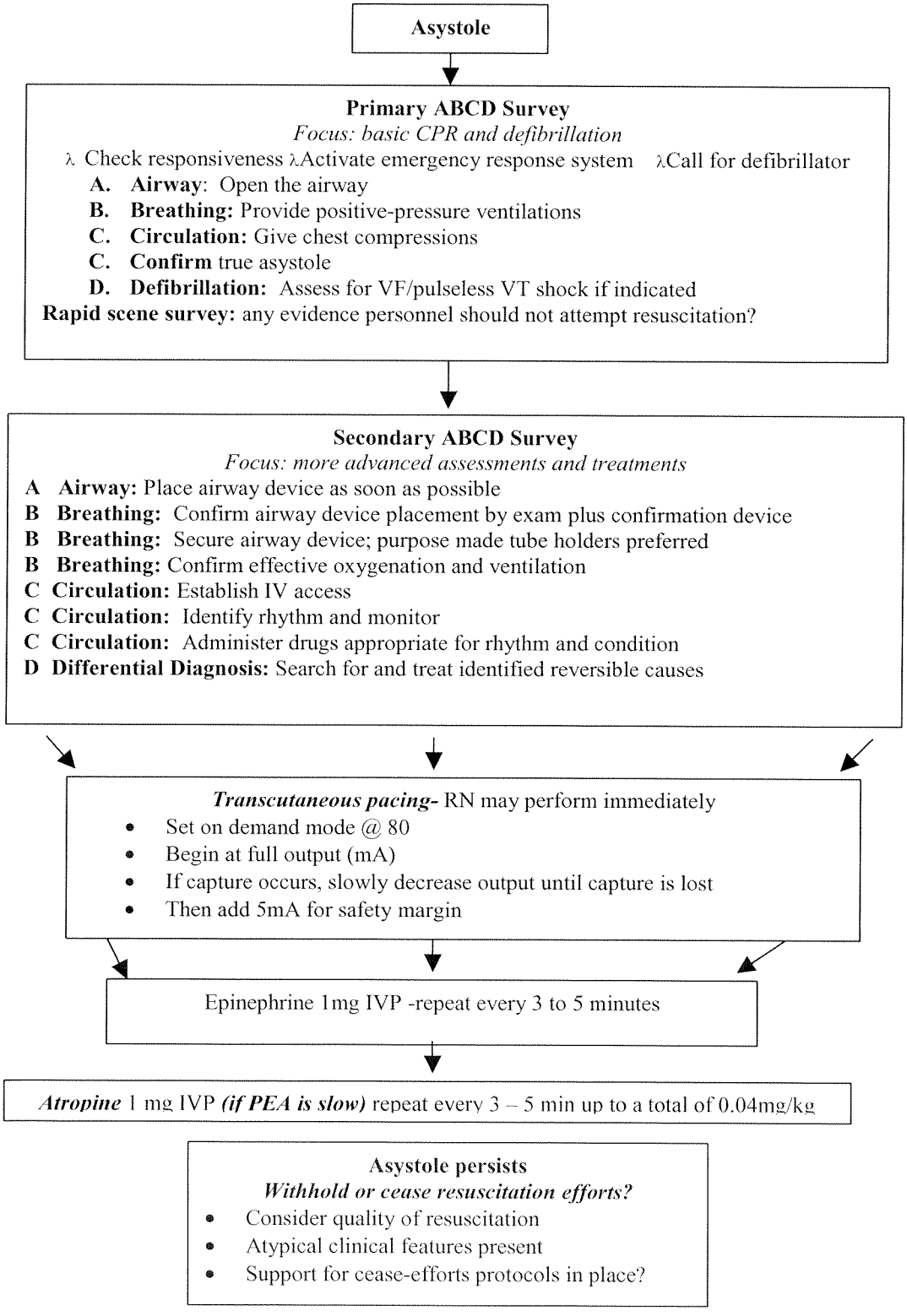
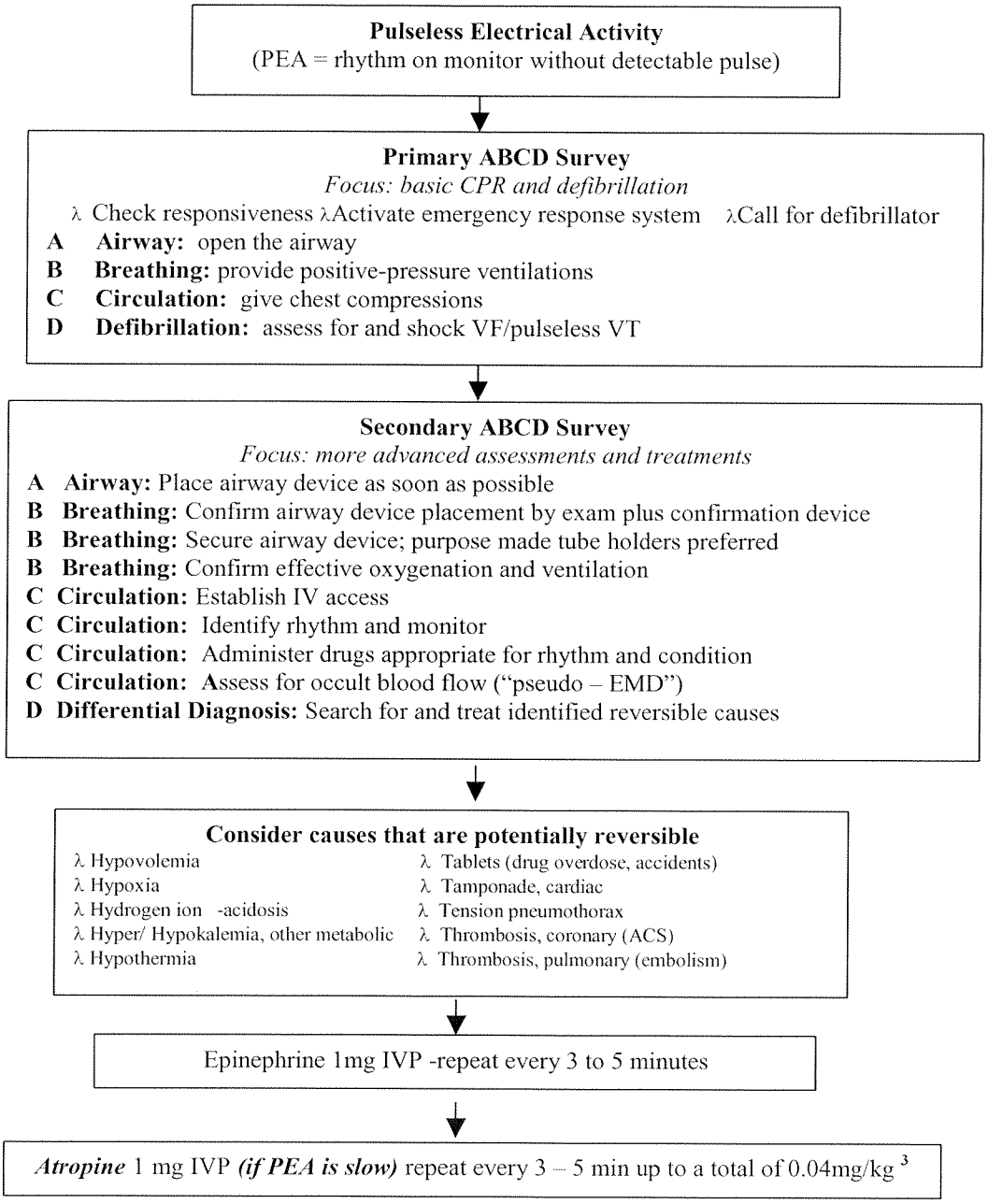
Resume attempts to defibrillate

* Note, if no response to vasopressin, wait 10 –20 minutes before administering epinephrine

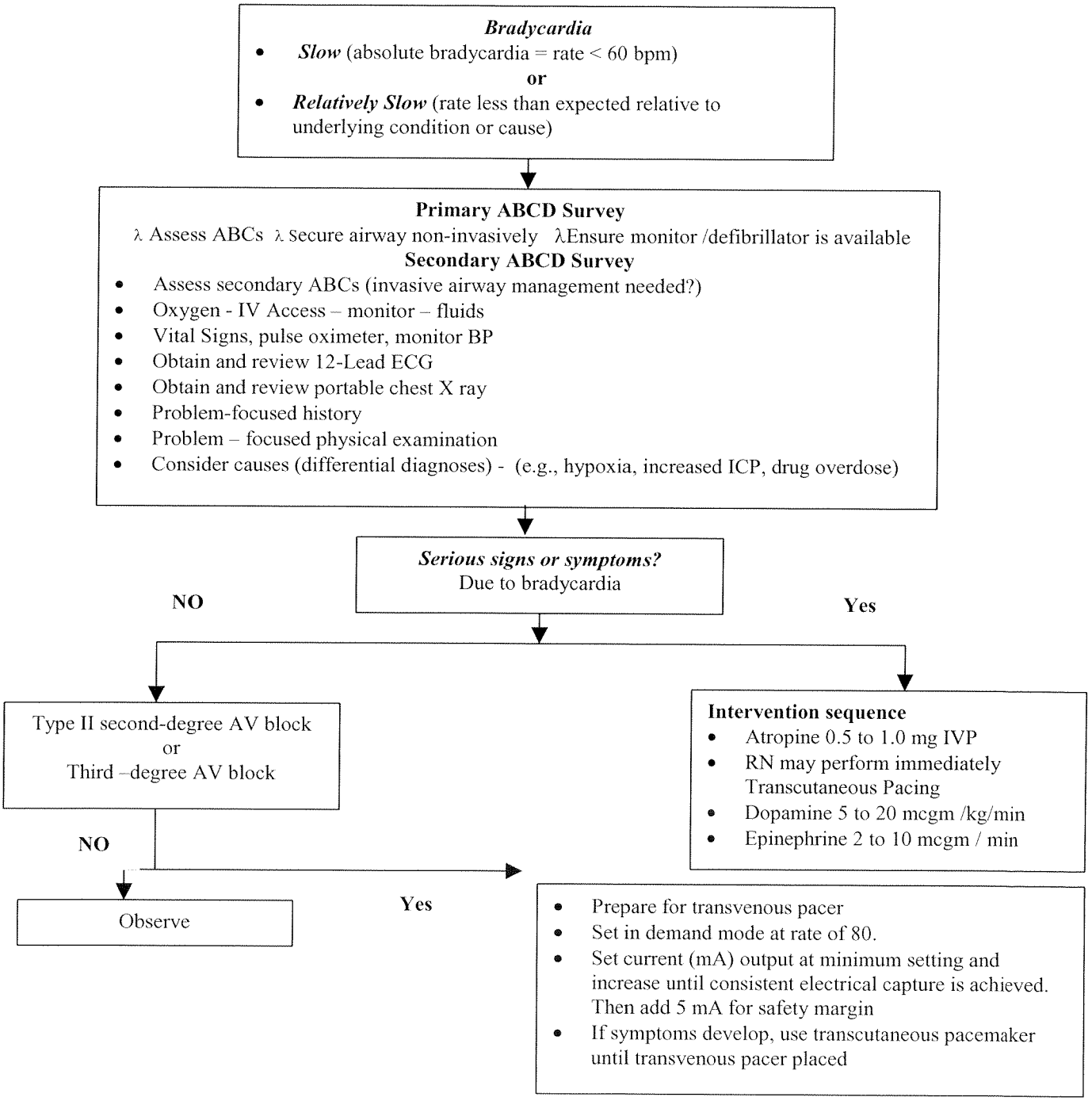
Appendix C


Asystole
Primary ABCD Survey
Focus: basic CPR and defibrillation
λ Check responsiveness λActivate emergency response system λCall for defibrillator
A. Airway: Open the airway
B. Breathing: Provide positive-pressure ventilations
C. Circulation: Give chest compressions
C. Confirm true asystole
D. Defibrillation: Assess for VF/pulseless VT shock if indicated
Rapid scene survey: any evidence personnel should not attempt resuscitation?
Secondary ABCD Survey
Focus: more advanced assessments and treatments
A Airway: Place airway device as soon as possible
B Breathing: Confirm airway device placement by exam plus confirmation device
B Breathing: Secure airway device; purpose made tube holders preferred
B Breathing: Confirm effective oxygenation and ventilation
C Circulation: Establish IV access
C Circulation: Identify rhythm and monitor
C Circulation: Administer drugs appropriate for rhythm and condition
D Differential Diagnosis: Search for and treat identified reversible causes
Transcutaneous pacing- RN may perform immediately
Set on demand mode @ 80
Begin at full output (mA)
If capture occurs, slowly decrease output until capture is lost
Then add 5mA for safety margin
Epinephrine 1mg IVP -repeat every 3 to 5 minutes
Atropine 1 mg IVP (if PEA is slow) repeat every 3 – 5 min up to a total of 0.04mg/kg
Asystole persists
Withhold or cease resuscitation efforts?
Consider quality of resuscitation
Atypical clinical features present
Support for cease-efforts protocols in place?

Appendix D
Pulseless Electrical Activity Algorithm



Appendix E
Bradycardia



Appendix F
Unstable Ventricular Tachycardia Overview

UNSTABLE VENTRICULAR TACHYCARDIA

- Serious signs and symptoms:
  - Chest pain
  - Hypotension
  - Change in LOC
  - SOB
  - Symptoms of CHF
- Establish that rapid heart rate is cause of symptoms
- Rate related symptoms usually occur at rates > 150bpm
- ***Immediately cardiovert @ 100J, 200J, 300J, 360J***

Refer to policy CC 204 Cardioversion, Elective and Emergent