Asystole

Determine need for resuscitation
Assess ABCs

→ Obvious death / active DNRO → **Refer to Death Policy**

Inadequate or NO CPR

200 CCC*
≥ 100 / min.

Quicklook, determine and Confirm Asystole in 3 leads

Synchronous Activities:
- O_2, Place, Confirm & Secure Advanced Airway **
- Obtain IV / IO access
- Fluid Bolus of NS 250 cc

Review H's & T's:

Hypovolemia	Tablets (Drug OD)
Hypoxia	Tension Pneumothorax
Hydrogen Ion (Acidosis)	Tamponade Cardiac
Hyper/hypokalemia	Thrombosis Coronary (ACS)
Hypothermia	Thrombosis Pulmonary (PE)
Hypoglycemia	Trauma

Consider:
2nd Fluid Bolus of NS 250 cc
Sodium Bicarbonate 1 mEq/kg IV/IO
(If existing hyperkalemia Hx)
D50 25 gm IV/IO ***if BS < 60 mg/dl***
Narcan 2 mg IV/IO
(If opiate OD suspected)
Calcium Chloride 1 gm IVP
(If on calcium channel blockers)
2 g of $MgSO_4$ over 1 to 2 mins ***(if existing hypomagnesium states)***

Pause compressions
5 seconds only
Check pulse & ECG

→ Epinephrine 1:10,000 1 mg IV q 3-5 min

→ Consider Vasopressin 40 units @ 20 min

Resume CCC for 2 minutes

Contact Medical Control

*Continuous Chest Compressions
**Confirmation of an advanced airway, includes using $ETCO_2$ monitoring.
Obvious death is defined as rigormortis, lividity, and/or decomposition

Bradycardia

Heart Rate < 60 BPM and/or inadequate perfusion

Obtain
SAMPLE history
& OPQRST, 12 lead ECG

Synchronous Activities:
- Oxygen based on O_2 Saturation
- Assess Vitals Signs
- Obtain IV (NS / KVO)
- ECG Monitor
- Pulse Oximetry / Capnography
- IF ACS suspected **ASA 324 MG**

Asymptomatic

Monitor
VS

Unstable and/or chest pain

STEMI[1] + Hypotension

Acute Inferior MI
with or without
V_4R ST Elevation

Trendelenberg (lungs clear)
Fluid Bolus 250-500cc
(repeat as needed)
If V4R present, up to 2 L

Atropine 0.5 mg
q 5 min / max 2 mg
If Atropine is ineffective, External Pacing

Persistent hypotension,
Cardiogenic Shock
Dopamine
5-20 mcg/kg/min.

STEMI NO Hypotension

NTG 0.4 mg q 5 min x 2
If not contraindicated

If pain continues
Morphine 2 mg
q 5 min / max 10 mg

Hypotension develops:
Trendelenberg, (lungs clear)
Fluid Bolus 250-500cc
(repeat fluid bolus if
no improvement)

NSTEMI[2] or ST depression, Non Diagnostic ECG

NTG 0.4 mg q 5 min x 2
If not contraindicated

If pain continues
Morphine 2 mg
q 5 min / max 10 mg

- External Pacing: PRN for severe and symptomatic bradycardia or 2°or 3°Heart blocks, sedate with Versed 1-2 mg, repeat if needed for pain x1.
- Atropine 0.5 mg (max 2 mg) IV may be given if: QRS complex is narrow in 2nd or 3rd degree blocks, or sinus bradycardia; repeat at 0.5 mg if bradycardia related hypotension continues.

[1]STEMI = ST Segment Elevation MI
[2]NS STEMI = Non ST Segment Elevation MI

Contact Medical Control

EMT

- Assess ABCs
- Maintain Patent airway, assist breathing as necessary
- Provide Basic Airway Management procedures if necessary
- Pt. History to include SAMPLE
- Trendelenberg if patient can tolerate without objection
- Oxygen based on patient's saturation
- Assess vital signs

↓

Paramedic

- Provide Advanced Airway Management if necessary

Apply monitor and interpret ECG include 12 lead
IV NS TKO (Largest bore possible)
IF CLEAR LUNG SOUNDS: NS 250cc fluid challenge IV
If Crackles:

- Dopamine 5-20 mcgkg/min
- Lasix 40mg **may be given cautiously if systolic pressure ≤ 100 mm Hg**

Establish baseline pulse oximetry reading PRIOR to oxygen administration

See Drug Formulary for Dopamine dosing chart

Chest Pain / Acute Coronary Syndromes

Determine responsiveness
Assess ABCs

Obtain SAMPLE history
& OPQRST

Synchronous Activities:
- Oxygen based on O_2 Saturation
- Assess Vitals Signs
- Obtain IV (NS / KVO)
- ECG Monitor
- Pulse Oximetry / Capnography
- Cardiac Assessment Sheet
- ASA 324 mg chewed (or one Plavix 75mg tablet if allergic to ASA)

Obtain12 Lead and categorize patient into 1 of 3 boxes below
Check V4R for all Inferior Wall MI's & if positive withhold NTG

ST-Elevation MI
(**STEMI**)
Or
***New LBBB

Non ST –Elevation (**NSTEMI**)
ST-Depression and/or
T-Wave Inversion
Unstable Angina

Non Diagnostic
ECG

***NTG 0.4 mg SL q 5 min X 2**
If pain continues
Administer **Morphine Sulfate 2 mg IV q 5 mins max 10 mg**

Stable Vital Signs

Monitor and contact
Medical Control

Unstable Vital Signs

HR < 60 BPM
Follow
Bradycardia
protocol

Hypotensive

HR > 150 BPM
Follow
Tachycardia
protocol

Fluid Bolus NS
250 cc IV
If no crackles

If BP does not increase
or crackles
Dopamine 5-20 mcg/kg/min

If patient has crackles
go to CPAP Protocol

- ***NTG: use only if systolic BP > 90 mmHg***

* No NTG if sexual enhancement drugs used within 24 hours

* No NTG if V4R is positive on Inferior Wall MI's

*** Left Bundle Branch Block: new onset
Morphine Sulfate if BP> 100 mmHg

Contact Medical Control

Key Largo EMS
Post Resuscitation

Legend
- EMT-Basic
- Paramedic
- Physician Order

Check Vital Signs

Repeat Primary Assessment

Monitor ETCO2

Hypotension
BP<80 Palpatation

Assess Lung Sounds

Clear Lung Sounds

Place in Trendelenburg

Administer fluid bolus of 500cc LR

Re-assess

Consider additional fluid bolus if lungs clear

If patient still hypotensive, consider:

Rales or Crackles

If the 12-Lead shows NO STEMI
Dopamine 5 ug/kg/min up to 20 ug/kg/min
Re-assess q 5 min

Ventricular Ectopy

If patient converts back to a rhythm w/pulse, with or without administration of anti-arrhythmic

Consider Administer 150 mg Amiodarone over 10 mins
(See Drug Formulary)

If transport greater than 30 min, begin Amiodarone Drip at 1mg/min
(See Drug Formulary)

Stable Vitals

Continue to Monitor Patient and Treat Accordingly

Bradycardia
HR<60 BPM

Follow Bradycardia Protocol

Contact Hospital / ER Physician

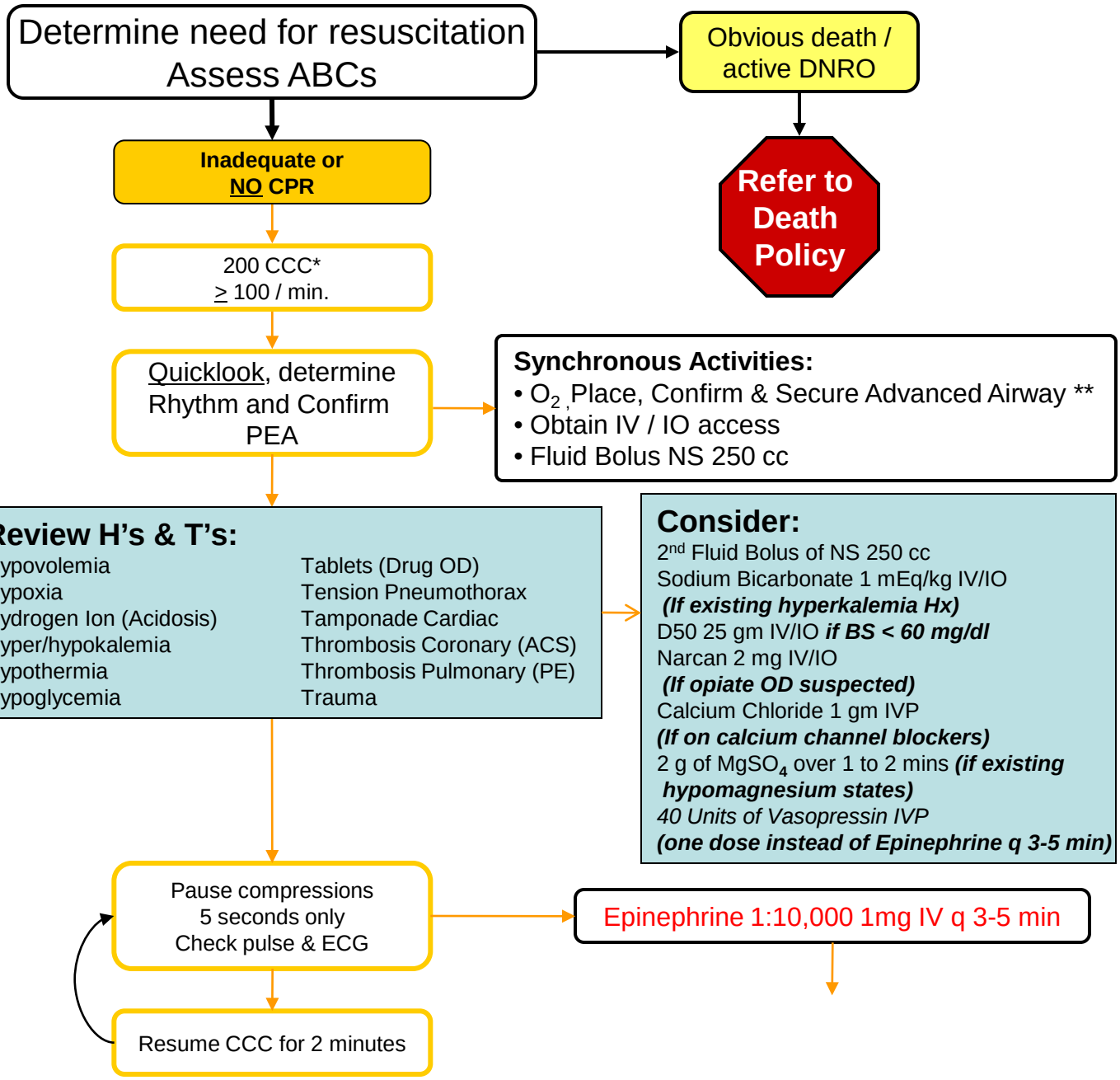
If arrest reoccurs, revert back to appropriate protocol and/or initial successful treatment

If patient has ROSC after defibrillation with a Public Access AED, begin Amiodorone Drip 150mg over 10mins

POST ARREST RESUSCITATION

2-5

Pulseless Electrical Activity



Contact Medical Control

*Continuous Chest Compressions
**Confirmation of an advanced airway, includes using $ETCO_2$ monitoring.
Obvious death is defined as rigormortis, lividity and/or decomposition.

EMT

- Assess ABCs
- Maintain patent airway, assist Ensures Body Substance Isolation
- Provide Basic Airway Management procedures if necessary
- Pt. History to include SAMPLE
- Oxygen based on 0_2 saturation
- Assess vital signs

Paramedic

- Apply monitor and interpret ECG to include 12 lead
- Provide Airway Management if necessary
- IV NS TKO on a macro drip

In the setting of chest pain or ACS symptoms for multi-focal, salvos, couplets, unifocal PVC's greater than **12/min** with accompanying chest pain/discomfort or R on T:

- **Amiodarone 150 mg IV mixed in NS 50 cc on a macro drip. (Administer over 10 minutes using Dial-A-Flow set at 300 which yields 5cc/min).**
- If unresolved: **Mag Sulfate 2 gms in NS 50 ml of over 10 min with macro drip. (Administer over 10 minutes using a Dial-A-Flow set at 300 which yields 5cc/min).**

Special Note:

- ♥ Frequent PVCs greater than 6/min may be normal in some patients
- ♥ Chest pain, multi-focal PVC's and couplets define a greater risk

Establish baseline pulse oximetry reading PRIOR to oxygen administration

Tachycardia

Heart Rate > 150 BPM
Obtain SAMPLE history & OPQRST

Synchronous Activities:
- Oxygen based on O_2 Saturation
- Assess Vitals Signs
- Obtain IV (NS / KVO)
- ECG Monitor
- Pulse Oximetry / Capnography

Stable

Unstable

Place Combo Pads
Immediate
Synchronized
Cardioversion
(starting at 100 joules)

Narrow QRS
≤0.12 sec.

Regular

Valsalva Maneuvers

If persistent,
Adenosine 6 mg IVP
with 20 cc NS Flush,
If no conversion
Adenosine 12 mg IVP,
With 20 cc NS Flush

Converts

No

Yes

Monitor patient

Irregular

If Patient Becomes Unstable
*****Syncronized Cardioversion***
(starting at 100 joules)

Wide QRS
≥0.12 sec.

Regular

Amiodarone 150 mg over 10 min.*
May repeat once PRN

If Patient Becomes Unstable
*****Syncronized Cardioversion***
(starting at 100 joules)

Irregular

If Torsades Suspected
Magnesium 2 gm IV over 30 min
See Dug Formulary

If Patient Becomes Unstable
*****Defibrillate***
(starting at 200 joules)

*** Amiodarone may be given by mixing 150 mg into a 50 cc NS / Macro drip over 10 min. (Administer using Dial-A-Flow set at 300 which yields 5cc/min).**

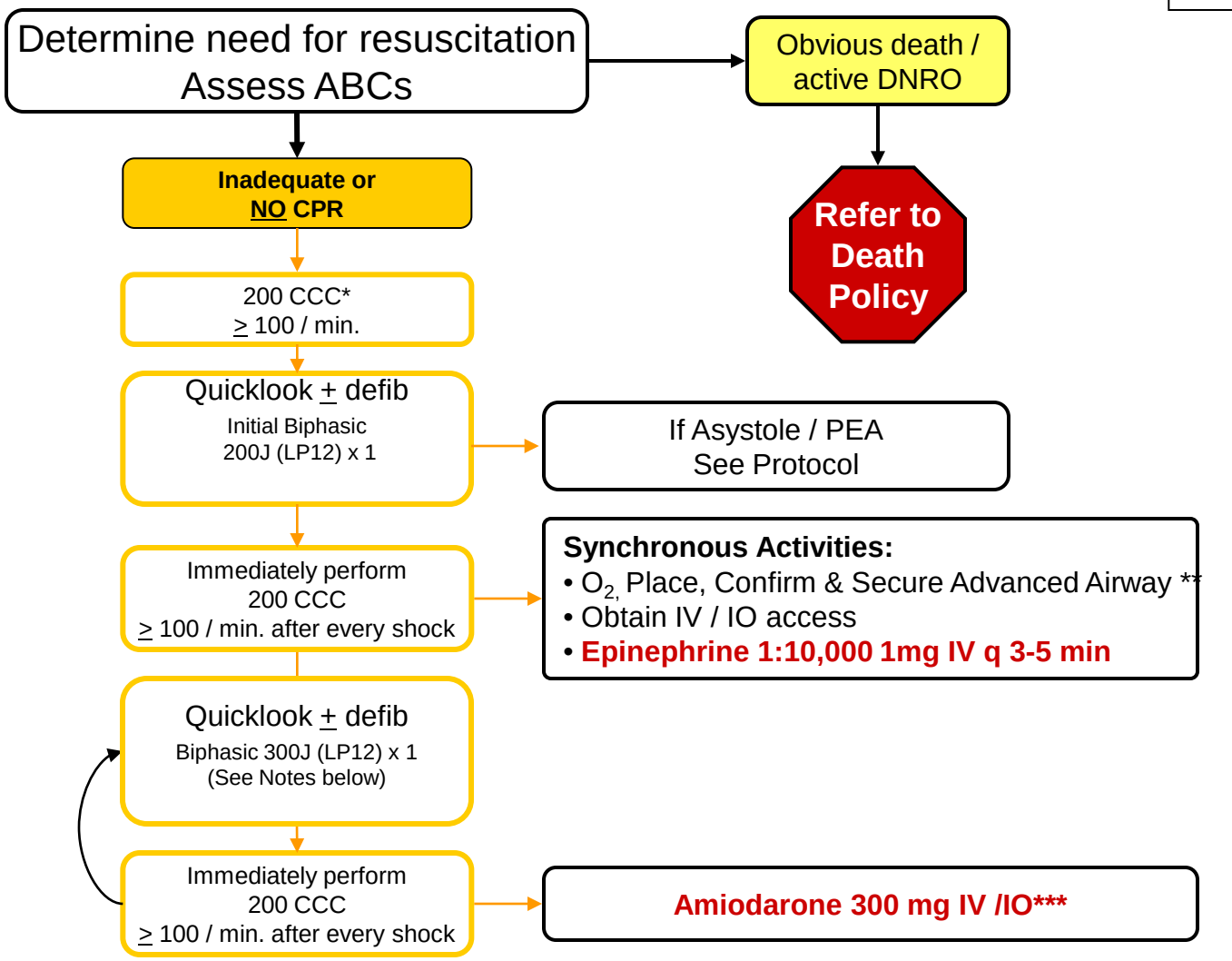
**** If Patient is Conscious Consider Sedation Using Versed 2.5 mg (up to 10mg)**

Contact Medical Control

Tachycardia

2-8

Pulseless Arrest V-Fib. / V-Tach.



Review H's & T's:

Hypovolemia	Tablets (Drug OD)
Hypoxia	Tension Pneumothorax
Hydrogen Ion (Acidosis)	Tamponade Cardiac
Hyper/hypokalemia	Thrombosis Coronary (ACS)
Hypothermia	Thrombosis PE
Hypoglycemia	Trauma

Consider:

Magnesium Sulfate 2 gm IV/IO push
(Based on clinical presentation)
Fluid Bolus of NS 500 cc IV /IO
Sodium Bicarbonate 1 mEq/kg IV/IO
(If preexisting hyperkalemia Hx)
D50 25 gm IV/IO ***if BS < 60 mg/dl***
Narcan 2 mg IV/IO
(If opiate OD suspected)

Contact Medical Control

*Continuous Chest Compressions
**Confirmation of an advanced airway, includes using $ETCO_2$ monitoring.
***Amiodarone 150 mg IV/IO may be repeated once if V. Fib is persistent
Obvious death is defined as rigormortis, lividity, and/or decomposition
Third or subsequent shocks/defibrillations @ 360 Joules

KEY LARGO EMS
COMMON MEDICAL PROTOCOL
Dopamine Infusion Chart (gtts/min) Using 1600 mcg/ml Concentration

Desired Dose (Mcg/Kg/Min)	Patient Weight (Kg)																
	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130
2	4	4	5	5	5	6	6	6	7	7	8	8	8	9	9	9	10
3	6	6	7	7	8	8	9	10	10	11	11	12	12	13	14	14	15
4	8	8	9	10	11	11	12	13	14	14	15	16	17	17	18	19	20
5	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	23	24
6	11	12	14	15	16	17	18	19	20	21	23	24	25	26	27	28	29
7	13	14	16	17	18	20	21	22	24	25	26	28	29	30	32	33	34
8	15	17	18	20	21	23	24	26	27	29	30	32	33	35	36	38	39
9	17	19	20	22	24	25	27	29	30	32	34	35	37	39	41	42	44
10	19	21	23	24	26	28	30	32	34	36	38	39	41	43	45	47	49
11	21	23	25	27	29	31	33	35	37	39	41	43	45	47	50	52	54
12	23	25	27	29	32	34	36	38	41	43	45	47	50	52	54	56	59
13	24	27	29	32	34	37	39	41	44	46	49	51	54	56	59	61	63
14	26	29	32	34	37	39	42	45	47	50	53	55	58	60	63	66	68
15	28	31	34	37	39	42	45	48	51	53	56	59	62	65	68	70	73
16	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75	78
17	32	35	38	41	45	48	51	54	57	61	64	67	70	73	77	80	83
18	34	37	41	44	47	51	54	57	61	64	68	71	74	78	81	84	88
19	36	39	43	46	50	53	57	61	64	68	71	75	78	82	86	89	93
20	38	41	45	49	53	56	60	64	68	71	75	79	83	86	90	94	98

To mix 1600 mcg/ml Dopamine Infusion - Add 400 mg Dopamine to 250 ml D5W.