

APPENDIX: R

TITLE: AHA ACLS 2005 PROTOCOLS

REVISED: 15 April 2006

AHA Overview Of CPR

Part 3: Overview of CPR IV-15

Summary of BLS ABCD Maneuvers for Infants, Children, and Adults (Newborn Information Not Included)

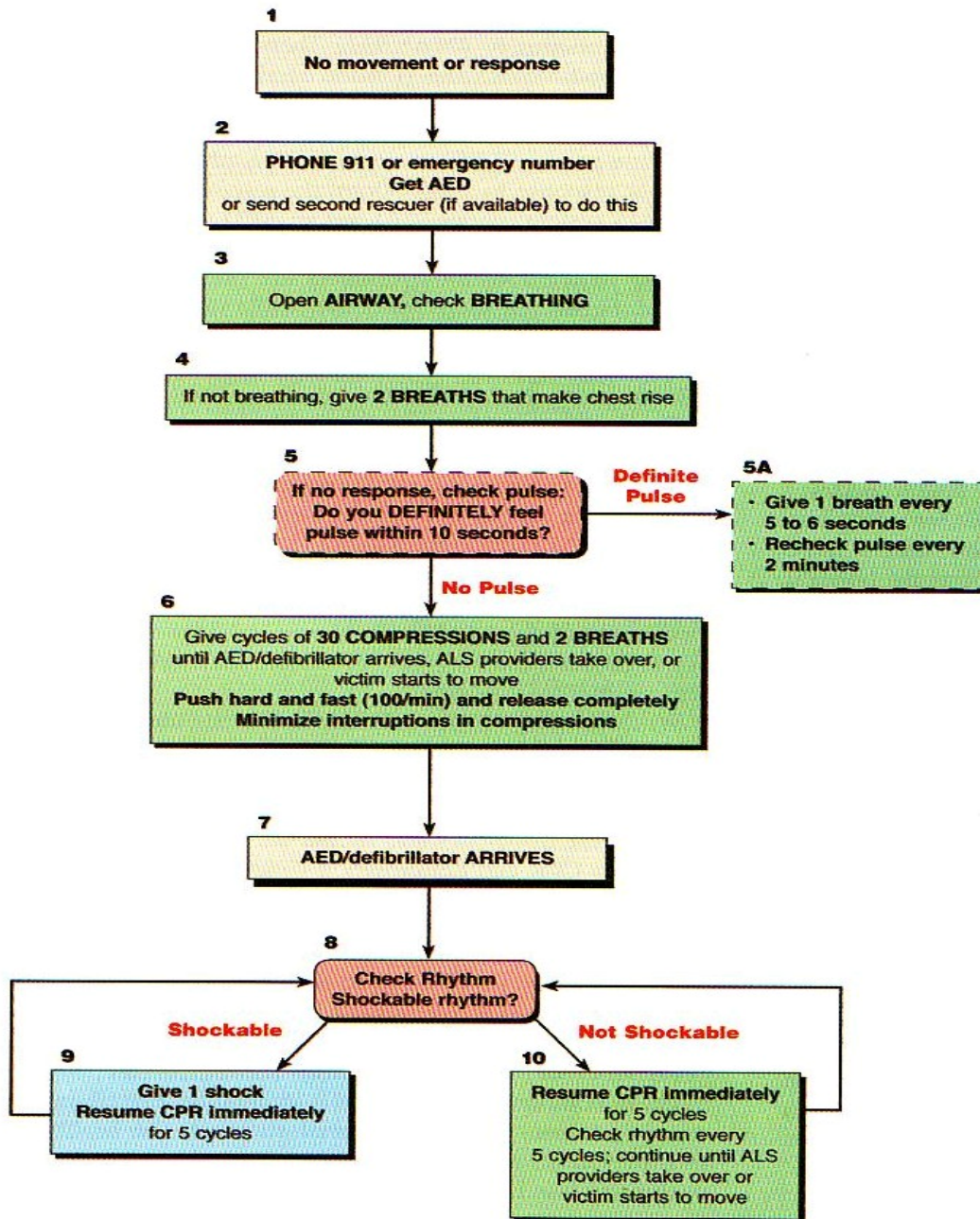
Maneuver	Adult	Child	Infant
Airway	Lay rescuer: ≥ 8 years HCP: Adolescent and older	Lay rescuers: 1 to 8 years HCP: 1 year to adolescent	Under 1 year of age
Breathing Initial	Head tilt–chin lift (HCP: suspected trauma, use jaw thrust)		
HCP: Rescue breathing without chest compressions	2 breaths at 1 second/breath	2 effective breaths at 1 second/breath	
HCP: Rescue breaths for CPR with advanced airway	10 to 12 breaths/min (approximate)	12 to 20 breaths/min (approximate)	
Foreign-body airway obstruction	8 to 10 breaths/min (approximately)		
Circulation HCP: Pulse check (≤ 10 sec)	Abdominal thrusts	Abdominal thrusts	Back slaps and chest thrusts
Compression landmarks	Lower half of sternum, between nipples	Carotid	Brachial or femoral
Compression method Push hard and fast Allow complete recoil	Heel of one hand, other hand on top	Heel of one hand or as for adults	2 or 3 fingers HCP (2 rescuers): 2 thumb-encircling hands
Compression depth	1½ to 2 inches	Approximately one third to one half the depth of the chest	
Compression rate	Approximately 100/min		
Compression-ventilation ratio	30:2 (one or two rescuers)	30:2 (single rescuer) HCP: 15:2 (2 rescuers)	
Defibrillation AED	Use adult pads Do not use child pads	Use AED after 5 cycles of CPR (out of hospital). Use pediatric system for child 1 to 8 years if available HCP: For sudden collapse (out of hospital) or in-hospital arrest use AED as soon as available.	No recommendation for infants <1 year of age

Note: Maneuvers used by only Healthcare Providers are indicated by "HCP."

AHA ACLS PROTOCOLS

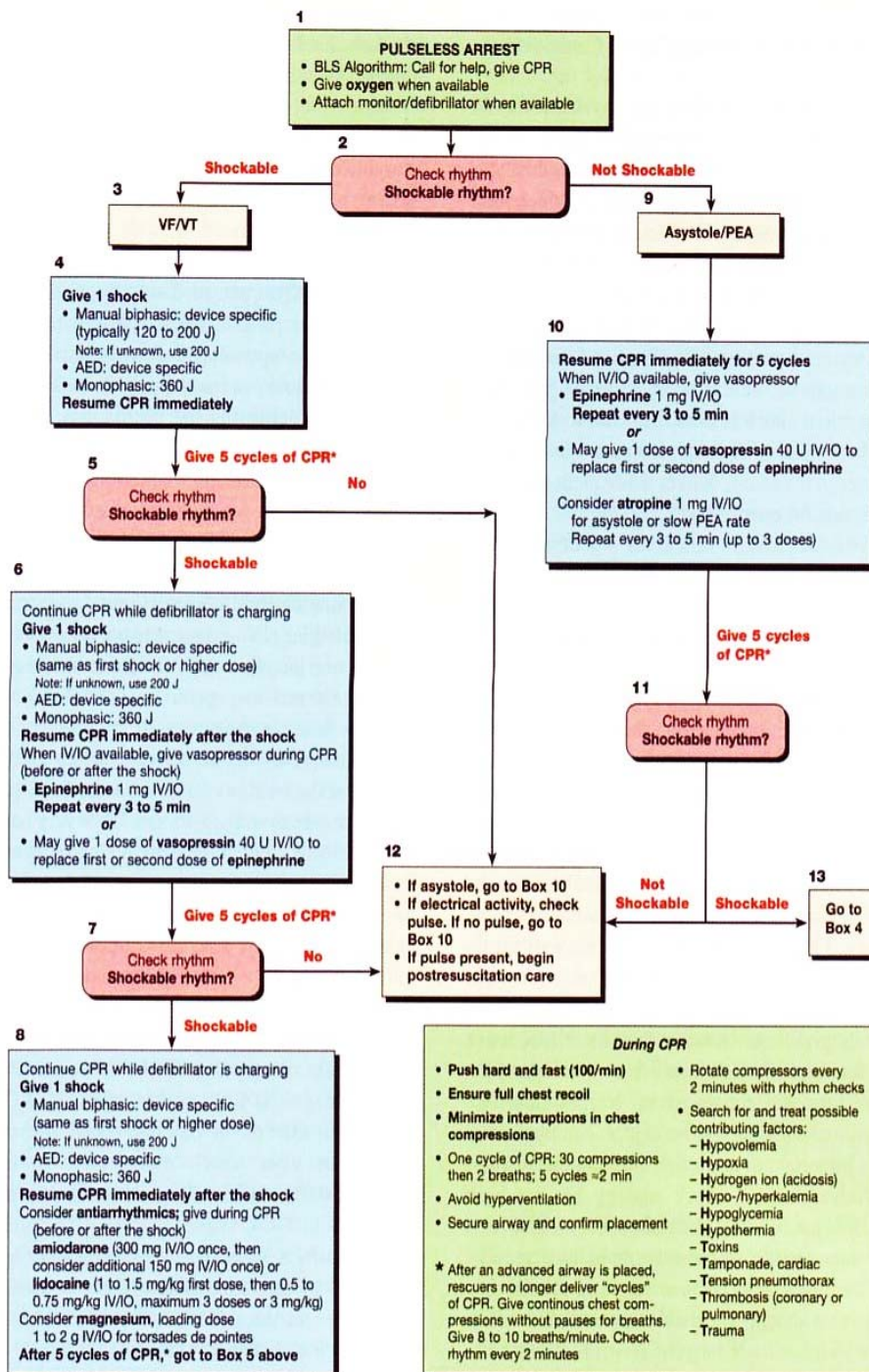
Adult BLS Healthcare Provider Algorithm

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ACLS Pulseless Arrest

Part 7.2: Management of Cardiac Arrest IV-59



ACLS Pulseless Arrest Algorithm.

ACLS Bradycardia Algorithm

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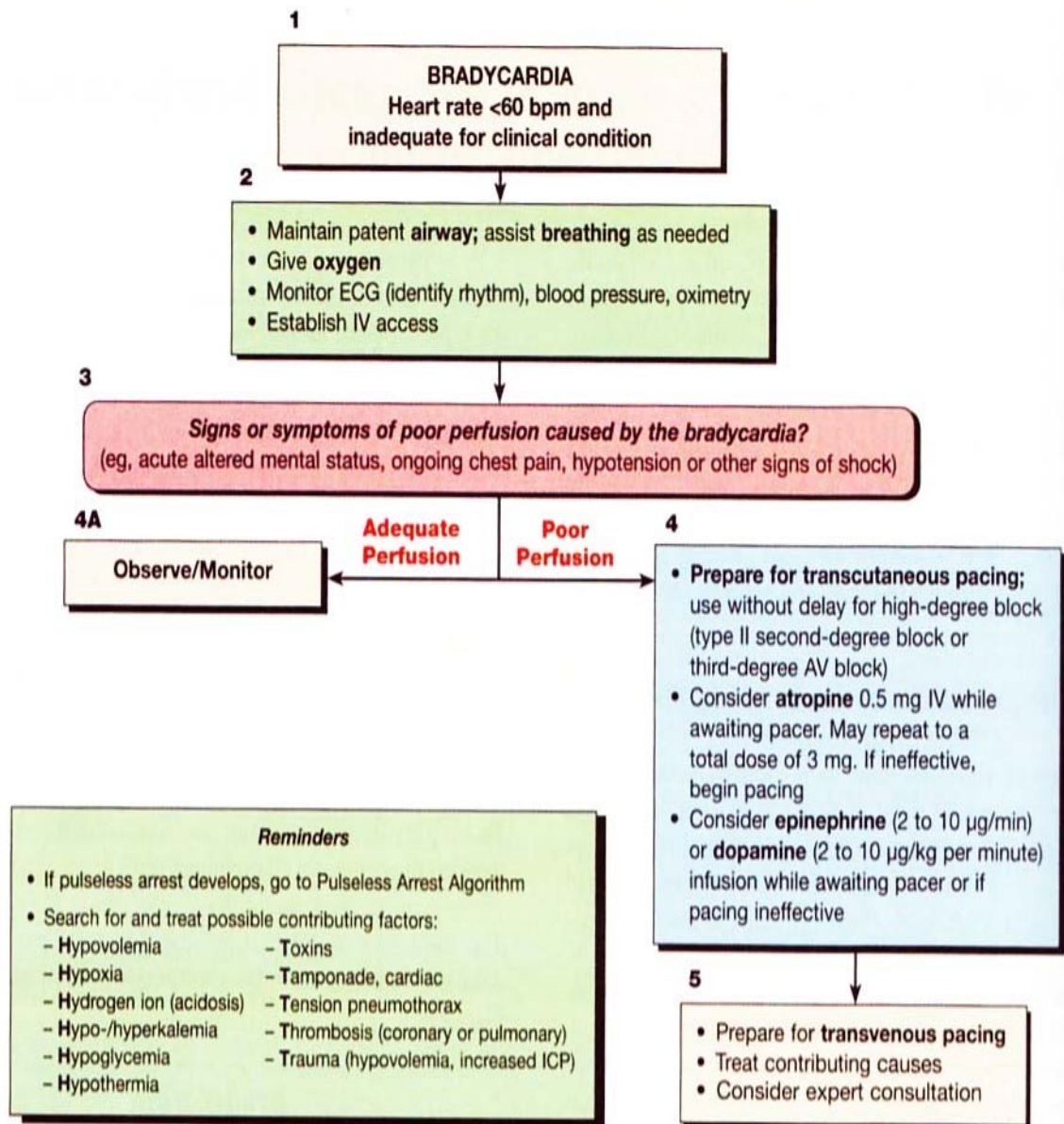


Figure 1. Bradycardia Algorithm.

ACLS Tachycardia Algorithm

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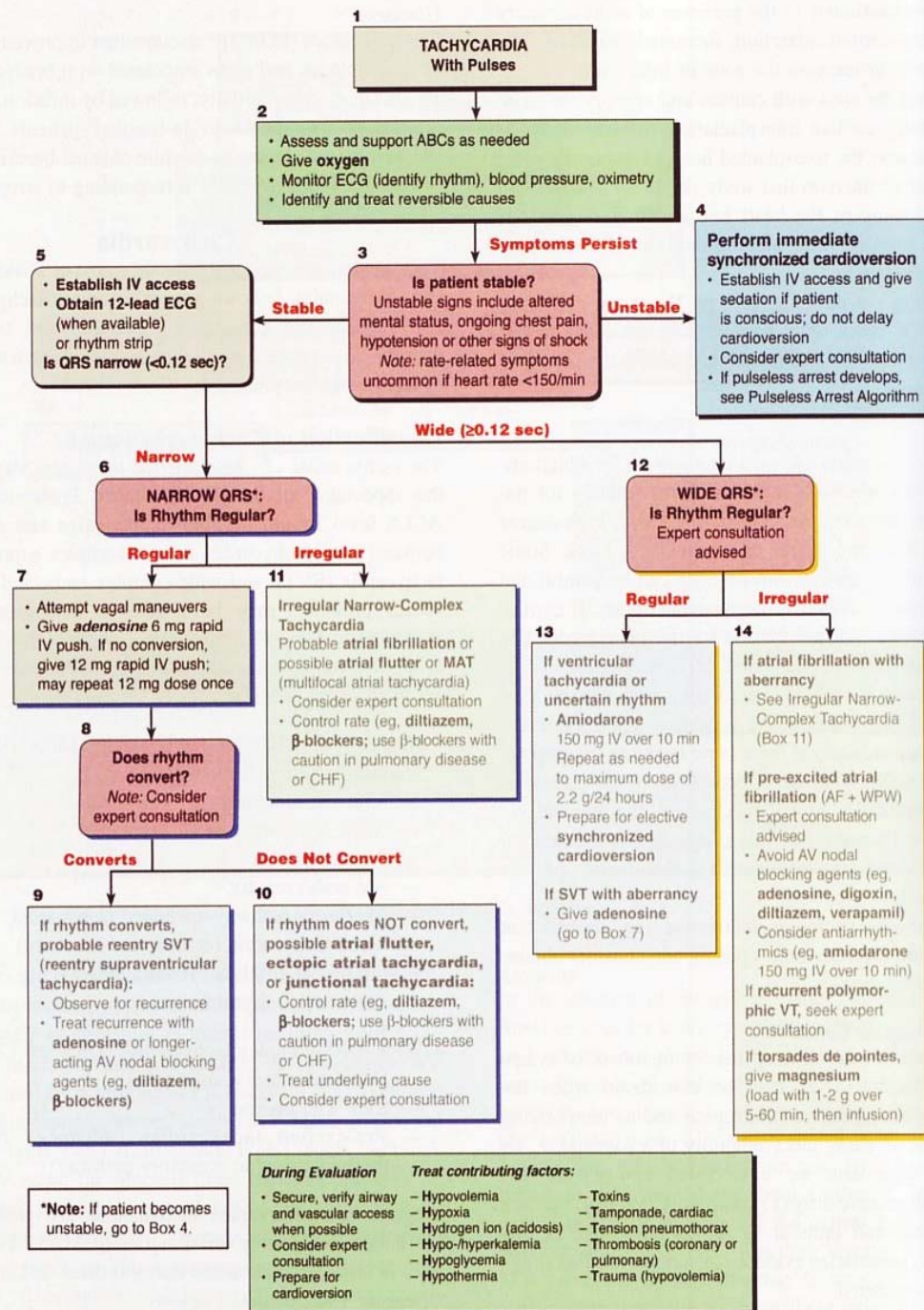


Figure 2. ACLS Tachycardia Algorithm.

ACLS A.C.S. Algorithm

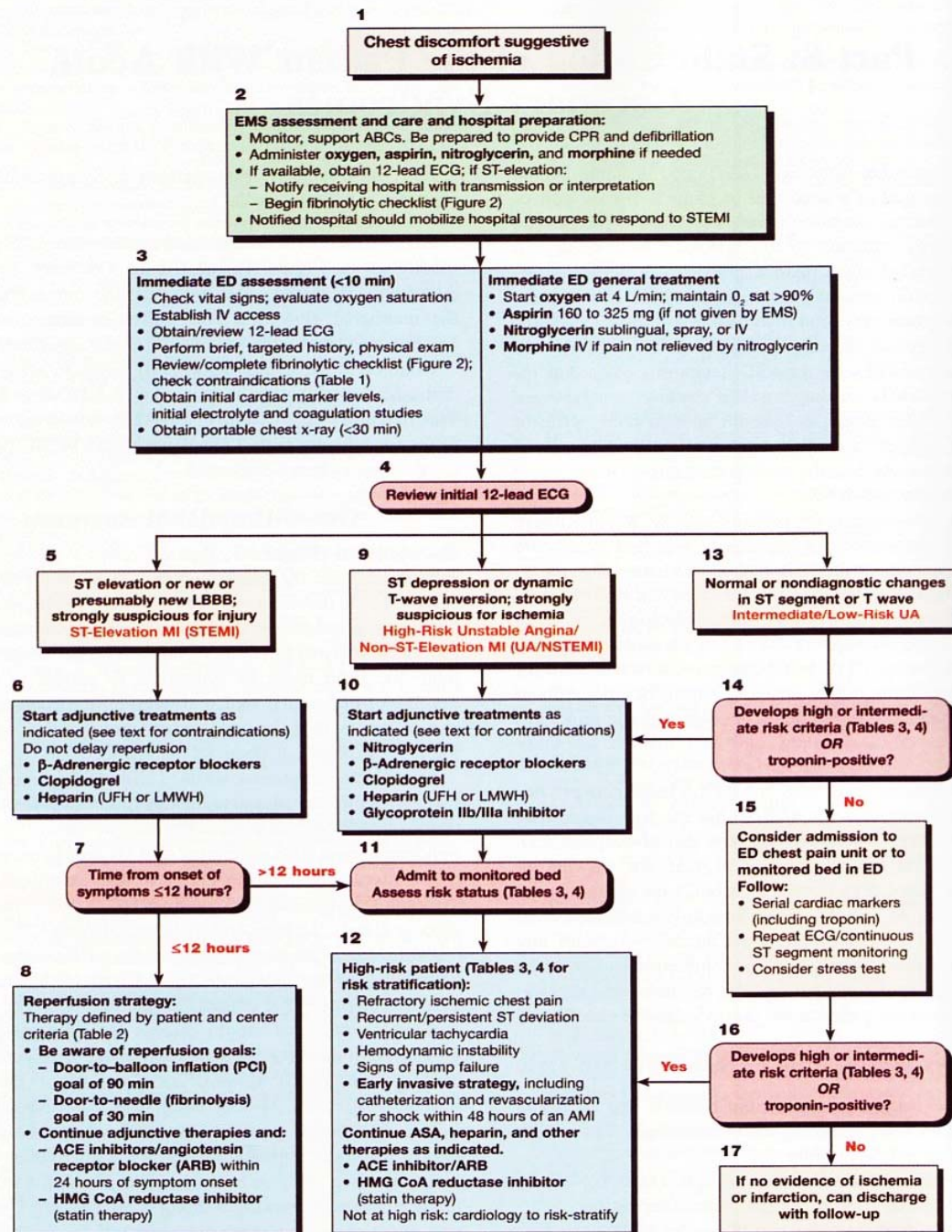
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Figure 1. Acute Coronary Syndromes Algorithm.

ACLS STEMI Checklist For Fibrolytic Therapy

CHEST PAIN CHECKLIST FOR STEMI FIBRINOLYTIC THERAPY

Step One:

Has patient experienced chest discomfort for greater than 15 minutes and less than 12 hours?

YES →

NO → STOP

Step Two:

Does ECG show STEMI or new or presumably new LBBB?

YES →

NO → STOP

Are there contraindications to fibrinolysis?
If ANY of the following is CHECKED YES, fibrinolysis MAY be contraindicated.

Systolic BP greater than 180 mm Hg	☐ YES	☐ NO
Diastolic BP greater than 110 mm Hg	☐ YES	☐ NO
Right vs. left arm systolic BP difference greater than 15 mm Hg	☐ YES	☐ NO
History of structural central nervous system disease	☐ YES	☐ NO
Significant closed head/ facial trauma within the previous 3 months	☐ YES	☐ NO
Recent (within 6 wks) major trauma, surgery (including laser eye surgery), GI/GU bleed	☐ YES	☐ NO
Bleeding or clotting problem or on blood thinners	☐ YES	☐ NO
CPR greater than 10 minutes	☐ YES	☐ NO
Pregnant female	☐ YES	☐ NO
Serious systemic disease (eg, advanced/terminal cancer, severe liver or kidney disease)	☐ YES	☐ NO

Step Three:

Is patient at high risk?
If ANY of the following is CHECKED YES, CONSIDER Transport/ Transfer to PCI Facility

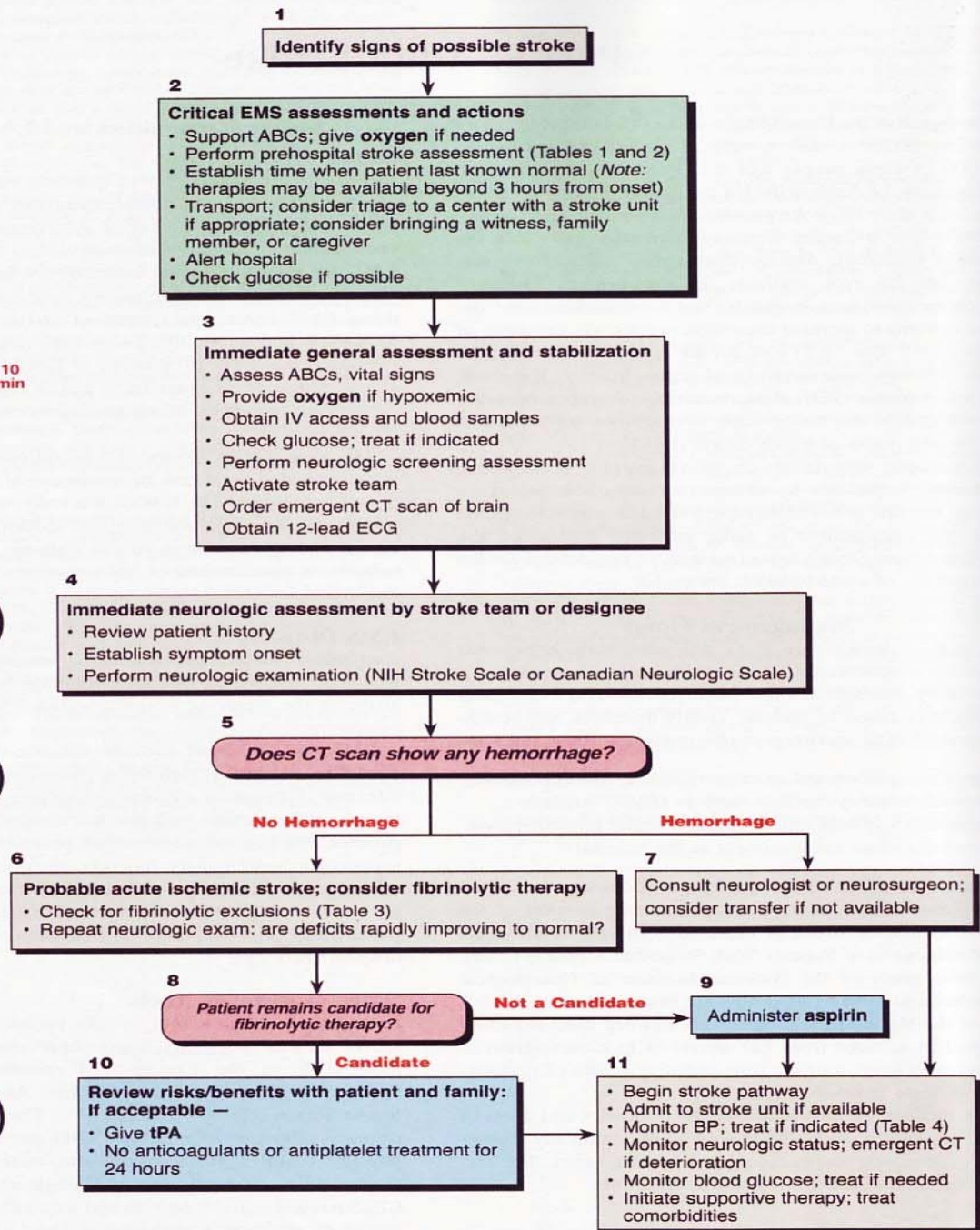
Heart rate greater than or equal to 100 bpm AND systolic BP less than 100 mm Hg	☐ YES	☐ NO
Pulmonary edema (rales)	☐ YES	☐ NO
Signs of shock (cool, clammy)	☐ YES	☐ NO
Contraindications to fibrinolytic therapy	☐ YES	☐ NO

Figure 2. Fibrinolytic Checklist.

ACLS Goals For The Management Of Stroke

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NINDS
TIME
GOALS



Goals for Management of Patients With Suspected Stroke Algorithm.

ACLS LAPSS Stroke Assessment tool

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TABLE 2. Los Angeles Prehospital Stroke Screen (LAPSS)

For evaluation of acute, noncomatose, nontraumatic neurologic complaint. If items 1 through 6 are all checked "Yes" (or "Unknown"), provide prearrival notification to hospital of potential stroke patient. If any item is checked "No," return to appropriate treatment protocol. Interpretation: 93% of patients with stroke will have a positive LAPSS score (sensitivity=93%), and 97% of those with a positive LAPSS score will have a stroke (specificity=97%). Note that the patient may still be experiencing a stroke if LAPSS criteria are not met.

Criteria	Yes	Unknown	No
1. Age >45 years	☐	☐	☐
2. History of seizures or epilepsy absent	☐	☐	☐
3. Symptom duration <24 hours	☐	☐	☐
4. At baseline, patient is not wheelchair bound or bedridden	☐	☐	☐
5. Blood glucose between 60 and 400	☐	☐	☐
6. Obvious asymmetry (right vs left) in any of the following 3 exam categories (must be unilateral):	☐	☐	☐
	Equal	R Weak	L Weak
Facial smile/grimace	☐	☐ Droop	☐ Droop
Grip	☐	☐ Weak grip ☐ No grip	☐ Weak grip ☐ No grip
Arm strength	☐	☐ Drifts down ☐ Falls rapidly	☐ Drifts down ☐ Falls rapidly



One-sided motor weakness (right arm).

ACLS Fibrolytic Checklist For Strokes

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TABLE 3. Fibrinolytic Checklist

Use of tPA in Patients With Acute Ischemic Stroke

All boxes must be checked before tPA can be given.

Note: The following checklist includes FDA-approved indications and contraindications for tPA administration for acute ischemic stroke. A physician with expertise in acute stroke care may modify this list.

Inclusion Criteria (all Yes boxes in this section must be checked):

Yes

- ☐ Age 18 years or older?
- ☐ Clinical diagnosis of ischemic stroke with a measurable neurologic deficit?
- ☐ Time of symptom onset (when patient was last seen normal) well established as <180 minutes (3 hours) before treatment would begin?

Exclusion Criteria (all No boxes in "Contraindications" section must be checked):

Contraindications:

No

- ☐ Evidence of intracranial hemorrhage on pretreatment noncontrast head CT?
- ☐ Clinical presentation suggestive of subarachnoid hemorrhage even with normal CT?
- ☐ CT shows multilobar infarction (hypodensity greater than one third cerebral hemisphere)?
- ☐ History of intracranial hemorrhage?
- ☐ Uncontrolled hypertension: At the time treatment should begin, systolic pressure remains >185 mm Hg or diastolic pressure remains >110 mm Hg despite repeated measurements?
- ☐ Known arteriovenous malformation, neoplasm, or aneurysm?
- ☐ Witnessed seizure at stroke onset?
- ☐ Active internal bleeding or acute trauma (fracture)?
- ☐ Acute bleeding diathesis, including but not limited to
 - Platelet count <100 000/mm³?
 - Heparin received within 48 hours, resulting in an activated partial thromboplastin time (aPTT) that is greater than upper limit of normal for laboratory?
 - Current use of anticoagulant (eg, warfarin sodium) that has produced an elevated international normalized ratio (INR) >1.7 or prothrombin time (PT) >15 seconds?*
- ☐ Within 3 months of intracranial or intraspinal surgery, serious head trauma, or previous stroke?
- ☐ Arterial puncture at a noncompressible site within past 7 days?

Relative Contraindications/Precautions:

Recent experience suggests that under some circumstances—with careful consideration and weighing of risk-to-benefit ratio—patients may receive fibrinolytic therapy despite one or more relative contraindications. Consider the pros and cons of tPA administration carefully if any of these relative contraindications is present:

- Only minor or rapidly improving stroke symptoms (clearing spontaneously)
- Within 14 days of major surgery or serious trauma
- Recent gastrointestinal or urinary tract hemorrhage (within previous 21 days)
- Recent acute myocardial infarction (within previous 3 months)
- Postmyocardial infarction pericarditis
- Abnormal blood glucose level (<50 or >400 mg/dL [<2.8 or >22.2 mmol/L])

*In patients without recent use of oral anticoagulants or heparin, treatment with tPA can be initiated before availability of coagulation study results but should be discontinued if the INR is >1.7 or the partial thromboplastin time is elevated by local laboratory standards.