



*Washington's
Emergency Cardiac
and Stroke System*

PUBLIC HEALTH
ALWAYS WORKING FOR A SAFER AND
HEALTHIER WASHINGTON

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Emergency Cardiac and Stroke Work Group
Washington State Emergency Medical Services
and Trauma Steering Committee

Executive Summary



- **Problem:** Effective treatments are available--but too many people don't get them.
- **Solution:** Establish statewide emergency cardiac and stroke system similar to trauma (right pt/right place/right time)



Status in 2010

- State ECS System ready for rollout
- SSHB 2396
- Regional systems in place or in process –
Spokane, North Sound, South Sound,
Southeast, Central



Beyond Door-to-Balloon

The WA State Emergency Cardiac and Stroke System supports 1st medical contact to open artery by:

- Giving EMS the tools and authority to rapidly triage and transport STEMI and PCA patients to appropriate hospitals
- Providing a mechanism to identify those appropriate hospitals



SSHB 2396

Requires the Department of Health to:

- Adopt standardized triage and transport procedures for emergency medical services
- Encourage hospitals to voluntarily participate in the system by self-certifying they meet criteria
- Require participating hospitals to participate in quality improvement activities
- Expand the scope of regional quality assurance programs to include evaluation of emergency cardiac and stroke care delivery.



HB 2396 and the State ECS System in a Nutshell...

Requires EMS to take STEMI and post cardiac arrest patients to specific hospitals based on transport times.

ACS Triage Tool

Assess Applicability for Triage

≥ 21 years of age with symptoms lasting more than 10 minutes but less than 12 hours suspected to be caused by coronary artery disease:

- Chest discomfort** (pressure, crushing pain, tightness, heaviness, cramping, burning, aching sensation), usually in the center of the chest lasting more than a few minutes, or that goes away and comes back.
- Epigastric (stomach) discomfort**, such as unexplained indigestion, belching, or pain.
- Shortness of breath** with or without chest discomfort.
- Radiating pain or discomfort in 1 or both arms**, neck, jaws, shoulders, or back.
- Other symptoms** may include sweating, nausea, vomiting.
- Women, diabetics, and geriatric patients** might not have chest discomfort or pain. Instead they might have nausea/vomiting, back or jaw pain, fatigue/weakness, or generalized complaints.

NO

Transport per
regional patient care
procedures

Yes?



YES ↓ *If ALS has not been dispatched,
upgrade if available.*

Assess Immediate Criteria¹

- Post cardiac arrest with return of spontaneous circulation
- Hypotension or pulmonary edema
- EKG positive for STEMI (if available)

Note: *Unstable patients with severe respiratory distress, hypotension, or recurrent life-threatening arrhythmias should be transported to the closest Cardiac Hospital.*

Yes?

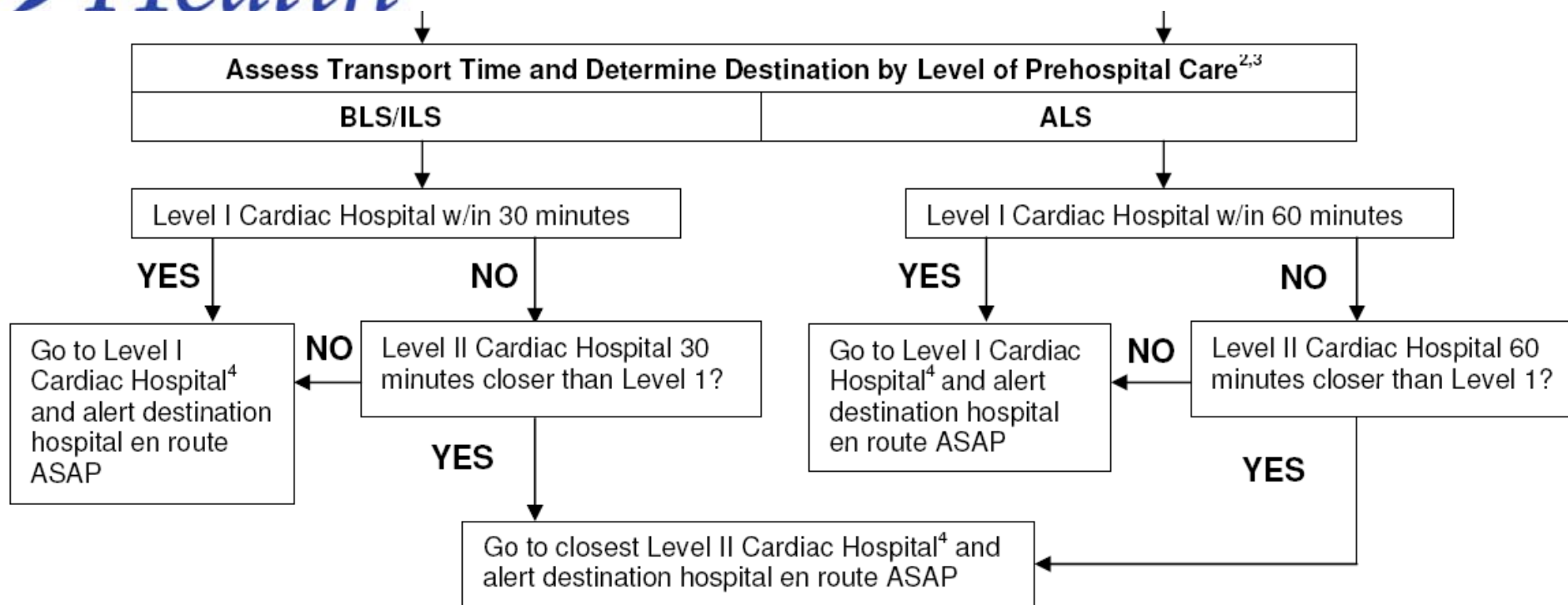

Assess High Risk Criteria
In addition to symptoms in Box 1, pt has **3 or more** of the following:

- Age ≥ 55
- 3 or more CAD risk factors:
 - family hx
 - BP
 - cholesterol
 - Diabetes
 - current smoker
- Aspirin use in last 7 days
- Angina in last 24 hours
- Known coronary disease

NO

NO

Transport per regional patient care procedures



Notes:

- Slight modifications to the timeframes may be made based on geographic and time variances.
- Consider ALS and air transport for all transports greater than 30 minutes.
- If there are two or more Level I facilities in close proximity (no more than 15 minutes difference in transport time), patient preference, physician practice patterns, and local rotation agreements may be considered in determining destination. This also applies when there are two Level II facilities to choose from.



ACS Destination Examples

BLS examples:

- A) Minutes to Level 1 minus minutes to Level 2 = 29: go to Level 1
- B) Minutes to Level 1 minus minutes to Level 2 = 35: go to Level 2

ALS examples:

- A) Minutes to Level 1 minus minutes to Level 2 = 45: go to Level 1
- B) Minutes to Level 1 minus minutes to Level 2 = 68: go to Level 2

Origin	Level 2	Mins	Level 1	Mins	Diff	Destination BLS/ILS	Destination ALS
Concrete	Sedro Woolley	31	Mt Vernon	57	26	Mt Vernon	Mt Vernon
Humtulpis	Aberdeen	16	Olympia	72	56	Aberdeen	Olympia

- If ineligible for fibrinolytics, transport to closest Level 1 hospital even if greater than 60 minutes or rendezvous with air transport.
- EMS must inform the hospital en route so staff can initiate cardiac protocols and call in staff if necessary.

Hospital Levels Criteria



Level One

- Perform PCI 24/7 within 90 minutes
- Interventional cardiologists and cath lab team available within 30 minutes 24/7
- Cardiac surgery onsite or transfer agreements

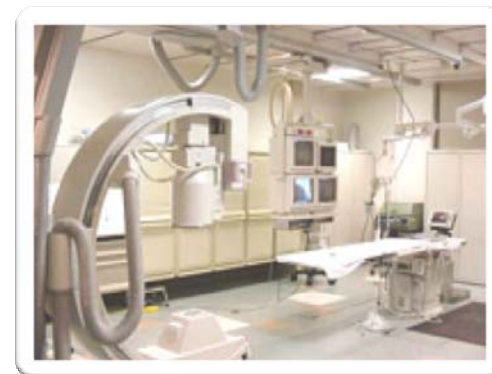


Level Two

- Administer fibrinolytics 24/7 within 30 minutes
- ACLS trained providers

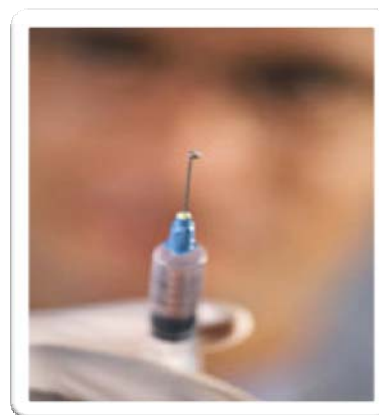


Hospital Levels Criteria



Levels One and Two

- Cardiac team activation policy and criteria based on EMS pre-arrival notification
- Cardiac protocols including initiation of hypothermia
- No divert policy
- Participate in registries and regional QI program that includes EMS
- Transfer agreements
- Referral to cardiac rehab
- Prevention/public education



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Rollout 2010 - 2011

- Inform EMS and hospitals about new system
- Recruit hospitals (application process)
- Train EMS
- Revise EMS policies, procedures, protocols
- Determine performance measurement
- Go live date likely June 2011



Thank you

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