



**WCEMSTCC**  
**Continuous Quality Improvement Committee**

October 4, 2018

The regular meeting of the CQI Committee was called to order at 17:02 on **4 October 2018** at Station 31 by Josh Morell, Co-Chair.

Agency/Position	First Name	Last Name	9/28/17	12/7/17	1/4/18	3/29/18	7/5/18	10/4/18
MPD; Co-Chair	Marv	Wayne	exc	exc	✓	✓	exc	✓
Supervising MD BFD	Emily	Junck			✓		✓	✓
Co-Chair	Josh	Morell	✓	✓	✓	✓	✓	✓
QA Coordinator	Kris	Jorgensen	✓	✓	✓	exc	✓	exc
Secretary	Janice	Lapsansky	✓	exc	✓	exc	✓	✓
1	Mel	Blankers		✓				
5	Chris	Carleton						
7	Janice	Lapsansky		✓	✓	exc	✓	✓
7	Ben	Boyko	exc	✓	✓	exc	✓	✓
11	Duncan	McLane		✓		✓		✓
11	Dan	Ohms	✓		✓			exc
14	Jerry	DeBruin		✓	✓	✓	✓	✓
16	Matt	Cook						
17	Dawn	Cannizzaro	✓	exc	✓	✓	✓	✓
18	Omar	Mejia		✓				
19	Ben	Thompson						
ALNW/11	John	Granger		✓	✓	✓		✓
BFD (guest)	Joe	Frank			✓	✓		✓
Dispatch	Sheila	Hanlon		✓		✓		✓
Lynden	Gary	Baar			✓			
Mt Baker Ski	Erica	Littlewood	✓	✓	✓	✓	✓	✓
NWFRS	Kris	Jorgenson		✓	✓	exc	✓	exc
PH Trauma Mngr	Becky	Stermer		✓	✓	✓		✓
Trauma Registrar	Jennifer	Keim		✓	✓			exc
STEMI Coord	Lucy	Autumn						
Stroke Coord	Terry	Carter						
SWFA	Josh	Morell	✓	✓	✓	✓	✓	✓
SJH ED								
WCEMS Manager	Mike	Hilley				✓	✓	exc
Guest (Seattle Fire)	Claire	Nordeen				✓		

**A. Agenda and Discussion**

1. John Granger, RN (Airlift NW) made a presentation on the use of blood products in field trauma, current practice at ANW, and future directions. Contact John or Andrew Latimer ([alatim@uw.edu](mailto:alatim@uw.edu)) with questions or for more information.
2. Chief Duncan McLane led a discussion regarding the ePCR status, next steps, action items, etc.
  - Dist 7 is getting CAD downloads

- Dist 11, NWFRS, SWFA making progress toward go-live (October-January); often parallel reporting – **be sure to select TEST HOSPITAL and not PHSJMC**
  - January 1 goal for all agencies to be using ImageTrend, and full change over after contracts with other reporting software expires.
  - Caution regarding distractions caused by new software that could take away from patient care.
  - Info currently being collected via Survey Monkey for CQI purposes (e.g. ResQCPR and iGel) will be incorporated into ImageTrend; some delay expected for some elements
3. Becky Stermer presented trauma case - pedestrian vs. garbage truck
    - Discussed decision making in the field; Pelvic sling applied; FTT activation
    - Imaging revealed thoracic spine and pelvic instability; bilateral LE fxs
    - Started massive transfusion protocol with improvement to pH
    - Pelvic sling removed at some point in ED; BP dropped
    - According to MESS score (mangled extremity severity score) limb likely not salvageable... should pt have stayed here?
    - Tx to Harborview; more blood products given (MTP); Left leg surgically amputated to hip; external fixation of pelvis and right tibia; extubated; receiving psychiatric care
    - Discussion ensued regarding counseling for bystander and driver; health care insurance card may have an emergency number
  4. LUCAS device on BLS units and related issues discussed: price, exchange (TAB issue), agencies with multiple stations, training
  5. 2019 CQI Initiatives
    - Bystander network; Survivor network
    - BLS AED downloads (LP1000s)
    - Pit crew CPR approach to facilitate BLS to ALS transition
      - Quarterly training
      - CPR feedback
      - ImageTrend CPR Power tool not reliable
  6. CQI input RE: Clinical Indicators for ePCR – continue with CPR, iGel; add NO when appropriate

**B. Approval of Minutes**

Minutes from the 05 July 2018 CQI Committee meeting were approved. Motion to approve Ben Boyko, seconded by Janice Lapsansky.

**C. Announcements**

- Marv reported on a proposal to investigate the use of the butterfly US on ALS units; called the “stethoscope of the future”. Difficult IVs, pneumothorax,

heart wall motion (e.g PEA or asystole), plasma volume (IVC).

<https://www.butterflynetwork.com/>

- Another local class for peer support training to assist EMS in response to critical incidents scheduled for October 15.
- Highlights from the First International Conference on the Future of Resuscitation were presented and briefly discussed (addendum attached to these minutes).
- Duncan reported WCEMS received  $\frac{3}{4}$  of grant from North Region EMS; approximately \$7000

#### E. New Action Items

Summarize the discussion for each existing issue, state the outcome, assign any action item, and list the timeline, as appropriate.

Action Item(s)	Who	When
1. Bring EEE reporting process to ePCR committee	Duncan	Oct 8
2. Bring Patient disposition request process to ePCR committee	Duncan	Oct 8
3. Pit crew CPR approach to facilitate BLS to ALS transition	Joe Frank	ASAP

#### F. Agenda for Next Meeting

TBA

#### Adjournment:

Meeting was adjourned at 1800 by Josh Morell. The next CQI meeting will be at 5:00pm on Thursday, January 10<sup>th</sup>; Location TBD.

**Minutes submitted by:** Janice Lapsansky, Secretary

### **Addendum:**

Notes from First International Conference on the Future of Resuscitation  
Submitted by Janice Lapsansky ([janicelapsansky@wcf7.org](mailto:janicelapsansky@wcf7.org))

All about **Bundles of Care**: <https://www.jems.com/articles/2018/08/bundles-of-care-as-a-formula-for-resuscitation-success.html>

### **Pulse Point and Lay Rescuer CPR training**

- Use IFF billboard to display real-time registrations on PP
- Must query AEDs for initial rhythm for accurate CAREs data
- Goal: 6 min zone for BLS and AED to patient (excluding peds, trauma, or highway)
- Establish neighborhood AEDs with crowdfunding and industry funding (Philips)
- Increase participation and improve culture with public event similar to Relay for Life, but for CPR training
- VR CPR training – augmented reality training
- Faith based community CPR classes
- **Challenges remain RE: PAD 2018**  
<https://onlinelibrary.wiley.com/doi/epdf/10.1111/joim.12730>

### **Building bystander and survivor networks**

- Wristbands with QR code to match rescuer with patient and with EMS responders – great PR!
  - Motivation enhanced through outreach among EMS, survivors, and lay rescuers
- Survivor engagement – need “champions” ; need support for patients and families
- Engage the media

### **Dispatch issues**

- Is EMS secondary dispatch center – time delays
- Reluctance to start CPR on **peds** – RP and dispatcher
- No-No-Go protocol
- Analyze **time delays**: dispatch center, bystander CPR, EMS at side?
- Corti (Artificial Intelligence) to be used to detect critical information and direct action during 911 calls <https://corti.ai/>; <https://www.ems1.com/ems-products/technology/articles/373166048-AI-technology-helping-dispatchers-detect-cardiac-arrest/>

## Quality CPR

- Uniform CPR training
- Responders need to communicate in order to “know your lane” while enroute to CPR call
- Place high flow **O2 via NC** during placement of advanced airway  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5851518/>
- **Strict definitions for acceptable pauses** in chest compressions (laminated card on LP15s)
  - 1 sec place feedback device
  - 5 sec place defib pads (recommend AP placement)
  - 5 sec place mechanical device (LUCAS)
  - 2 sec start mechanical device
- **Compression depth** most difficult standard to learn and maintain consistently (5-6 cm)
  - Ventilations
  - Compression fraction
  - Compression rate
  - Pauses in compressions
  - ETCO2
- Many good EMS services, but **need feedback (real-time, within shift, during training)**
  - LP15 (PhysioControl) CODE-STAT information <https://www.physio-control.com/ProductDetails.aspx?id=2147484784>
  - [https://www.researchgate.net/publication/271563179\\_Real-time\\_feedback\\_systems\\_in\\_CPR](https://www.researchgate.net/publication/271563179_Real-time_feedback_systems_in_CPR)
  - FirstWatch software to notify QA personnel of specific incidents (e.g. CA); built into ProQA <https://www.firstwatch.net/>
- **Watch ETCO2** and Sat – defib when ETCO2>20
- **IGel better** than King or Combi tube at maintaining low ITP during ACD-CPR with ITD (ResQPod)
- **Tube holders** may occlude venous outflow from head, increasing ICP

## Predicting Outcomes

- ETCO2 – intrathoracic pressure regulation does a better job, while protecting ICP and blood flow
  - <https://www.youtube.com/watch?v=d-JMCZ6Y90>
- D-dimer – linear relationship between downtime and survivability; related to the fibrinolytic burden after ROSC, regardless of anti-thrombolytic therapy.

## Other

- Xenon inhalative to limit post-reperfusion injury
- Shenfu (root) anti-inflammatory properties given in hospital after ROSC had better outcomes <https://www.ncbi.nlm.nih.gov/pubmed/28661970>
- Insulin as an inotrope (increases intracellular calcium in myocardium) and growth factor; insulin receptors in hippocampus (memory)
- Mobile ECMO
- Therapeutic hypothermia = Targeted Temperature management
- PARAMEDIC2 – <https://www.nejm.org/doi/full/10.1056/NEJMoa1806842>
  - continuous infusion vs. bolus and outcome (causes vasoconstriction)
  - benefit if given in first 10 min including shockable rhythms; smallest dose for desired effect

## CQI and take home messages

- Use CAREs data, afferents and efferents across continuum of care for CQI
- EMS training and performance
  - E.g. mandatory annual video-augmented protocol review
  - Participation in research
- Citizen CPR Foundation <https://citizencpr.org/>
- “CPR Island” – only two reasons to leave the island: Defib and ROSC
- CPR does not cure – goal is to deliver a recoverable patient
- 80% of ROSC is captured in first 15 min; 95% by 30 min