



Trauma Managers
Association of California

TRAUMA MANAGERS ASSOCIATION OF CALIFORNIA

GENERAL MEMBERSHIP MEETING MINUTES

June 17, 2011

*Regional Medical Center of San Jose
225 N. Jackson Avenue, San Jose, CA 95116*

MEMBERSHIP / ATTENDANCE

Members/Organization

Cindi Stoll	Riverside EMS Agency
Sue Cox	Rady Children's Hospital
Liz Raganold	Long Beach Memorial Med Center
Cheryl Wraa	UC Davis Medical Center
Linda Raby	Regional Medical Center San Jose
Sue Fortier	Sierra Vista Regional Med Ctr-SLO
Bethany Chaney	Ukiah Valley Medical Center
Cathy Castro	Doctors Medical Center
Christy Preston	LA County EMS Agency

Members/Organization

Kathleen Cagle	Community Regional Med Cnt Fresno
Debbie Becker	Central California EMSA Fresno
Amber Myers	Kaweah Delta Medical Center Visalia
Julie Rossie	Regional Medical Center San Jose
Michael Ferchulk	Marin General Hospital
Anne Marcotte	Southern Chester County EMS
Mary Jane Boyd	Marin General Hospital
Erike Pelsy	Eden Medical Center

1. **CALL TO ORDER:** The meeting was called to order by Cheryl Wraa at 10:00 a.m.
2. **WELCOME & INTRODUCTIONS:** All present were introduced. Announcements:
 - Sierra Vista Medical Center in San Luis Obispo is seeking Level II Trauma Center status.
3. **APPROVAL OF MINUTES:** The minutes of March 18, 2011 were approved by the committee as submitted and will be posted on the website.
4. **PRESIDENT'S REPORT:**
California Statewide Trauma Plan: As previously indicated, each section of the draft state trauma plan was reviewed by an editing group and returned to the individual writing groups for further development with a return due date of April 15, 2011. The document is undergoing further review at this time and should be available for public comment in the near future.

American College of Surgeons (ACS) Rural Trauma Team Development Course (RTTDC®): As previously indicated, the RTTDC® resource documents and course content were under revision. The revision of the course materials has been completed; however, there is no set date for availability of the materials. The Course Coordinator for the RTTDC®, Cheri White from Sutter Roseville Medical Center, will review the administrative and course materials when they become available and provide feedback.

The Northern Regional Trauma Coordinating Committee (RTCC) has been tasked with creating a template for implementing the course statewide; therefore, upon release of the materials, several courses in the Northern Region will be conducted. These courses will provide an opportunity to evaluate the course in terms of process and procedure, and aid in identifying and preparing instructors for future courses statewide. Upon completion of

this process, the RTTDC® will be rolled out to the identified TMAC Course Coordinators for each of the RTCCs.

In addition, a database of potential instructors has been generated from those in attendance at the course presented in December.

TMAC Elected Officers: The terms of office for the President-Elect, Secretary, and the Director-at-Large Hospital are all slated to expire at year's end. In anticipation, please be thinking of nominations for these offices for our next scheduled meeting.

5. **HOT TOPIC – Prothrombin Complex Concentrate (PCC): Is There a Place for PCC in the Massive Transfusion Protocol?**

“Prothrombin Complex Concentrate (PCC): Is There a Place for PCC in the Massive Transfusion Protocol?”, a presentation by Dr. Rick Kline, Trauma Medical Director, San Jose Regional Medical Center. **Refer to Attachment I.**

6. **HOT TOPIC – Could Trauma Centers Have Saved Bobby Kennedy?**

“Could Trauma Centers Have Saved Bobby Kennedy?”, a presentation by Dr. Mark Eastham, Neurosurgeon. A thought provoking topic that included news footage, audio recordings, newspaper clips, and personal interviews with witnesses and those who rendered care was presented in a peer review format with a detailed time line from the scene of the Ambassador Hotel to ultimate surgical intervention at Good Samaritan Hotel.

7. **HOT TOPIC – Registry Inclusion Criteria: Trauma Center, LEMSA, CEMSIS, & NTDB**

“Registry Inclusion Criteria: Trauma Center, Local Emergency Medical Services Agency (LEMSA), California Emergency Medical Services Information System (CEMSIS) - Trauma, & the National Trauma Data Bank® (NTDB®)”, a facilitated discussion lead by Linda Raby, RN.

Growing concerns were expressed regarding the differences in the registry inclusion and exclusion criteria at the various levels, Trauma Center, LEMSA, CEMSIS – Trauma, and the NTDB®.

Variances identified included the following (in no particular order):

- No ICD-9 code between 800 & 959.9;
- ICD-9 codes between 905-909.9 (late effects of injury);
- ICD-9 codes between 910-924.9 (superficial injuries);
- ICD-9 codes between 930-939.9 (foreign bodies);
- Elderly hip fractures meeting no other inclusion criteria;
- Hangings meeting no other inclusion criteria;
- Near drownings meeting no other inclusion criteria;
- Isolated burns; and
- Definition of *Trauma Services*.

Based upon the aforementioned, it is evident that these variances need to be addressed before any true comparisons can be made.

8. **REGIONAL TRAUMA COORDINATING COMMITTEE (RTCC) UPDATES:**

Region 1 - Northern:

- First Face-to-Face meeting scheduled for August 11, 2011 in Chico; and

- Charged with creating a template for implementing the RTTDC® course statewide.

Region 2 - Bay Area:

- Regional transfer poster underdevelopment;
- Extensive data discussions and *Best Practices*; and
- Exploring the feasibility of Performance Improvement filters for the region.

Region 3 - Central:

- Scheduled to meet next week;
- Efforts to standardize *Field Triage* in the region continue; and
- Regional transfer poster developed and on next week's agenda for approval.

Region 4 - South Western:

- Efforts to standardize *Field Triage* in the region continue;
- Exploring the feasibility, including dates and venues, of a Regional Trauma Summit for all constituents in early 2012; and
- Updating and implementing the *Strategic Plan* including the identified subcommittees.

Region 5 - South Eastern:

- Performance Improvement subcommittee is looking at developing filters specific to head injuries and anticoagulated patients; and
- Exploring the ability for Multi-Jurisdictional Air Providers to cross County borders without issues.

9. **TMAC BOARD & STANDING COMMITTEE REPORTS:**

Trauma Advisory Committee (TAC):

- Johnathan Jones resigned from the EMS Authority and has taken a position at the Kaiser facility in Vacaville;
- Exploring the feasibility of resurrecting the State's annual trauma conference and hosting it in the same location, San Diego, possibly in January in conjunction with the Summit;
- First case received for input on system related issues after failure to resolve at the local and RTCC level; and
- Looking to possibly assign tasks to the various regions to avoid duplicate efforts and to allow for best practices to be shared among the RTCCs.

10. **OPEN FORUM:** Tabled due to time constraints.

11. **NEXT MEETING:** The next general membership meeting is scheduled for Friday, September 30, 2011 at Sharp Memorial, San Diego, from 10:00 a.m. to 3:00 p.m.

12. **ADJOURNMENT:** The meeting was adjourned at 3:00 p.m. by Cheryl Wraa.

PROTEIN COMPLEX CONCENTRATES

PROTEIN COMPLEX CONCENTRATES
Instead of FFP

Quick Coumadin Review

- Coumadin inhibits the formation of Vitamin K associated coagulation factors II, VII, IX, X
- Coumadin half life is 30-40 hrs
- Coumadin also inhibits formation of Protein C and Protein S (anticoagulant factors)
- Is monitored by the INR blood test
- Typical therapeutic INR is 2-3 and sometimes higher for heart valve patients

Quick Coumadin Review

- Vitamin K is the classic antidote to coumadin
 - 5-10 mg po— works overnight
 - 10mg sq— works in half a day but unreliable absorption
 - 10mg iv— works in several hours but has some hypotensive risk if infused faster than 20-30 min
 - Repeat q 12 hr to desired INR goal
- The more vitamin K you give the longer it can take to achieve a therapeutic INR once coumadin is restarted (warfarin resistance)

Traditional INR Reversal

- Involves FFP infusion on the order of 4-6 units typically taking 2-4 hours to complete infusion
- There must be a better way?!?

Protein complex concentrates PCC

- Lyophilized concentrates of factors II, VII, IX, X, protein C, Protein S
- Derived from human donated plasma
- Varieties available in USA
 - Profilnine II, low levels of VII, IX, X
 - Bebulin II, low levels of VII, IX, X
 - FEIBA II, VII, IX, X
- At RMC we stock Profilnine

Uses of PCC

- FDA approved for use in hemophilia B (Christmas Disease—factor IX deficiency)
- Rapid reversal of Coumadin to normalize INR
- Off label use for reversing the antithrombotic effect of Coumadin in
 - Heart surgery
 - Intracranial bleeding
 - Traumatic hemorrhage

PROTEIN COMPLEX CONCENTRATES

PCC compared to FFP

- Less volume infused in favor of PCC
- Less time to complete infusion in favor of PCC
- Quicker favorable response of INR in favor of PCC
- FDA approved as substitute for FFP
- One comparative study showed PCC therapy was associated with significantly reduced clinical progression of intracranial or intracerebral hemorrhage compared to with FFP

PCC compared to FFP

- PCC is associated with less risk of disease transmission compared to FFP. But not zero risk
 - HIV
 - Hepatitis A, B, C
 - Herpes
 - Influenza
 - West Nile
 - Others

PCC compared to FFP

- Transfusion Associated Acute Lung Injury (TRALI) has not been described in use of PCC

Side effects of PCC

- Thromboembolic events range from 8 per 100,000 doses; to 7 events in 460 patients gleaned from a combination of studies from different institutions
 - 1.5 to 45% incidence in various studies
- Some variations of PCC contain heparin so beware of heparin induced thrombocytopenia (profilline has no heparin)
- Beware of use in presence of hepatic impairment as thrombosis and DIC risk is higher

Side effects of PCC

- Chills fever headache lethargy
- Rash
- Nausea vomiting
- Paresthesias
- dyspnea

Monitoring PCC Dosage

- Typically monitored by INR and less often factor IX levels
- Usual response to PCC in reversal of INR with in 30-60 minutes of infusion

PROTEIN COMPLEX CONCENTRATES

Dosing

- Comes as a powder that is reconstituted by pharmacy and given IV within 3 hours of mixing
- Typically one dose of 500 units to correct INR below 5
- Other references quote 25-50 units/kg (ie around 2000 units per dose) based on starting INR
 - INR 2-4-----25 unit/kg
 - INR 4-6-----35 unit/kg
 - INR >6-----50 unit/kg
- Second dose of 500 unit can be given if INR not corrected satisfactorily
- Infusion rate not to exceed 10ml/minute . Typical volume per dose is 20-30 ml

Cost Comparison

- Profilnine \$500 for 999 unit vial
 - \$ 450 per 500 unit dose
 - ~\$1200 per dose of 35 unit/kg dose
- Factor VII
 - 45 mcg/kg in 70 kg patient
 - ~ \$7000 per dose

Who is using PCC

- Cardiac surgeons
- Hematologists- for hemophilia B
- Trauma Surgeons
- American College of Chest Physicians has use of PCC in its guidelines

Proposed Algorithm of use

- INR < 2 with bleeding
 - Vit K 10mg IV over 20 minutes and/or
 - PCC 500 units IV over 20 minutes
- INR 2-5 with life threatening bleeding
 - Vit K 10 mg IV over 20 minutes
 - Profilnine 35 unit/kg IV over 20 minutes
 - Remeasure INR and repeat dose if needed
- INR >5 will likely need 2000 units or more of Profilnine
- Remember Profilnine is low in factor VII and FFP should still be considered in a multipronged approach