



**Triad Regional Advisory Committee  
Trauma/Disaster Meeting  
February 12, 2009**

**Quality Inn – Hanes Mall  
Winston-Salem, NC**

**Attendance List:**

The attendance list is on file and available upon request.

**Welcome and Introductions:** Gail Kluttz and Dr. Jay Wyatt

**Approval of Minutes**

T-RAC November 13, 2008 minutes approved as written.

**T-RAC Reports**

**1. Regional Disaster Preparedness Update - Jody Moore**

Jody reports the disaster meeting this morning was lightly attended as many are at the EMS Administrators conference. SMAT II training scheduled February 20 and 21 at Davidson County. The 2009 grant should be finalized/executed by March 31st and will require money be spent by June 15, 2009. There are many projects slated to occur within this timeframe. SMAT III is busy with various training opportunities in their communities. The Surry County EMS rep, Myron Waddell, will conduct a presentation later in this meeting. There are three workgroups currently with planning underway. The grant workgroup, the exercise planning workgroup is working on a master exercise calendar which will go three years out, and the medical response plan workgroup which has been tabled for evaluation at the state level.

**2. Performance Improvement Subcommittee - Gail Kluttz**

Gail reports at the last PI meeting deaths <24 hours after admission and deaths/no deaths in transfers >6 hours were reviewed. A group from High Point Regional Health System will present a PI case later.

**3. Education - Linda Kalafut**

Linda reports two classes are scheduled with the grant money; however, at this time dates have not been identified. Two TNCC courses will be held mid-March at Surry County and the warehouse in Lexington. Information regarding these and other courses offered is on the TRAC website. Another portion of the grant money will be spent on a rural trauma class, which is a very good basic class on

trauma care and transfer. It will be an 8-hour class, free of charge, with CMEs and CEUs offered. There are six areas within the region where this class will be offered. Bradley Dean announced two SMAT classes are scheduled March 3rd at Forsyth and Hickory. He will also send an email for the evacuation and medsled (purchased through the grant last year) training.

**4. Injury Prevention - Leigha Shepler**

Leigha reports on the seven goals and objectives of the statewide injury prevention strategic planning committee. There is a survey on SurveyMonkey for anyone who is interested in giving input on the objectives. SafeKids Northwest Piedmont is up and running now, chaired by Donna Joyner of Baptist Hospital and Myron Waddell at Surry County EMS. We now have six counties involved, Surry, Stokes, Davie, Davidson, Yadkin, and Forsyth. SafeKids Randolph County is also up and running as well as SafeKids Rockingham is up and running and will be applying for coalition status later this year. Because of the current economic situation funding is being cut dramatically. It is possible that injury prevention may be an area where funding may be cut entirely. Corporate program funding is down locally and nationally. Therefore, we will have to be more creative for our outreach funding.

**5. RACE - Stephanie Starling-Edwards**

Stephanie reports the West State Blitz Meeting is February 20th from 10 a.m. - 2 p.m. at the Statesville Civic Center. The objectives of the meeting are to review data including a) the ACTION Registry, b) the Mission Lifeline National EMS Survey, c) CLAR Registry, and d) RACE ER Intake Survey results, and will discuss implementing and refining interventions to improve systems for reperfusion for STEMI in target areas based on results of the intake forms and registry data results. Stephanie and Jeanie Kiger will schedule a time late summer to visit each referring facility and collect data. Mark your calendars for April 14th when the statewide EMS RACE meeting will be held. The purpose is to look at issues facing EMS with STEMI. There will also be a joint council meeting with critical care transport and air transport to review these issues as well. Tim Phalen's classes for paramedics are online and currently being underutilized. We have available to us for a year and if we continue utilization hopefully Greg Mears continue funding. Stephanie will help with any access issues.

**6. CISM Workgroup Update - Vickey Lewis**

Vickey reports CISM related issues were identified a few months ago. Mary Beth and Gail have been working with others throughout the region in the development for training. Joint training with the Surry Co. EMS and Northern Hospital of Surry County team was scenario-based and newer CISM team members were afforded opportunity to learn ways to handle situations from those who have been doing it for some years in a clinical based environment. At present they are moving towards the regional design. Mary Beth has assisted with the legal aspect of the regional team and support. Actively looking at two dates for a three day course at the basic level through ICISF and once the dates are locked in will be shared with everyone. Encourage to develop local teams that will feed into regional to create a way to work with each other. If local team is impacted it is not best to use local team but to use regional teams as they are a valuable resource for collaborative and multidisciplinary structure. EMS website will offer training opportunities. Development of an educational brochure is almost completed that

can be handed out when there is a crisis or handed out, more importantly, in a free education environment. Educate about self-care, educate about what to watch for in each other when there are stressful situations. Gail presented two sets of dates; however, conflicting courses/seminars on these dates were noted. Once dates are identified information will be communicated to all and listed on the TRAC website.

### **Emergency Department Reports**

- **Forsyth Medical Center - Joy Brown**  
No report.
- **High Point Regional - Meg Cashion**  
Meg reports they have voluntarily withdrawn application for Level III Trauma Center Designation. They received very good scores on patient care but there are documentation issues and process improvement issues which they are working on diligently. They hope to reapply within the year for Level III trauma center designation. The chest pain accreditation is in April, and April 30th there will be a Decon Disaster Drill.
- **Moses Cone - Heather Tuttle**  
Heather reports that their pediatric construction is on schedule with a tentative departmental opening date of April/May. They are continuing with the construction of Med Center High Point, a freestanding emergency department, with planned opening in June. She also announced the merger between Moses Cone emergency physician group and the emergency physician group at WFUBMC which began earlier this month.
- **NC Baptist Hospital - Holly Mason**  
Holly reports there will be an ENA meeting February 25th at 6 p.m. at The Sticht Center with presentation by Elizabeth Goodman, forensic nurse examiner coordinator for the program Baptist Hospital. She also reports the opening of a 4-bed psych unit, adding 5 additional beds to the ED in the minor care area. December 2008 was the busiest month on record with 8600 patients. Two nurses were deployed to Kentucky (ice storm). No report for AirCare.

### **New Business**

- **Golden Living Center Nursing Home Evacuation - Myron Waddell, Surry County EMS**  
Myron presented slideshow regarding disaster/emergency event in Surry County at the Golden Living Center (nursing home). On January 17th the nursing home staff called 911 and reported sprinkler system failure due to frozen pipes that eventually burst and they had sustained substantial water damage to at least one resident hallway. They immediately began moving residents to unaffected halls to get them out of the immediate area. At that time EMS response was initiated. A decision was made to that the residents would have to be evacuated and identified "sister" facilities to move the residents to in Martinsville and Galax, Virginia. Evacuation did start with EMS and members of the Golden Living staff. Seven patients were transferred to the Northern Hospital of Surry County due to their required level of care. The next morning buses and vans were brought in for continued evacuation of the remaining ambulatory patients to (sister) facilities in

Charlotte, Hendersonville, and Asheville as well as to homes of family members. At this point assistance was requested and call was made to Mary Beth Skarote and Bradley Dean to initiate the SMART response. Of note, there were also two other nursing care facilities having emergency events. Meeting the following morning attended by Triad RAC, NCOEMS, local rescue squads, and other agencies where goals were set for the day. Red Cross provided meals and snacks to the responders and nursing facility staff helping with the evacuation. The nursing care facility was shut down. The building and facility services have done an investigation and as of last week renovations have begun (due to mold and bacteria in one of the halls due to previous/current water damage). The facility houses 85-90 residents and at least 80 were evacuated in 1-2 day evacuation in an orderly manner. The only issue identified was regarding communications, i.e., not all agencies do not have access to all county frequencies. Otherwise, no staff injuries or poor outcomes for this event and continue to work on Action Agency Reports and welcome any comments.

- **Burn Trauma Update - Jared McFarland, WFUBMC**

Jared presented a brief overview of the burn center, 8-bed ICU. Sixteen floor beds are also used for patients with lesser burns. In 2008 we treated 225 burn patients in the burn center. These patients are 14-year-old or younger. Anyone who is younger is treated at Brenner Children's Hospital and they have treated over 70 patients. The burn center is a multidisciplinary team with physical therapy, recreational therapy, occupational therapy, respiratory therapy to name a few. Many patients have multisystem problems. Stabilization, nutrients/nutrition, followup of patient are important components. He described new programs which are being trialed at WFUBMC, i.e., Recall, Mist Therapy. He noted WFUBMC will be a trial center for Skin Printing, technology which will be available in 2-5 years, which is a grant funded program through the Armed Forces Institute.

The S.O.A.R. program is also instrumental in survivors offering assistance to patients in recovery and inpatients, as well as patient families. We are noticing huge advances in patient attitudes and behaviors. This is a valuable and significant peer support program with long lasting effects. The group meets monthly.

National Verification - late in 2008 the American Burn Association (ABA) visited to review the care we give from initial injury through rehabilitation, and they are checking to make sure we give the best care. The process is ongoing and once we are verified we will be one of two burn centers in North Carolina as well as one of about 60 in the nation.

Outreach Education - ongoing support and education in treating the burn patient. Have done a couple of pediatric lectures in Rowan as well as adult lectures on burns in surrounding hospitals and colleges. We are also beginning our school programs in middle and high schools.

EMS/Firefighter Shadowing - invited to be a part of our team for a day and shadow the burn team in the care of a burn patient to gain firsthand knowledge.

WFUBMC contact numbers - Dispatch (scene) 800-336-6224 and PAL (transfer) 800-277-7654, Donna Joyner (burn course) 336-716-0649, and Jim Johnson, PA (shadowing for a day) 336-716-6205.

Regionalization of burn care -the ABA has specific guidelines of what type of burns are sent to a burn center. ABA suggests verified burn centers as they have proven capability to handle such burn patients. However, if one has a small burn that can be handled Dr. Holmes serves as a resource and welcomes your questions. At one point Chapel Hill had to close beds to complete maintenance and we accepted their burn patients for that period of time. Due to staffing we had to hold a couple of our beds and Chapel Hill was able to take some of our burn patients.

- **Kentucky Deployment - Ken Bishop, WFUBMC**

Deployment on February 1st to Marion, Kentucky (60 miles west of Bowling Green, Kentucky) to supplement hospitals there that were severely stricken by the winter ice storm. This storm caused a total infrastructure shutdown, roads were impassable, no power. In fact, reports are the region may not have power until the end of March. This causes people who were at work were trapped at work and those who were at home had no way to get to work or they had to move their families into shelters. First call received Friday afternoon, January 30th. Team was put together Saturday morning and team was on the road February 1st, Sunday. They requested RNs, PAs, physicians, and pharmacists. We sent 8 RNs on Sunday and Monday we followed with PA and physician. Interesting this RAC coordinated with Mary Beth and Bradley. It was mostly a multi-regional response. Wellness checks were also done in the shelters at night and during the day team was split, some worked in the ED and some in clinics.

We received work midweek that they needed a second team and once the team was put together they canceled their request. However, they in fact did need a second team and the five RNs left Sunday, February 8th and are currently still deployed to a different hospital. A 30-bed community hospital, Livingstone, is where the second team is this week running the emergency department. Contact Mary Beth, Bradley or Ken should you want to be listed for future deployment.

Dr. Wyatt asked how the teams are deployed (since most roads were impassable) and how is the cost of deployment/personnel paid for. Ken reports that the Kentucky Highway Patrol assured our team that the major highway leading into the hospitals were clear. The problem was that most of the hospital staff live in the mountains where roads remained impassable.

The EMAC Agreement is signed by the governor of the state (KY) and our governor (NC) and had already been entered into when we received the first call. The EMAC Agreement has to be in place and signed in order for money to be exchanged, so the cost of salaries, travel, etc. will be absorbed by FEMA.

- Field Trauma Triage Guideline 2009 Update - Dr. Roy Alson**

Dr. Alson presented a brief overview of CDC published/updated 2009 Field Trauma Guidelines regarding trauma care. These are published in the MMW (Morbidity and Mortality Weekly) recommendations. Guideline formation has been ongoing since 1984 with subsequent development of ATLS courses. One rule that has stayed consistent is that under-triage is unacceptable. Most organizations within the region have used these guidelines very well. Dr. Alson reviewed some of the guidelines. The goal is to identify those individuals who are high risk trauma and who have serious problems vs those who can remain in the community. We still have mechanistic factors in our program. The new guidelines basically de-emphasize mechanism as a sole reason; the bigger emphasis is on the assessment and the patient. He also noted defined criteria as to where to take the patient (i.e., level of trauma center - I, II, III, or IV), and our guidelines need to be modified to include this. In the criteria they set limits as to what defines normal and abnormal, and they took out the use of revised trauma score <11. Only vital signs and parameters are used. The anatomic criteria changed from open and depressed skull fractures to open and/or depressed skull fractures. The presence of trauma and burns alone does not necessarily mandate a trauma center; the individual may actually need to go to a burn center. The guidelines for mechanism of injury criteria adds telemetry data and will be used more and more (automatic crash response). Finally, Dr. Alson requests the Triad RAC re-charter a group to take the new guidelines, put into the guidelines we have been using, and disseminate to all so that we are compliant.
- Trauma Case Presentation - Katie Arthurs, Jill Reuille, HPRHS and Dr. Shayn Martin, WFUBMC**

Katie Arthurs and Jill Reuille, nurses from HPRHS who cared for the patient from the moment of arrived until transfer out of the emergency department, presented a trauma case involving a multisystems trauma patient and the lessons learned from their experience. Patient is a 73-year-old female who arrived unconscious with decorticate posturing, GCS 3, trauma score 6. Vitals signs showed okay on monitor. She had a deep head laceration to the bone with oozing blood. Pupils - right 5 mm, left 3 mm, slow to respond. She actually had a hematoma from the neck to the thorax, down her entire right arm. Lungs did have symmetrical rise and fall. Noted some alarming things but also noted stable things. Abdomen was without obvious injury. She had normal bowel sounds. No obvious pelvic injury on primary assessment. RLE had huge 20 cms gaping laceration with subcutaneous tissue showing. RUE had large hematoma with lots of crepitus. Timeline presented. Started appropriate fluids/blood for resuscitation. Of note, CT scan done 54 minutes after arrival. Neurosurgery did meet in the CT scanner, trauma surgeon went with staff to CT scanner, so both were viewing scans as they were being done. Vitals noted and return to ED. Diagnostic findings: head showed several areas of hemorrhage in the brain, fractures to the right orbit, extensive maxillary trauma fractures, and subcutaneous emphysema. Neck and chest - she did have C2 fracture, questionable vertebral artery injury, extensive subq emphysema, pneumomediastinum, multiple rib fractures, also fracture left clavicle, fractured sternum and left sternoclavicular dislocation. In the pelvis a comminuted fracture of both pubic rami were found, as well as anterior column of

the right acetabulum, and fractures of the transverse process of L3. The CT highlighted an injury to the right common iliac vein with an extensive amount of fluid and soft tissue, and fluid and soft tissue tracking along the right external and internal iliac artery, and marked attenuation of the right external iliac vein indicating injury to that vein. Call was made to WFUBMC and transfer arrangements were made. Air transport in process because their critical care transport was not in the ED at that time. Patient at time was hypotensive and they continued routine trauma care. Duke Life Flight was en route, actually already in the air doing a PR event, the patient timed out 2 hours and 53 minutes from their arrival and an hour after they spoke to WFUBMC. Patient unfortunately passed away at WFUBMC.

PI issues discovered and learned from this event.

1. Earlier activation of trauma code was needed.
2. CT scanning did delay the transfer.
3. Flat plate x-ray of pelvis might have sufficed to identify the pelvic bleeding.
4. Dopamine use was not necessary, needed more volume, lots of blood.
5. Needed earlier contact with Level I Trauma Center.
6. Pelvic stabilization before transfer was needed.
7. Ground transport might have been faster.
8. Main issue though, less is more, i.e. the minimum number of interventions to identify the transfer may have given this patient a potentially greater chance of survival.

Education/training to resolve issues:

1. Collaboration with EMS to improve the quality of the code. HPRHS now has a landline that is used if radio transmission is of poor quality.
2. The emergency room staff has now been well educated that the PTAR truck does, in fact, transport ALS patients and a paramedic may be onboard.
3. ED staff, radiology, OR staff, orthopaedic surgeons have been educated on use of t-pod (pelvic stabilizer).
4. In the interim of acquiring the t-pod they used sheets to stabilize fracture and now the t-pod has been used.
5. Physicians are utilizing frequent use of the flat plate pelvic films.
6. Now have a FAST scan for trauma and the physicians have trained to look for fluid in the abdomen.

Conclusion, reviewing trauma care is a way to learn to improve care. Open and honest dialogue between transferring and receiving facilities is important. Being able to look at ourselves objectively and show the lessons learned will help patients in the future.

Dr. Shayn Martin, WFUBMC, reported on the care/conclusion of this case. When the patient arrived at WFUBMC patient was evaluated as a Level I trauma code due to the presence of hypotension. Patient did have an intact airway, confirmed the position of endotracheal tube, normal breath sounds. Patient also had bilateral chest tubes in place. Initial blood pressure was 86/56, tachycardic. Patient immediately received two liters of warmed crystalloid as well as two units of

blood. GCS was 7T at that point and was localizing to pain. On examination patient was not losing any blood externally. Patient then underwent a portable chest x-ray which demonstrates the bilateral chest tubes in place. Evidence of pneumothorax and massive amount of subcutaneous air had developed, likely from the pneumothoraces before the decompression with chest tubes. Patient then received a pelvic x-ray which identified fractures of bilateral inferior and superior pubic rami as well as femur fractures bilaterally. Patient also has extension of her pubic ramus fracture into her acetabulum on the right. Patient responded transiently to the crystalloid and blood given to become stable enough to undergo CT scans. She did have a FAST exam which was limited greatly by the amount of subcutaneous air. Patient presented unconscious and likely to have a brain injury (at High Point). Head CT demonstrates blood in the ventricles of the brain and some contusions in the parietal region. Reviewed chest and abdominal CT scans which showed hematoma and active bleeding coming from a blood vessel off the branch of the common iliac artery. Dr. Martin proceeded to explain treatment in the ED, OR and ICU during the patient's hospital course of five days, receiving ongoing resuscitation and supportive care. Patient did not have significant improvement in neurologic function and palliative care became involved. The family and all involved felt that patient would not want to be supported any longer so care was withdrawn on post-injury day #5. This patient had a traumatic brain injury.

Dr. Martin praised High Point Regional staff stepping up and reviewing this very interesting case which exemplifies point after point of taking care of trauma patients and looking at each part to identify ways to improve. PI is a learning process and opportunity for improvement. The most important issue regarding trauma patients is to call early. Dr. Chang illustrated a good case for trauma patients and importance of calling (a trauma center) early.

Dr. Martin reports that there will be a rural trauma team visiting six outside/referring facilities with the primary goal in helping them evaluate their resources as well as the patient when considering transfer to a trauma center.

Angelina Drews also proposed training of t-pod if there is interest.

Dr. Wyatt - kudos to the HPRHS team who are so forthcoming with concerns regarding the case presented today and the relatively expeditious way this was brought through the PI process. Dr. Alson emphasized the importance of stabilizing the patient to the best ability that the facility has in a trauma patient and to call early to get them to a trauma center for the care they need.

Meeting adjourned.

**T-RAC Meeting schedule for 2009 - All meetings held at the Quality Inn, Hanes Mall, Winston-Salem.**

**May 14, 2009**

**August 13, 2009**

**November 12, 2009**