Inside this issue:

**EMF Collective Protection System (COLPRO) Evaluation Exercise:** This Exercise coordinated by NEMCOMS focused on the construction and setup of the EMF for protection against chemical, biological and radiological exposure. After Action Reports (AARs) provide summary of key observations identified during the exercise.

**Committee on Tactical Combat Casualty Care Approves New TCCC Card:** The revised card maintains the simple format of the previous card, but incorporates a number of modifications that will allow better documentation of pre-hospital care.

**Medical Lessons from Recent Navy and Marine Corps Exercises/Operations:** AARs prepared by units following their participation in multiple exercises/operations provide numerous medical recommendations.

**Tuberculosis Outbreak Onboard USS ANZIO:** This brief summarizes the actions taken by NMPMU2 after notification of the initial diagnosis of the index case.

**Junctional Hemorrhage Control Devices:** This article provides information concerning three different products designed to control junctional hemorrhage where traditional tourniquets are ineffective or cannot be applied.

**Report to Congress on the Strategy to Transition to Use of Human-Based Methods for Certain Medical Training:** This report provides the strategy employed by DoD to refine, reduce, and when appropriate, to transition to use of human-based training methods (e.g. simulators, partial-task trainers, moulage, simulated combat environments, human cadaver) for certain medical training.

**Multi-Service Tactics, Techniques, and Procedures (TTPs) for Conducting Engagements and Employing Engagement Teams (NTTP3-57.5):** This TTP provides a framework for conducting medical engagements at the tactical level with the purpose of shaping and influencing operations to achieve a commander’s objectives.

**Security Force Assistance Advisor Teams in Regional Command Southwest (RC (SW)):** This report documents the experiences of advisor teams working to ensure a successful transition to independent operations by the Afghan National Security Forces.

**Charlie Medical Company, 782d Brigade Support Battalion, Observations in Support of Operations Enduring Freedom:** This brief provides concise and insightful recommended practices for units to use when partnering and mentoring Afghan medical personnel.

The Naval Operational Medical Lessons Learned Center (NOMLLC) newsletter is an “initial impression” summary that identifies key observations and potential lessons from various collection efforts. These observations highlight potential shortfalls, risks or issues experienced by units that may suggest a need for change. The observations are not service-level decisions. In addition, some information in this newsletter has been compiled from publicly available sources and is not official Navy policy. Although the information has been gathered from reliable sources, the currency and completeness of the information is subject to change and cannot be guaranteed. Your comments on any topics addressed in this newsletter or the website are welcomed. Please direct questions or comments to Mr. Virgil Gray at (850) 452-7711.
Expeditionary Medical Facility
Collective Protection System (COLPRO) Evaluation 2013

During May 2013, U.S. Navy Reservists and active duty forces constructed a Chemically Hardened Expeditionary Medical Facility (EMF) at Naval Weapons Station Cheatham Annex, Williamsburg, Va. The Collective Protection System (COLPRO) provides an EMF protection against chemical, biological and radiological exposure. This exercise provided the Navy an opportunity to evaluate the COLPRO concept for EMF facilities. Navy Reserve EMF Great Lakes ONE (EMFGL ONE) was the participating unit to evaluate the technology and functionality in a medical setting. Evaluation included construction, and partial equipment setup of a 70 bed EMF followed by a 72 hour patient exercise in a COLPRO environment. The evaluation also included Navy and contract engineer testing (pressure maintenance, air quality, latrine functionality, patient throughput and Bump-Through-Door-Airlock (BTDA) functionality, and deconstruction.

The beginning of the exercise started with the Seabees from Construction Battalion Maintenance Unit (CBMU) 202 and the Navel Expeditionary Medical Support Command (NEMSCOM) Assist Team surveying and staging build equipment as would happen in real world deployment. Upon arrival, the EMFGL personnel attended several lectures and safety briefings related to the construction of the EMF. This training along with previous COLPRO training attended by several members of the EMFGL staff last year at the Navy Expeditionary Medical Training Institute in Camp Pendleton, CA., enabled the EMFGL personnel to construct the hospital/staff berthing areas, stage equipment/supplies and ready to receive patients in 4.5 days. Several observations were identified during the evaluation and a detailed AAR was completed by NEMSCOM focusing on the construction and setup of the EMF. Additional observations provided by EMFGL staff addressed issues identified during the medical exercise.

It should be noted that the lack of communications/information technology (phones, radios, computers, intercom system) and medical equipment shortfalls identified within the EMFGL AAR were intentionally left out of the build process and never intended to be tested.

Key issues discussed in the AARs include:

- **Safety Issues** - Trip hazards, air/water quality, noise levels, bio hazard/human waste, fire plan, availability of personnel protective suits, and reported issues with the troop berthing bunk beds
- **EMF Layout/Functionality** - EMF layout not optimal for patient flow. Electrical/Information Technology (IT) wiring layout not conducive for work stations and medical equipment
- **Patient Care** - Constrains of available blood products, inadequate oxygen supply to provide general anesthesia and maintain oxygen for patients, and water availability for the central sterilization/operating rooms

Results from the evaluation will be used to support a formal fielding decision by the Joint Program Executive Officer for Chemical and Biological Defense for the Chemical Hardened EMF.
Optimizing trauma care delivery is paramount to saving lives on the battlefield. During the past decade of conflict, trauma care performance improvement at combat support hospitals and forward surgical teams in Afghanistan and Iraq has increased through Joint Trauma System (JTS) and DoD Trauma Registry data collection. Although casualties have benefitted greatly from a trauma system and registry that improves hospital care, there is still a lack for data collection and analysis to improve performance at the pre-hospital level of care. The lack of adequate documentation of pre-hospital care rendered to U.S. casualties is a clear obstacle to ongoing TCCC and Joint Trauma System efforts to improve that care. As a result, the CoTCCC recently released an updated version of the TCCC card in an effort to improve the documentation of pre-hospital care on the battlefield. The revised card maintains the simple format of the previous card, but incorporates a number of modifications that will allow better documentation of pre-hospital care. Upgrades included in the revised TCCC card include:

- The casualty Battle Roster Number (to link to the DoD Trauma Registry)
- Better definition of the mechanism of injury
- Improved documentation of tourniquet use
- Adds a section to record the use of junctional tourniquets
- Incorporates the use of pre-hospital plasma and blood
- Provides for documentation of hemoglobin oxygen saturation
- Adds a section for documentation on pain level
- Incorporates a section for supraglottic airway use
- Provides a space for the type of supraglottic airway
- Provides a space for type of chest seal
- Adds Ketamine in the analgesic section
- Incorporates the use of tranexamic acid
- Provides a space for documentation of an eye shield
- Provides a space for documentation of combat pill pack usage
- Provides a space for documentation of hypothermia prevention equipment

The CoTCCC document supporting change to the TCCC Casualty Card is available by [clicking here](#). Additional information concerning TCCC guidelines, training resources, and references can be accessed by [clicking here](#).
**Bold Alligator 2013 Medical AAR**

**Bold Alligator 13** was a Navy and Marine Corps-led synthetic exercise involving more than 3,500 personnel from 16 countries and Strike force NATO. The exercise simulated a force of 16,000 Marines and Sailors embarked aboard 17 naval vessels. The 11-day exercise was designed to improve the Navy and Marine Corps’ fundamental ability to integrate and execute large-scale operations from the sea. After the conclusion of the exercise the Commander, Amphibious Task force (CATF) Surgeon prepared an AAR highlighting medical observations and lessons learned throughout the exercise. Key observations include:

- Medical cell staffing is inadequate
- Medical logistic resupply can prove to be problematic during large amphibious operations
- Amphibious operations do not have preplanned mortuary affairs
- Coordination of available large deck and LPD surgically capable platforms was initially poor during the opening phases of the exercise
- Amphibious Emergency Humanitarian medical response is lacking on the LHD/LPD 17 class

**African Partnership-Station (APS) 2013 Medical AAR**

African Partnership Station (APS) was a month long engagement, which consisted of construction of two health outposts and a medically-focused professional exchange. U.S. Navy and Air Force medical personnel teamed with Cameroon medical professionals and worked side-by-side to provide healthcare in pediatrics, primary care, optometry, child/maternal healthcare during an APS outreach program. This exercise served to strengthen the U.S. - Cameroon partnership and increase the capacity of military and civilian medical practitioners. The APS AAR provides specific administrative, logistical, and material information identified during the exercise.

**Combat Logistics Regiment 2 (CLR-2), First 100 Days AAR**

Combat Logistics Regiment 2 (CLR-2) conducted a relief in place and transfer of authority (RIP/TOA) from Combat Logistics Regiment -15 on 26 Jan 2013. Based on the first three months of conducting operations within Helmand Province, Afghanistan as the Logistics combat Element (LCE),, CLR-2 prepared a detailed and comprehensive First 100 Days After Action Report (AAR) that addresses a wide range of medical topics that should be of great interest to follow-on units. Key medical points of interest include:

- Expeditionary Medical Equipments Sets
- Defining/Redefining the Mobil Trauma Team (MTT)
- Operational Impact of Surgical Capabilities
- Controlled Substance Inventory Board (CSIB)
- Role 1 Medical Providers and Support Staff
- Staff Authorized Medical Allowance List (AMAL) Inventories and Equipment Density List (EDL) Verification
Marine Corps Exercise After Action Reports with Medical Relevant Information

**3d Medical Battalion AAR for Cambodia Medical Exercise 2013.1** addresses the military-to-military medical training and subject matter expert (SME) exchanges that occurred during the January 2013 exercise. The objective of the exercise was to conduct combined medical stability operations (MSO) in conjunction with the Royal Cambodian Armed Forces (RCAF) and the U.S. Embassy in order to improve interoperability, increase the local medical capacity, and foster goodwill in keeping with theater security cooperation goals. In addition to providing basic and advanced medical training to help build the medical system capacity of the Cambodian military, battalion personnel reviewed medical records with RCAF employees in an effort to determine the type and frequency of the most common medical conditions of patients at the Phnom Penh military hospital. The **AAR** emphasizes the benefits that can be achieved for future operations through personal and corporate relationships established with Cambodian medical officers. Key observations identified include:

- Personal and corporate relationships with Cambodian medical officers offers valuable benefit to future operations for both the medical and military community. Name and face recognition in a non-corporate setting remains key for coordination in Cambodia.

- A side by side engagement between RCAF and USMC providers revealed that the RCAF physicians at PKM are typically technically proficient but often lack the pathophysiologic knowledge to understand why they are doing what they are doing. Additionally, they appear to lack a formal knowledge on patient safety practices, medical ethics and utilizing medical literature.

For more information on the 2013 Cambodia Medical Exercise, [click here](#).

**3d Dental Battalion AAR for Exercise Cobra Gold 2013** addresses the active role of U.S. Naval Dental Center personnel from the 3d Dental Battalion during the humanitarian cooperative health engagement component of the 32nd iteration of this annual, multinational, multiservice exercise, which involved various efforts to improve the quality of life and infrastructures of the local populace. In particular, health engagement included provision of dental, medical, optometric, pharmaceutical, and veterinarian services. The dental team from the 3d Dental Battalion provided information and educational resources to the local Thai healthcare workers (particularly, on cavity prevention) and administered limited dental treatment at the local site. Emphasis throughout was placed on education and preventative practices. The **AAR** highlights the cooperative nature of the various participating nations (Thailand, Malaysia, Korea, Japan and the U.S.).

**The Marine Air Group-13 Integrated Training Exercise (ITX)** held at Marine Corps Air Ground Combat Center, Twenty-nine Palms, CA. in Jan 2013 was designed to replace Enhanced Mojave Viper (EMV) and bring all the different aspects of a Marine Air Ground Task Force (MAGTF) together for numerous simulated missions that mirror those the MAGTF will perform on deployment. The purpose of the ITX is to keep a trained professional military force and to help drive the move away from sustainment operations, as practiced by EMV, back to the combined arms operations for which the Corps is famed. The Group Surgeon provided several medical recommendation which are highlighted in yellow within the **AAR**. These recommendations included: AMALs and medication requirements, facilities/communication/logistics requirements, flight line familiarization/medical response time, and medical coordination with supporting squadrons and Naval Hospital Twenty-nine Palms. [Click here](#), to view the AAR.
Marine Corps Exercises After Action Reports with Medical Relevant Information Continued

Bravo Company, 1st Battalion 3d Marines recently completed a five week exercise (Winter challenge 2013) on the Korean Peninsula with the Republic of Korea (ROK) Marine Corps as part of an on-going series of the Korean Military Exchange Program (KMEP). The exercise included training in Close Quarter Battle, Basic Individual Mountain Skills (skiing, snowshoeing, hiking, and rappelling), and Cold Weather Survival. Throughout the five-week exercise, the two services truly defined combined operations by living in the same quarters, sharing meals and conducting the same demanding training. The following after-action points are the combined efforts of Marines and leaders who participated in the exercise. Due to the success of the exercise and the desire by both forces to ensure it is a recurring part of the KMEPs, this AAR attempts to address as many of the points learned throughout the planning and execution phase of the exercise as much as possible. Specific medical points of interest include:

- **Augmentation of an Independent Duty Corpsman was invaluable** - The ability to diagnose/treat routine medical conditions, injuries sustained during training, and ensures proper medical care while minimizing the logistical strain by saving many trips to civilian hospitals
- **Use of Korean Medical facilities** - For emergency, life threatening injuries, no prior coordination is required. For non-life threatening injuries, units must first contact TRICARE (Pacific service reps located in Singapore) for authorization to use the local hospital
- **Medical considerations when training in cold weather** - Monitoring fluid intake, use of proper clothing, and provide education on hyperthermia/other environmental injuries

About 175 members from Combat Logistics Detachment (CLD) 39, 9th Engineering Support Battalion, 3rd Marine Logistics Group participated in Exercise Guahan Shield that was held at existing military facilities on Guam. Guahan Shield is being conducted as part of III MEF’s responsibility to ensure its Marines and Sailors are thoroughly trained to meet mission requirements and perform at the highest level of readiness. Guam provides the diverse expeditionary training opportunities Marines need to conduct dynamic, varied training evolutions necessary to maintain proficiency and operational readiness across the range of military operations. The exercise enhanced the Marines Corps ability to support and provide a rapid response to potential theatre crises and contingency operations in the Asia-Pacific region. The medical portion of this AAR identified the following:

- Providers should request medical credentialing from Naval Hospital (NH) Guam and Anderson AFB Clinic prior to exercise. Process can take several weeks.
- Providers require access to AHLTA/CHCS and Synapse in order to request laboratory, radiological studies, consultations and prescriptions. These programs should be installed on laptop computers prior to arrival
- Lack of easy access to a fixed medical facilities aboard Naval Computer & Telecommunications Station (NCST) caused CLD to rethink medical staffing and supply requirements
- When utilizing abandoned facilities onboard NCST request a habitability inspection prior to arrival. Inspection should include testing for mold, air quality, and available of potable water in all facilities that are utilized during the exercise.
- Educate all personnel on the treatment of heat casualties. Procure a “Heat Casualty Deck”

Click here to read all medical observations and recommendations.
Tuberculosis Outbreak Onboard USS ANZIO (CG-68)

Navy Environmental and Preventive Medicine Unit TWO (NEMPU2) conducted a Tuberculosis Contact Investigation after being notified of an active Tuberculosis (TB) case of a crewmember assigned to the USS AZIIO (CG-68). This brief summarizes the actions taken by NMPMU2 after notification of the initial diagnosis of the index case. These action included:

- Making appropriate notifications to the Virginia Department of Public Health (VDH)
- Initiated contact investigations with index case and his wife
- Identified infectivity period – 3 months before the onset of symptoms – end of September
- Identified all crew members and visitors
- Identified all medical staff who treated index case before TB diagnosis
- Conducted environmental and ventilation surveys
- Identified TB risk assessment for high risk, low to moderate risk, and very low to no risk groups
- Completed TST’s on crew and other possible contacts

Results of testing are as follows as of 06 June 2013:

- Two confirmed cases of pulmonary TB
  - One culture positive
  - One culture pending

- One suspected case of pulmonary TB
  - Awaiting cultures if negative will begin LTBI therapy

- 18 Personnel no longer in the Service
  - NEPMU2 mailed certified & restricted letters and VDH notifying

- 42 Service members PCSed during the infectivity period
  - 20 zero TSTs
  - 20 currently being assessed
  - 1 individual augmentee
  - 1 TAD

<table>
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<th>Group Tested</th>
<th>Positive</th>
<th>Negative</th>
<th>Rate Positive (%)</th>
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<td>25 (3)</td>
<td>255 (30)</td>
<td>8.9 (9.1)</td>
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<td>NMCP providers</td>
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<tr>
<td>Other AD Contacts</td>
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<td>0</td>
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<tr>
<td>TOTAL</td>
<td>25</td>
<td>266</td>
<td>8.6</td>
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</table>

The NMPMU2 brief provides a complete detailed timeline of the investigation, index and case #2 contact information, common systems of TB, and obstacles when diagnosis TB aboard small Navy ships.
Junctional Hemorrhage Control Devices

War has always spurred advances in trauma care and the present has been no exception. Of the many advances, the most significant is the modern combat tourniquet. The widespread use of this device has proven that there is no more effective way to stop compressible extremity hemorrhage. As a result of its effectiveness, limb exsanguination is no longer the leading cause of preventable death on today's battlefield; hemorrhage amenable to truncal tourniquets now is. Below are three different products designed to control junctional hemorrhage where traditional tourniquets are ineffective or cannot be applied.

The **SAM Junctional Tourniquet** offers a simple design. It is compact, easy to use (only four steps), and quick to apply (typically under 25 seconds). The Target Compression Device (TCD) is placed at or near the injury site and pumped up until the bleeding stops. Two TCDs can be used to occlude blood flow bilaterally if needed. The rugged design ensures that the device stays firmly attached to the patient during transport. In addition, the SAM® Junctional Tourniquet also stabilizes pelvic fractures. Recent studies indicate that IED-type injuries often have associated pelvic fractures. The patented buckle provides the clinically correct force every time, taking the guesswork out of tightening. This is vital in high stress environments where over-tightening or under-tightening could potentially be harmful.

For additional information regarding the SAM Junctional Tourniquet, [click here](#).

The **Junctional Emergency Treatment Tool (JETT)** provides two pressure pads in a single device with the ability to treat both unilateral and bilateral injuries, thereby stopping blood flow to the lower extremities without impeding respiration. It is configured for easy, rapid deployment and comes pre-assembled and ready for use in a compact, vacuum-sealed pouch. Additionally, the JETT is designed to allow for patient movement without dislodging or reducing pressure, enabling it to be effectively utilized in the pre-hospital environment. Another key advantage is that the JETT is a mechanical device rather than a pneumatic or air inflated device, which means that it maintains steady pressure on the injury regardless of atmospheric pressure changes, and is rugged enough to withstand the rigors of austere environments without fear of puncture or damage to an air bladder.

Here is a [video](#) released by the company demonstrating the functionality and features of the JETT.

The **Combat Ready Clamp (CRoC)** is the solution. Unlike inflatable, belt-like devices, the CRoC has a vise-like compression disk that provides the distinct life saving advantage of creating bi-lateral pressure exactly where it is needed most – stopping collateral flow and controlling hemorrhage. The CRoC is lightweight, durable, collapsible, low cube and can be assembled and applied in less than a minute. The CRoC is the first junctional hemorrhage device to receive FDA approval for the treat of junctional hemorrhage of the upper extremity. [Click here](#), to download/view instruction for use of the CRoC.

**Note:** The manufactures information provided on the products above is for informational purposes only and does not constitute endorsement.
The Department of Defense’s goal is to reduce the use of live animals in medical training and to increase the use of validated simulation training platforms. However, until there are validated alternatives, the experience and confidence gained by the use of live animals model in teaching life-saving procedures cannot be substituted by other training methods. Combat medic training is vital because the medic is the first responder who provides immediate care at the point of wounding.

DoD developed a strategy to transition to the use of human-based methods for training but cannot assume the risk to transition fully to human-based methods until simulation devices and measureable outcomes can be scientifically validated with training methods that achieve established combat casualty survival rates.

This report provides the strategy employed by DoD to refine, reduce, and when appropriate, to transition to use of human-based training methods (e.g. simulators, partial-task trainers, moulage, simulated combat environments, human cadaver) for certain medical training. The strategy includes a timeline illustrative of the research activities that will drive the development and procurement of simulation products.

**Specific elements addressed within the report:**

- Required research, development, testing and evaluation investments to validate human-based training methods
- Phased sustainment and readiness cost
- Identify any risk associated with transitioning to human-based training methods, including resource availability, anticipated technological development timelines, and potential impact on the present combat trauma training curricula
- Assess the potential effects of transitioning to human-based training methods on the quality of medical care delivered on the battlefield, including an reduction in competency of combat medical personnel.
- Assess the risks to maintaining the level of combat life-saver techniques performed by all members of the Armed Forces

**Risks identified within the report:**

- Initial validation studies indentified gaps in simulation technology that inform future research activities to resolve ruggedness concerns for combat casualty to improve parts modularity across simulation tools
- Premature removal of live animal model from combat casualty training programs would likely degrade combat trauma care on the battlefield
- Transition to alternative methods of training, without a firm basis derived from scientific evidence, could unnecessarily lead to decrease in the combat casualty survival rate

[Click here](#), to read the complete report.
Medical Support to Engagements

Medical support is a key component of an engagement strategy and includes a variety of capabilities, teams, and activities that can be employed as part of medical civil-military operations (MCMO) that can contribute to shaping the operational environment and restoring the confidence of the host nation (HN) population. It is an extension of the commander’s civil military operations plan and occurs at the strategic, operational, and tactical levels.

MCMO are a vital part of the overall engagement strategy, however, steps must be taken to ensure the support provided to the HN does not disrupt local systems or markets and the level and quality of care can be sustained. MCMO are all military health-related activities in support of the joint force commander that establish, enhance, maintain or influence relations between the joint or multinational force, the HN, multinational governmental, NGOs, and the civilian populace to facilitate military operations, achieve US operational objectives, and positively impact the health sector. They are conducted with other nonlethal shaping operations (e.g., economic development, education programs, and infrastructure development). Examples include:

1. Deploying hospital ships to impoverished countries.
2. Conducting a medical, dental, or veterinary clinic in a nearby town or village.
3. Providing mid-wife training to women in outlying areas.
4. Employing specialized healthcare teams.

For more information on conducting medical support to engagements, see Appendix H of this publication.

Additional information for medical support of civil affairs support to foreign humanitarian assistance is available by clicking here.
The Marine Corps Center for Lessons Learned recently published a report highlighting the findings of the Security Force Assistance Advisor Teams Regional Command Southwest. This report addresses the results of a collection effort from November 2012 to January 2013 that focused on recent Marine Corps efforts to respond to the International Security Assistance Force guidance for the transition from partnering, advise and assist operations to security force assistance. Although specific advisor team structure varied by type and size of ANSF unit advised, teams typically include the following billets or functions: team leader/senior advisor, assistant team leader, senior enlisted advisor, administration, intelligence, operations, training, logistics, medical, and communications. Six advisor teams range in size from around a dozen personnel to nearly three times that number for the large brigade teams. Key medical findings included:

- ANSF medical capabilities are limited by a critical shortage of trained professionals
- Noted improvement in the ability to evacuate their own causalities
- Most policemen are incapable or unwilling to render first aid

Click here for the complete report.


Charlie Medical Company, 782d Brigade Support Battalion, 4th Brigade Combat Team, 82d Airborne Division After Action Report is based on recent experiences on Forward Operating Base Pasab and provides concise and insightful recommended practices for units to use when partnering and mentoring Afghan medical personnel. Key recommendations are as follows:

- Learn the culture - Afghans has no sense of urgency, it’s just their way of doing business
- Display tactical and technical patience during training
- Select the right personnel for a successful partnership
- Plan training according to the ANA's capabilities, tools, and equipment

In addition to the aforementioned AAR, the Army Medical Lessons Learned Center recently posted a video that highlighted key observations/lessons concerning equipment deployment and split based operations based on the experiences of a previous Charlie Medical Company Commander who was deployed to RC-West, Camp Stone, Herat Province, Afghanistan. Although the information was identified during a previous deployment, it remains useful and relevant today.