

Competing to Increase Capability

The Team From the Land Down Under's Experience at the National Tactical Medicine Competition 2018

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Introduction

In late November 2017, a good friend and colleague, Ben Davoren, called me to ask if I would join forces with him and compete as Team TacMed Australia in the National Tactical Medicine Competition 2018 (NTMC 2018), to be held on 13 May 2018 in Charlotte, North Carolina. Ben's energy for tactical medicine is infectious and it took very little for him to convince me to join him. With an "I'm in, mate," we joined forces and entered.

The NTMC is an event hosted by Special Operations Aid & Rescue (SOAR) that provides tactical medical practitioners from around the world the opportunity to collaborate and compete within a community of peers and subject matter experts. The competition has been developed to foster excellence and precedes the Special Operations Medicine Scientific Assembly (SOMSA), presenting an opportunity for "iron to sharpen iron" as we put our tactical medical skills to the test against other teams of tactical medical professionals from around the world.

Overview of NTMC18

Of the 10 teams that competed in the competition, seven were from the United States with the other three teams coming from the Netherlands, Canada and Australia. Each competitive team consisted of two medics who augmented a SWAT team with a K9 capability. At the start line, a situation brief and key points of information was provided to the teams. The staff of SOAR consisted of assessors and role players who drove the tactical narrative of the competition.

The competition scoring structure is based on the Tactical Emergency Casualty Care (TECC), K9 TECC, and Prolonged Field Care Guidelines, and teams are expected to master these clinical guidelines. Additionally, teams are required to have a good understanding of technical rescue and tactical bailout techniques.

Advance to Contact—Lead Up Training

Ben and I come from a military and emergency medical services (EMS) background and have been involved in training police tactical teams; however, at the time of the competition, neither of us was serving in an active TEMS unit. We are both

executive board members of the Australian Tactical Medical Association (ATMA) and we wanted to showcase the tactical medical skillsets and capabilities of Australian practitioners. Moreover, we wanted to ensure that we were ready for the competition on the international stage, and we decided early on that we would need to start a structured program to develop and compete as a team.

We commenced training early in January 2018, with a focus on physical fitness, theoretical understanding of the medical guidelines, and practical skills application with a crawl—walk—run methodology in all aspects of our training.

Our first training session consisted of a planning meeting. Despite being highly skilled clinicians Ben and I did not routinely work together so our first task was to standardize our training. We commenced with basic component training to ensure we understood our strengths and limitations in a bland, low-stress training environment. After this, we progressed onto short, high-repetition scenarios, with a short feedback cycle, breaking them down into zones of care for ease of progression. After grasping the concepts of direct threat care with inclusion of the relevant microskills into the simulation, we moved onto another zone of care until reaching prolonged field care training.

It was at this point that we started to build up into long scenarios, featuring complex cases. In an effort to acknowledge the complexity, we took two steps back and moved into a low-stress environment for a few sessions. Once we were satisfied that we could progress, we added complexity, hazards, and unexpected clinical course until finally we progressed to high-fidelity, high-stress cases in the month before the competition.

To facilitate our training, we needed a training location in the city of Townsville, North Queensland. We were fortunate enough to collaborate with a local university, CQUniversity (CQU), which runs paramedic undergraduate and postgraduate programs. CQU allowed us to use their state-of-the-art simulation laboratory and surrounding grounds, which was an invaluable asset in our clinical preparation. As our relationship with the university grew, senior staff and paramedic students from the paramedicine department became increasingly involved in our training. The team at the Townsville campus

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began by helping us set up for clinical training sessions and providing casualty role players, and toward our final weeks of preparation, the team at the Townsville CQU Campus ran a multistation high-threat simulation to test us as a team.

During our training process, we identified that we needed to have our clinical processes and skills assessed by an experienced clinician. We were fortunate to enlist the help of Dr Jeremy Smith, FACEM, who donated a significant amount of his time to run clinical training and simulation sessions for us. This developed our ability to make timeous complex clinical decisions under pressure while managing the physiological effects of stress in the high-threat tactical environment.

Finally, we enlisted the help of an Australian Police Tactical Group. This gave us the opportunity to train with an operational team and refine our tactical skills in a team environment. Skills such as closed-loop communication, situational awareness and response, method of entry, threat analysis, crew resource management, and roping were practiced to ensure we could function as a highly skilled team during an evolving tactical event. Senior Constable David Healey and the QLD Police SERT Teams stepped up and supported us in our preparation efforts.

The Competition

The day of the competition quickly came around, and before we knew it, we were on the way to the competition facility located at Gaston College, Dallas, North Carolina. On arrival, we were immediately quarantined with the rest of the teams in a large hangar. Phones were turned off, last-minute equipment prep was conducted, and teams took the time to roll over their TTPs as pairs. Our quarantined time was an opportunity to talk with the other teams in a relaxed environment.



It was inspiring to see that even in the hours before competing against each other there was a strong sense of camaraderie among the teams. Every team in the room shared a common goal—to save lives—and teams shared tips and information to level the playing field for the competition as some teams had arrived late and were unable to attend the equipment familiarization session.

Team TacMed Australia was third in line, following a final kit check and brief we were led outside to the starting point. The first thing I remember was the dry heat of Charlotte; we had trained in the tropical summer heat of Townsville, North Queensland, but that did not change how physically demanding the course would be. We linked in with the SWAT team, fanned out into a formation and were directed about 100 m down the road to confront a scenario of an officer who had been shot and was lying in the middle of the road.

The threat had moved on, but we moved under cover with the SWAT team to the downed officer. He lay bleeding in the open, and after dragging him behind some nearby vehicles for cover



and concealment, we immediately set to work, meticulously running through our MARCH assessment while the SWAT team covered us as we worked heads down.

The officer had been shot in the neck, chest, and leg and was bleeding uncontrollably from all the wound sites. On arrival, he was conscious and giving us the direction of the threat, but with the severity of his injuries, he quickly became unconscious. Despite aggressive attempts to control the bleeding, the patient lost cardiac output. Our SWAT team leader noted we had to move as the threat had not yet been suppressed. After decompressing both sides of his chest and still having no return of spontaneous circulation, we decided to triage black the patient and move on. We left him in the fallen angel position for the attention of following rescue task force.



It was a challenging and emotionally confronting stand so early in the competition but reflected the harsh reality of providing care to the injured in a direct threat and dynamic tactical environment. With no time to reflect on the treatment that we had just provided the fallen officer, we moved into the forest to locate and isolate the threat.

We staged in a thick forest behind some cabins and were informed that the threat had moved up around some buildings 200 m ahead of us. Smoke was thrown to conceal our bound across the open area to the next point of cover as we moved toward the target.

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As soon as we were in the open, we were engaged by the shooter from a concealed position with rapid automatic fire; two SWAT officers in the team sustained injuries.

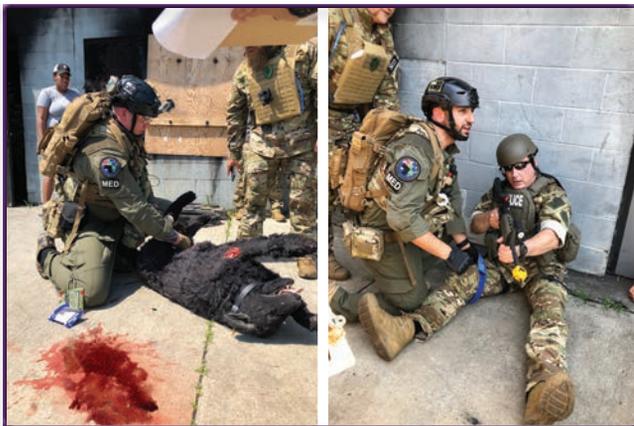
One officer who had been shot in the arm and abdomen fell in the fire lane, and after some emotive language, motivation, and physical assistance from Ben, the casualty was moved to cover for assessment and treatment. Ben and I were conscious of being split during our training, so we always made an effort to re-group as quickly as possible to form a casualty clearing point (CCP) and centralize our treatment and equipment.

In this serial, we set up behind a building and instructed the SWAT team to provide security. We were in an indirect threat zone so we moved quickly to assess both patients. One officer had sustained a laceration to the head and a gunshot wound (GSW) to the leg. He was confused and still in possession of his weapon system. I elected to have him disarmed based on his clinical presentation and level of consciousness. After applying a tourniquet and bandaging his head, he was handed off to one of the other SWAT members who was instructed to move him out of the warm zone to a waiting ambulance.

The second patient has sustained a GSW to the abdomen and arm. He was hysterical and combative and once again required some reassurance from Ben to settle him down. Once Ben had conducted a thorough assessment, controlled his major hemorrhage and bandaged his abdominal wounds he was also handed off to the waiting ambulance for immediate evacuation to the cold zone.

Once we consolidated in order to move, we began our handover of the casualties to the rescue task force so that they could be backloaded to the cold zone, and the K9 officer pair advanced to contact to clear the route. Shortly after we lost sight of the pair we heard them trigger an explosive device. After the explosive device had been triggered, we moved in to provide care to the injured pair. The team immediately pushed forward and found two patients lying on the ground.

The K9 had severe torso trauma and bilateral partial amputations of the hindlegs above the knees. The K9 handler had an amputated left leg and a severe inguinal junctional hemorrhage. The SOAR team had deliberately equipped us with two tourniquets each and by this stage we had run out of tourniquets.



Ben set to work treating the K9 using conforming gauze and pressure dressings to control the massive hemorrhage. The K9 then went into respiratory distress, leading Ben to decompress the K9 officer's chest; this resulted in instant relief for the casualty.



With no tourniquets left in my kit, I directed the SWAT team leader to source one while I provided indirect pressure above the wound. Once he arrived at my location, a tourniquet was applied to stem the lower limb bleeding and I moved to pack the junctional wound with hemostatic gauze. This proved ineffective, and I elected to escalate to a junctional tourniquet, which was then successfully applied, controlling the bleeding.

A MARCH assessment was conducted that revealed a GSW to the right side of the chest with an auxiliary exit wound. Vented chest seals were placed on both wounds. By this time, the SWAT team leader had called in a helicopter, which was 2 minutes out from the landing zone (LZ).

After being instructed to leave the now-stable K9 officer behind with the rescue task force, we loaded the handler onto a talon stretcher and moved toward the trailer LZ.

On the way to the LZ, we were faced with a chained and locked gate and were required to "unlock" the padlock with a breach pen. We placed the casualty at a safe distance from the gate and I stayed with him. Ben moved forward and used a breach pen that he pulled from my kit to cut the padlock on the chain. Once the breach pen had burned out, Ben kicked the now hot

but defeated padlock, and the gate swung open. While Ben was engaged in breaching the lock, the patient began vomiting and required some lateral positioning to clear his airway.

We knew there was a helicopter inbound and as we moved through the gate, we were ushered into a full-sized Blackhawk simulator complete with sound and downdraft supplied by ITTS. This was one of the highlights of the competition and demonstrated the commitment to authenticity by the organizers of the event.

We loaded the stretcher into the helicopter and were advised we would be traveling with the patient. Once inside, we reassessed the patient and decided a definitive airway was required. Ben conducted a cricothyrotomy while I gained intravenous access. Smoke was billowing into the cabin at this point, and Ben, fully immersed in the simulation, became very concerned that we were going to have to bail out the aircraft in a hurry.

After reassurance from the aircrew that we were not facing a crash landing, we continued and attached the patient to a SAVE II ventilator and provided some ketamine for ongoing sedation.

We were then notified that the aircrewman was suffering from chest pain. I was eager not to let this become a huge distraction and so quickly assessed that he had not been shot among all the action. After noting there were no injuries and that he had a history of heart problems, I administered some aspirin and provided some intramuscular analgesia. He was then left in his chair and monitored with the pilot being asked to notify our receiving hospital of a second medical patient.

On landing, we were faced with our final station, technical rescue. Ben and I had very little training in this area and were provided with a quick brief on the CTOMS Trace System the day before the completion.

We now had 12 minutes to move our casualty via a rope hoist in a SKEDKO stretcher from the ground, onto the top of a three-story building, across the roof of the building, and then lower him down two stories to the finish line. We had one CTOMS Trace system, a quick soldiers five on what to do, and the eagerness to make sure that we completed the stand.

The next 12 minutes was the most stressful for us as a team as we had no roping experience and had only been trained on the system the day before. With the mindset to adapt and overcome and the mission to save our casualty and get him to the finish line, we managed to complete the challenge within the allocated time frame safely. This was such a surprise and relief to us both that I think we cracked ribs and we bro-hugged to celebrate the completion of what was a very enjoyable but challenging competition.

The take-home point for us was to stay focused on patient care but make sure that we maintained situational awareness to adapt to the continually evolving tactical environment. The scenario mimicked the dynamic environment that a tactical medical practitioner would need to thrive in—it was fast, physical, and dangerous, but doing the basics well and choosing the most appropriate interventions depending on the threat allowed for mission success.



Fostering Development— “Competition to Advance Capability”

Like the title of this article, we believe that competition indeed advances capability. In the absence of real threat, the most significant stressor is to push an individual or team to the limit, test their composure, skills, communication, and resolve in competition.

The desire to represent, overcome, and prevail in a competitive situation also pushes one to apply themselves in the lead-up and to do the preparatory legwork, getting out of one’s comfort zone and trying new techniques. We also found that being forced to run with a standardized kit load out meant that we were genuinely reliant on creating depth in our skills, knowledge, and physical capability instead of relying on multiple pieces of specialized equipment.

We would like to commend SOAR, the sponsors and volunteers of NTMC 2018 for developing a world-class event to further improve the profile of tactical medicine worldwide and for providing an opportunity for tactical medical practitioners to come together in a positive environment and compete in skills

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