Principles and Applications of Military Leadership to Improve Civilian Trauma Medicine Training

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Abstract

This article examines how the principles and applications of military leadership improve civilian trauma medicine training. Military leaders have been pivotal in driving the development and improvement of a multidisciplinary trauma care course, the Definitive Perioperative Nurse Trauma Course (DPNTC). The development of the DPNTC has benefited from leadership principles underpinned by the experiences and unique skills that military health professionals gain through the shared military culture between care providers and care recipients.[1]

The article will explore how a group of military leaders developed a targeted nursing curriculum within a multidisciplinary course, which suggests a way forward when developing further training for a multidisciplinary audience. From this experience, this article postulates that military leaders, principally military nurses, are well suited to roles in education and training, particularly when this involves learning across disparate groups and multidisciplinary training.[2]

Introduction

The purpose of the paper is to describe the development of the Definitive Perioperative Nurse Trauma Course (DPNTC) within the Definitive Surgical Trauma Course (DSTC). The development of the DPNTC has benefited from the leadership underpinned by the unique skills that military health professionals gain through their shared military culture.[11]i Military health professionals impart their experiences within the DSTC to contribute to civilian trauma training and teamwork. Military health professionals work at the interface of multiple trauma management challenges, such as highly mobile frontlines, extended lines of logistics and complex evacuation chains.[3] In the civilian setting, materials and resources are contrasted by supply chains that guarantee delivery in a reasonable timeframe. The experiences of military colleagues lend to what can be accomplished when materials are unavailable and what can be achieved with what is at hand and readily available, as military surgery operates within an echeloned system of care. The surgical team understands the environment and the limits of their contingencies.[3] The military surgical team, as opposed to their civilian counterparts, must alter their mindset to a staged approach to surgical care.[3] The civilian and military systems commit to delivering trauma care aligned to the principles of the civilian trauma systems approach.[3] The austere environments and multiple challenges faced by military surgical teams and guided by their leadership principles further contribute to civilian trauma training through their experiences in simulation. The DSTC develops acceptable means of identifying learning needs and promoting surgical training in trauma. A three-day high-fidelity training course for anaesthetists, perioperative nurses and surgeons focuses on the care of the critically ill patient suffering trauma, answering the question of what happens after advanced trauma life support (ATLS). While initially a course for surgeons, there has been recognition that successful trauma outcomes requires team training.

The International Association for Trauma Surgery and Intensive Care (IATSIC) members approved the DSTC curriculum during International Surgical Week held in Vienna in 1999.[3] The DSTC would focus on lifesaving surgical techniques and

1 As Kee et al (2005, p. 1042) discussed, all nurses in the military are officers and military personnel in one hospital are likely to know personnel in another facility, which makes the military healthcare culture distinct from civilian settings. Findings from Kee et al. (2005) determined that there were differences in the professional environment of military nurses, compared to that of civilian nurses, even when civilian nurses work together with military nurses.

decision making for the surgeon who faced surgical trauma on an infrequent basis, supplementing the knowledge attained in the ATLS course.[3] The ATLS, in comparison to the DSTC, focuses on the initial management of the severely injured and the consequences contributing to death within the first hour after injury.[3] The DSTC has a core group of military medical and nurse leaders motivated to develop a targeted nursing curriculum for the DSTC, suggesting a way forward when developing further training for the entire DSTC. This experience postulates that military leaders (in this case, military nurses) are well suited to roles in education and training, particularly when this involves learning across disparate groups and their multidisciplinary training.[2]

(Overview of DSTC & DPNTC course: see appendix)

Issues with the training programs for our civilian nurse participants

The DPNTC course is a conjoined course within the DSTC. The DPNTC intends to develop nurse leaders in trauma, where injury is the world's third leading cause of death.[3] The DPNTC was first offered in Sydney in July 2004. The first international DPNTC course was conducted in New Zealand in August 2004. The DPNTC had its origins in a meeting held in August 2003, as a particular need for further education in perioperative nursing care of the trauma patient was realised, particularly in teamwork and collaboration during trauma surgery where the lack of team stability may place additional risk on the trauma patient.[4] Partly, that recognition has emerged because of the military service undertaken by course faculty members. Military reservists, who are part of the faculty, are also skilled civilian professionals who train and provide time and expertise for what is usually operational military service.[5]

As the DPNTC course developed, it became clear that while the existing program represented a unique opportunity for developing team learning and training, the course did not fully realise this. In part, the didactic presentation of the course materials, with sessions comprising a rapid-fire series of lectures focusing on surgical decision making, complex pathophysiology and surgical skills and techniques, left some feeling alienated. Faculty also observed that the mix of didactic lectures, some from surgeon faculty and others presented by nurse faculty in separate sessions, suited the more experienced nurses but did not resonate as well with the rest of the participants. The participants were not reacting to the course as we expected. Rather than joining in with the surgeons and anaesthetists in the lively discussions, many nurses were left floundering. It was clear that the DPNTC needed to be delivered in a more easily digestible format, which better-engaged participants. Borrowing from educational theories by Dewey and others, the course needed to be redesigned with the following three key principles in mind:[6]

1. Each learner needs knowledge to learn. It is impossible to assimilate new knowledge without having some structure developed from previous knowledge to build on.
2. People need to be motivated to learn. Motivation provides the answer to the question, Why am I learning this? Or, more importantly, Why would I want to learn this?
3. Learning is a social activity. Rather than isolating learners from social interaction in a darkened lecture theatre, the course could create synergies through active participation with the course materials, conversation and learning from each other.[7]

Military concepts and civilian trauma training

Because of our collective military experience, we have learned that high-performing teams are the crucial element to mission success. Many readers will be aware that this is apparent when deploying on operational duties, where languid handovers and time to find your feet are a luxury; teams need to be ready to hit the ground running. This is assisted when deployed with military health professionals who have worked and trained together on familiar platforms. However, these deployments are often into disparate Australian or multinational teams where the member, equipment, hierarchies, processes, supports and environments are uncertain.[3] In these situations, the ability to form teams, develop a shared understanding and create workable systems of care are more important attributes than individual clinical skills.[5]

The French Military's Advanced Course for Deployment Surgery (ACDS) is conducted for military surgeons before deployment. It prepares them to treat penetrating, blunt and blast trauma and non-traumatic emergencies and provide care to civilian populations. The course, like the DSTC, focuses on a combination of didactic lectures, case reports of deployment experiences and practical (cadaveric and high-fidelity simulation) workshops. Like the DSTC, the ACDS militates against the lack of trauma exposure that most military and civilian surgeons do not have by providing a wide range of skills and expertise in treating complex trauma casualties.[8]

Courses such as the ACDS and DSTC provide a specific skill set and knowledge base that civilian training does not. In the case of ACDS, no specific military course existed for the French before 2007.(8) According to the authors, the ACDS seems to provide appropriate training for military surgeons. Another training module was developed in 2012, which trains team members to work effectively and is built around standardised sequences of reception and triage of simulated mass casualties and management of patients with massive haemorrhage.[8]

According to Stansfield and Tai (2021), the use of practical and low-cost measures found in simulation has the potential to form part of a craft skill maintenance schedule to be used with other measures, such as cognitive rehearsal and practice of specific techniques on surgical jigs and higher fidelity perfused models (such as those found on the second and final day of the DSTC program).[9] Stansfield and Tai (2021) contend that there is a medium-term requirement for the military surgical community to research and develop acceptable means of identifying learning needs and preventing surgical decay. This would facilitate the retention of expensively gained and hard-won surgical craft skills and could be maintained by identifying and understanding surgical decay and delivering effective solutions to help secure optimal patient outcomes through regular team training.[8]

Team training within the DSTC is emphasised to improve performance. The article by Forse, Bramble and McQuillan (2011) supports that team training can improve operating room performance and substantiates increasing evidence that supports team training.[10] Forse et al. (2011) determined that elements of multidisciplinary training such as checklists and the standardisation of systems appeared to remain with the participants after training ceased and that continued team training would enhance performance.[10] Such findings have spurred our continued development of the multidisciplinary training in the DPNTC, emphasising the value of system standardisation, protocols and checklists. Multidisciplinary simulation exercises in military medicine are also found in pre-deployment simulated training programs such as HOSPEX (Hospital Exercise).[11] HOSPEX is conducted by the UK Defence Medical Services (DMS) for a field hospital and the personnel working in it, incorporating a three-level framework for simulation; micro-simulation (individuals), meso-simulation (surgical teams) and macro-simulation (entire hospitals).[12] The Australian Army has adopted HOSPEX; however, the Australian version has not yet been tested on deployment experiences. Therefore, the experiences of other militaries and civilian disaster relief organisations are necessary to evaluate their echeloned capability.[12] The DSTC also offers the necessary simulation training to complement micro-simulation and meso-simulation, with the primary goal being to improve the safety and quality of care provided by the multidisciplinary surgical team.[11]

Similarly, civilian operating theatre teams, formed over time, developed their own strategies and behaviours to perform largely elective and non-time critical emergency surgery during business hours. However, high-end trauma often arrives unexpectedly, late at night and on weekends where it is likely that many of the staff on duty or called in may not have worked together previously, and team composition and roles will be uncertain. Here the ability to quickly organise and identify leaders who can provide synergistic and prioritised activity is critical. In these situations, the military rank structure, with a common foundation in training and experience, may be the ideal example of organisational leadership, meaningful communication and collegiality. As Foley et al. (2002) discovered, there is more collegiality and better communication between military nurses and physicians in the military than compared to civilian nurses and physicians.[13] This is thought to be due to a shared understanding for military health professionals that arises from shared training and experience. This is codified in the military rank structure, where a nurse may be higher ranked than a doctor and will direct their work within a shared understanding of the military objectives.[13]

The flattening of social hierarchies occurs in the military along linear paths, whereby design-centric leadership reveals an organisational environment and removes itself from everyday management for self-managed behaviours to emerge.[14] Now, military nurse leaders are pivotal in military medicine as they have the experience and skills to work as peers rather than subordinates. This has determined and demanded (politely) that our voices be heard. Therefore, how does mutual respect from military medicine, the battlefield and the military rank structure, flatten out the civilian systems that enable nurses to have a voice? The challenge for us as course faculty was codifying this respect and willingness to follow among our civilian 'situational leaders' in trauma.

Crew resource management and damage control

Broader military experience has directly led to the development of two key concepts that have become indispensable in modern trauma and medical care.

The first is a process aircrew use to identify and manage threats to ensure safe and effective mission operations in a very unforgiving environment. Termed Crew Resource Management (CRM), this is a set of concepts that target individual and team behaviours such as communication, leadership, interpersonal relations, conflict resolution, preparation, planning and vigilance to enhance team communication and coordination to reduce errors and improve team response, particularly in high-stress and emergency situations.[15]

The naval concept of damage control comes from a shared understanding of a ship's company in war and their actions when threats were realised, and the ship was on fire and sinking. Borrowed from the United States Navy, it represents 'the capacity of a ship to absorb damage and maintain mission integrity'.[16] Damage control are attempts by the ship's company to limit the extent and severity of damage and recover from it by working with the damage tolerance of the vessel.[17] Like a trauma patient, the provision for limiting damage is a function of the ship's design—or a patient's reserve. In a ship, armour compartmentation, systems distribution, redundancy and selection of materials contribute to the ship's integrity. The ship's crew (read surgical team) controls further damage from either fire or flooding to recover combat capability, functionality and manoeuvrability.[17] Damage control is a set of actions leading to coordinated efforts to localise damage while making minimal emergency repairs to get the ship to its most viable operational state. The concept has influenced military care and disaster planning in mass casualty incidents by maximising limited resources of supplies or time.[3] The concept, as applied to surgery, has been performed for over a century since Pringle first packed an injured liver, delaying the deterioration of a patient in a state of physiological frailty from exsanguination.[3]

Trauma care is different to elective care

A key tenant of the course and an understanding for all trauma staff is that effective trauma care differs from our normal predictable practice. For example, a misheard instruction leading to the wrong piece of equipment being provided during an elective procedure will be unlikely to gravely affect the patients' outcome. However, not having the haemostat ready when releasing the pressure of a severed artery can be fatal. Similarly, the physiological effects of additional blood loss during definitive surgical repairs will be tolerated very differently between the well-prepared elective patient and the coagulopathic, acidotic and cold (typical) trauma patient. The notion of 'live to fight another day' is vital in damage control care, and like a floundering warship struck by a torpedo, survivability for the trauma patient relies upon a skilled crew working effectively and quickly to attain a minimal survivable repair to restore function.

The central role of communication in raising team performance

Team training in communication is paramount in the operating room (OR). Combined with good leadership principles, it promotes a culture that fosters collegial relationships with mutual respect. We have found that military operations require effective communication, transferrable in the OR and the surgical team planning surgery for the patient. A clear understanding of a treatment plan allows the team to manage human and material resources appropriately.

Bunin et al. (2021) define meaningful communication as clear, concise and direct, using closed-loop techniques for confirmation.[18] In closed-loop communication, once a team member has requested information or asked for a procedure from an individual, the individual would acknowledge the request explicitly and state when it is complete. This allows the sender to know the receiver has the message avoiding errors of omission.[19] Most importantly, without such guiding principles, communication quickly degrades to noise, with noise leading to confusion and confusion to mission failure. In a crisis, teams are often required to work at the upper limit of their capacity. However, we also know that simple tasks are difficult under stressful conditions. Meaningful team communication can help move the team forward by sharing goals, creating a safe environment and taking care of the team so they will take care of everything else.[18]

Principles of adult learning

Feedback offered the opportunity for reflection, and subsequent meetings of the DPNTC faculty led to the continuous revision of the curriculum. Unfortunately, during this process, we failed to address the fundamental principles of adult education. The theories of andragogy, coined by Malcolm Knowles (1998), offered principles of adult education that differed from others in several respects appreciating that the learner has a need to know, they self-conceptualise, are experienced, have a readiness to learn and are orientated to learning.[20]

Using the principles outlined by Knowles (1998), we were able to sympathise with the situation that the learner finds themselves in during a course and their motivation to learn. With that in mind, we

again looked at the feedback from previous courses. We realised that the course had weighted away from acquiring key practical perioperative nurse skills to more abstract medical- and surgical-based considerations. With this realisation, we designed a practical curriculum that complemented the established surgical program. Guided by Knowles' adult learning principles, we planned for ways in which the course could be better pitched to its intended audience.

Trauma training should result in better team performance

While the military is not immune to missteps and miscommunication, we learn from past mistakes and have internalised the need for careful planning, preparation and training prior to the event, for example, with sudden onset disasters and disaster preparedness, such as during the COVID-19 pandemic.[21] James T Reason's 'Swiss cheese' model (2001) provides a schema for patient security by exposing the dangers of cognitive bias and system mishaps in the healthcare industry. Holes in communication reveal a chain of barriers, cumulative acts, miscommunications and weaknesses. These holes in communication open in the presence of inconsistencies by individuals, teams or inefficiencies of a system.[3]

In many of our civilian operating rooms, team planning and training for receiving an unexpected trauma patient, or a sudden serious medical emergency, are not common. This is partly due to a general lack of recognition of the role non-technical skills, including teamwork, play in healthcare. There is also an assumption that if you are more prepared than other personnel-team members, the procedure or process, will just 'fall into place'.

Moreover, when briefings take place, these are often among separate craft groups and rarely involve the whole team. Additionally, while huddles and time-outs are becoming more common, few surgical teams practice the CRM routines common in the pre-flight checks of a military or civilian aircrew. Similarly, team debriefing outside of extraordinary events in the operating theatre is relatively uncommon. It often focuses on ensuring individuals' emotional wellbeing. Thus, important planning, role delineation and team learnings are missed.

Simulation training in the DSTC evaluates competency and performance, revealing the participant's learning needs. The debriefing after a simulated trauma surgery (on day three of the course) provides rapid feedback for the participants from both faculty and peers, reinforcing cognitive skills and refining leadership and teamwork.[3]

Protocol-based care, including checklists

The faculty wanted to emphasise the concept of damage control applied in trauma surgery instead of ships. We felt that convincing experienced nurses that protocol-based care, including checklists, was the way forward may be challenging. Bunin et al. (2021) determined that communication should be routinely practised. Assumptions that the entire OR team knows what is needed in a timely manner for a deteriorating patient place them at risk of error.[22] For teams to function in high-stress environments, a shared mental model of the key steps and goals of the mission was crucial to improve performance and reduce error.[3]

History has revealed that theoretical knowledge counts little on the battlefield. It is the importance of structured actions and practical rehearsal, in the form of practice runs and battle drills, which saves lives. For example, when learning how to fire a weapon, participants learn safe weapons handling and how to assemble, disassemble, clean and care for a weapon before any actual firing. US Army doctrine defines a battle drill as a collective action performed by a small team and rehearsed until it is performed without a deliberate decision-making process.[23] Without this process, it would be expected that under fire military members would revert to familiar personality-based behaviours. Similarly, in the operating theatre novel, high-stress situations could lead to clinicians biasing decisions towards habit and modulating their propensity to fall into familiar patterns of behaviour and fail to be timely.[24] It was clear that protocol-based care and checklists were the way forward, and developing a new curriculum was a priority.[25]

Engaging our participants

Planning for operations with walk-throughs and the use of 'mud maps' are standard military practices to account for human factors.[5] These practices ensure that everyone is on the same page. Ships' companies, infantry units and aircrews have systemised a series of well-worn mnemonics and ingrained responses, as briefings and checklists are second nature when planning for military operations.[26]

However, healthcare cannot be reduced to a series of 'manoeuvres on a battlefield' or protocols as each patient is individual, even in extremis. Thus, it was planned to take the principles of systematic instruction into the DASTC course with didactic

background lessons and large group discussions, which surround the principles of multidisciplinary teamwork and damage control surgery, in conjunction with the necessary goals of trauma care, while keeping in mind more pragmatic objectives of ethical and individual focused care.[3]

The importance of a shared mental model and developing an adult-based learning program that suits nurses is vital. Nurse leadership across civilian and military structures drives the importance of non-technical skills and engagement as a key factor. Informally, nurse leaders can make things happen by mentoring and elevating the contributions of others over themselves; all of this occurs in relationship building, sharing organisational knowledge and creating a safe environment for others.

Realising this, informal military nurse leaders with years of experience training for emergency scenarios and operations sought to redesign the course by emphasising the importance of clear communication (briefing), rehearsal and drill. By utilising competency-based training methods, common in ADF training, a needs and gap analysis was undertaken to identify the knowledge, skill and behaviours the perioperative nurse requires to be an effective team member in trauma. The experiences of far forward, mobile and austere military environments revealed that there may not be the luxury of performing damage control surgery on every casualty, with abbreviated surgical control (TASC) performed on the critically wounded about to exhaust their physiological reserve.[3]

Therefore, the point is made that performing surgery in resuscitation of the trauma patient is a serious consideration, with substantial sequelae for the deteriorating patient and getting the decision making right is an essential step in survival. Once the key foundational concepts are established, this is then 'operationalised' for the participants. The new program needed to ensure that the key perioperative nurse skills of communication, situational awareness, organisation of equipment, supplies and resources, including staff, and communication with other areas of the hospital were emphasised for the participants to build upon their combined experiences and frame their thinking for their own learning in trauma surgery.

Establishing a shared mental model and a 'mud map' for action

With key skills embedded in the program, the curriculum would allow the participants to establish their own priorities for the trauma patient undergoing surgery. The course was now to facilitate conversation, apply the key principles of CRM and damage control and encourage the participants to develop their shared priorities for the patient. To assist the participants in their decision making, the faculty established four domains to frame their shared priorities:

1. Patient factors, including the pathophysiology arising from a mechanism and pattern of injury together with age-related differences and legal and ethical considerations.
2. Teamwork and communication, including the team roles and priorities, leadership, how to communicate under stress and situational awareness.
3. Equipment and resources, including the priorities, management and preparation of all equipment and supplies.
4. Hospital resources, organising and giving context to the capacities and capabilities of each healthcare environment (including the staff) and how this affects the care plan.

Once the four domains were established, the groups formed a checklist with five priorities (sound familiar to military or aviation types?). The personalised checklist was then practised through the course using walk-throughs and tabletop exercises and incorporated into simulations and more complex scenarios. With the process formulated, it was pleasing to observe how it was assimilated into the core concepts of the curriculum with continuing workshop discussions applied to the paediatric, geriatric, pregnant and mass casualty patient(s). This approach was piloted several times on DPNTC courses on the eastern seaboard. It remained consistent while utilising the key aspects of andragogy and pedagogy. It was interesting to note that the checklists and the priorities identified among the participants differed very little.

The initial piloted programs provided the participants, who had varying levels of seniority and experience, a shared understanding and a base level of performance to build on with 'aide-mémoires' that could be practised in their hospitals when a trauma occurred. Their team could then swing into action with a shared mental model and a clear series of priorities and actions. Learners could build upon each element of the course and work them into the schemata (Patient, Team, Equipment and Organisation). Importantly, we based this on key tenants of androgyny related to actions they needed to perform. The participants eventually identified the most pressing information of a pending trauma patient (in effect, planning) and walked the patient

information through a tabletop discussion, at a slow pace, then practically, through a fast-paced simulation.[22]

Improvements in participant course evaluations are often multi-factorial as it is difficult to parse out which part of the course resulted in participants gaining more from a program. The evaluations of the new DPNTC design reported that participants felt far greater confidence in trauma care and the faculty feedback was universally positive. The new and improved DPNTC has revealed a 'mud map' on how to deliver the program and key nursing elements explaining and reinforcing pertinent aspects of trauma care for the critically injured patient. The goal is to introduce these concepts across the DSTC with a shared 'mud map' for doctors and nurses in the future. In addition, key non-technical skills such as teamwork, communication, situational awareness and leadership will further enhance technical and skill-based learning, for which the DSTC is renowned.

Conclusion

The evolution of the DPNTC came from feedback from participants and subsequent faculty reflections to improve the course. Some of the faculty, who served in the military, realised that high-performing teams were crucial to the safe delivery of surgery and the patient's successful recovery. Broader military experiences of some faculty members led to the introduction of two key concepts. First, the concept of CRM and the process by which military aircrew use to identify and manage threats to ensure safe and effective mission operations in unforgiving environments. Second, the naval damage control concept, which influenced military trauma care (DSTC) and disaster planning.[3] The mindset that trauma care is different to elective care is emphasised throughout the DSTC, with the caveat that communication and regular training results in better team performance.

The principles of adult learning acknowledge that participants are experienced clinicians who provide a rich tapestry to the curriculum. Therefore, adult learners need to be engaged in situational experiences to generate discussion rather than a theoretical classroom course. Utilising the concepts of protocol-based care and checklists addressed the challenges of engaging participants and establishing a shared mental model, with a 'mud map' for action for their own 'tool kit'.

The difference in the roles of the surgical team has realised itself in the DSTC. This lends itself to the specific roles of each discipline, where the surgeon and anaesthetist offer a skill set that is self-evident in their role. The perioperative nurse role is more complex and incorporates a multidisciplinary approach to the shared decision making of the patient.[27] The body of knowledge possessed by the nurse in the context of the OR team encompasses theory and a 'hands-on approach', while being bound by highly developed non-technical skills encompassing communication, situational awareness and teamwork.[27] The DPNTC faculty realised that the perioperative nurse role was multifaceted and that failing to efficiently plan and communicate were, according to Boffard (2019), the two major instigators of error in trauma.[3] Some of the faculty who served in the military realised that high-performing teams were equal to mission success and that safe delivery of surgery was central to the successful recovery of the patient. Combined with the concepts of CRM and damage control surgery, the premise that communication was enhanced by all members of the surgical team, the following aspects were considered in each iteration of the curriculum: anticipation, assigned roles for team members, closed-loop communication and information sharing.[3] By utilising concepts of protocol-based care and checklists the participants established a shared mental model and a mud map for action in their tool kit.

Participating in courses such as the DSTC is rewarding. We as faculty appreciate that it trains surgical teams to save lives. We are also confident that participants will walk a bit taller, have more confidence and work with their colleagues to improve trauma care. Perhaps this is the real gift of learning together; to improve patient care by ascribing a shared set of protocol-based actions not dissimilar to those of our pre-hospital and in-hospital emergency department colleagues. The redesign of the DPNTC curriculum has built on participants' feedback, inspiring a group of faculty members who serve in the military to continuously develop the curriculum. This continuous development of the DPNTC has suggested a way forward for developing further training for the multidisciplinary audience in the DSTC.

The future-proofing of trauma care in a multidisciplinary surgical team requires team members who are not just technically competent but are masters of non-technical skills such as leadership, CRM and communication. The development of the DPNTC benefited from military leadership principles, underpinned by the experiences and unique skills that military health professionals gained through their shared culture between care providers and their care recipients. The article explored how

a group of military leaders developed a targeted nursing curriculum. From their experience, it was postulated that military leaders, principally military nurses, were well suited to roles in education and training, particularly when it involved learning across disparate groups for multidisciplinary training.

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Appendix

Course overview:

The DSTC course is the perfect opportunity to focus on:

- surgical decision-making in complex scenarios
- operative technique in critically ill trauma patients
- hands-on practical experience with experienced instructors (both national and international)
- insight into difficult trauma situations with learned techniques of haemorrhage control and the ability to handle major thoracic, cardiac and abdominal injuries.

The Definitive Surgical Trauma Care (DSTC) course is recommended by The Royal Australasian College of Surgeons for all Consultant Surgeons and final-year trainees. The Definitive Anaesthetic Trauma Care (DATC) course provides multidisciplinary training to consultant anaesthetists and anaesthetic fellows (post-exam) involved in trauma. The Definitive Perioperative Nurses Trauma Care (DPNTC) course is held in conjunction with the DSTC course. It is aimed at instrument and anaesthetic nurses with a minimum of two years of recent clinical experience in a perioperative setting, allowing them to develop their knowledge and skills in a multidisciplinary environment. The military module is open to surgeons, anaesthetists and nurses (civilian and military personnel). It is a one-day program and is relevant to those interested in humanitarian surgery. The military module is a combination of lectures, case studies and practical stations led by a faculty of leading military surgeons and anaesthetists. It can be attended by anyone who has completed a DSTC, DATC or DPNTC course (either Brisbane or a previous course). The DSTC will establish the core principles of damage control resuscitation and the role of the surgeon and the nurse. The key is for each participant group—surgeons and nurses—to have an opportunity to be exposed to the learning needs of each other.

Aims of the DSTC & DPNTC Course:

- Provide nursing participants with the opportunity to develop their knowledge, skills and confidence in communicating with surgeons and other nurses.
- Further develop an understanding of the procedures and processes involved in dealing with the critically ill patient undergoing trauma surgery.

(Timetable)

Day 1:

Surgical Decision Making Overview

Damage Control Overview

- Abdominal Trauma
- Haemodynamically Unstable Pelvic Fracture
- Trauma Laparotomy & Temporary Abdominal Closure
- Perioperative Nursing in Surgical Trauma
- The Roles & Priorities of the Instrument and Circulation Nurse
- The Roles & Priorities of the Anaesthetic Nurse
- Trauma Systems & Mechanisms of Injury
- Blunt Thoracic Injury
- Penetrating Thoracic Injury
- Thoracotomy – Resuscitative
- Emergency Laparotomy
- Emergency thoracotomy
- Pregnancy, Paediatrics and the Elderly
- Communication and Teamwork

Surgical decisions and techniques:

- Spleen
- Liver
- Pancreas & Duodenum
- Cardiac Repair
- Fasciotomy
- Craniotomy
- Head Injury
- Penetrating Neck Injury
- Vascular Limb Injury
- Forensics and Mass Casualty
- Multi-Trauma Case
- External Fixator
- Neurosurgery
- Burns Surgery

Day 2:

Laboratory Sessions for Surgical and Anaesthetic Skills

Day 3:

Simulation Training.