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Peer-based intervention for acute stress reaction: adaptations by five militaries

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ABSTRACT

Military service members need to be able to operate under conditions of extreme stress to ensure the success of their team's mission; however, an acute stress reaction (ASR) can compromise team safety and effectiveness by rendering an individual unable to function. Building on an intervention originally developed by the Israel Defense Forces, several countries have developed, tested, and disseminated a peer-based intervention to help service members manage acute stress in others. This paper reviews how five countries (Canada, Germany, Norway, the UK and the USA) adjusted the protocol to fit their organisational culture while retaining essential elements of the original procedure, suggesting there can be interoperability and mutual intelligibility in the management of ASR by military allies. Future research should examine the parameters of effectiveness for this intervention, the impact of intervention on long-term trajectories, and individual differences in managing ASR.

Militaries around the world are invested in ensuring that their service members are capable of functioning in stressful environments. Yet there are times when service members may be so overwhelmed by mental stress that they are unable to function, placing themselves and their teams in further danger. In that case, it becomes crucial for teams to be prepared to respond effectively. This paper reviews a new method being introduced in several countries in which teams are trained to intervene with service members experiencing an acute stress reaction (ASR).

An ASR is characterised by a set of shifting and temporary responses, such as freezing, dissociation and agitation. Some expressions of ASR feature inactive symptoms (eg, being in a daze and stupor) and some feature active symptoms (eg, tachycardia and anger). An ASR can occur immediately (within hours of exposure) and can be expected to subside within days. Critically, individuals who experience an ASR are unable to engage in productive action, keep themselves safe or respond effectively to a threat, and hence are potentially unable to keep others safe. This common denominator makes ASR a significant threat to a military unit's ability to accomplish its mission and protect its members.

ASR is not a psychiatric disorder; rather, it is a natural psychological and physiological response to an extreme stressor. Defined as a 'factor influencing health status' in the International Classification of Diseases, 11th Revision,¹ ASR does not appear in the *Diagnostic and Statistical Manual for Mental*

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ An acute stress reaction (ASR) is primarily characterised by difficulty in functioning, placing individuals and teams at heightened risk.

WHAT THIS STUDY ADDS

⇒ Several countries (Canada, Germany, Norway, the UK and the USA) have adapted a new peer-based intervention to manage ASR in unit members.
⇒ Across these countries, service members have reported the peer-based intervention improves confidence and is clear, relevant and important.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ Allied countries should encourage further adoption of this technique and ongoing research to optimise implementation.

Disorders, 5th Edition² and should not be confused with acute stress disorder or post-traumatic stress disorder.³

Although research on ASR is sparse,⁴ ASR is not a rare event in military operations. Initial estimates suggest that ASR may occur in more than 1 in 10 service members during a combat-related event such as a firefight or detonation from an improvised explosive device. For example, a Canadian study found that 13% of special operations personnel involved in a small pilot study reported experiencing a possible ASR.⁵ Similarly, a US study with soldiers who had combat experience found 17%–24% reported experiencing a possible ASR.³

In addition, emerging research suggests that most affected individuals (52%) report ASRs last more than 5 min,³ with 43% reporting it lasted 10 min or longer. These estimates underscore the importance of intervening immediately in order to prevent the military unit from being unable to perform because of reduced capability of its team members.

By their nature, ASRs typically render individuals experiencing them unable to accelerate their own recovery; that is why it is important to consider how teammates can intervene. Research in Israel,^{6–8} the USA⁹ and Canada⁵ suggests that approximately 29%–56% of service members who have been in high-stress contexts have witnessed a teammate experience an ASR. The fact that service members can identify the signs of an ASR in their teammates provides the foundation for focusing on developing a peer-based intervention.



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At the front lines, many militaries provide mental health support through combat operational stress control programmes^{10 11} and by following the principles of proximity near the front, immediacy of intervention, expectancy of recovery and simplicity of intervention (PIES).¹¹⁻¹³ These principles can offer insight into how an ASR that occurs during a combat-related event might best be approached through immediate tactical behavioural healthcare.

YAHALOM: THE BASIS OF PEER-BASED ACUTE STRESS INTERVENTION

In 2014, the Israel Defense Force developed and disseminated a peer-based intervention to address ASR in teammates.⁶ This intervention, called YaHaLOM, stands for the five steps of the procedure in Hebrew: (1) Yetzirat kesher (Ya (connect)), (2) Hadgashat (Ha (emphasise)), (3) Levarer (L (inquire)), (4) Vidu (O (confirm)) and (5) Matan (M (give)). The sequential steps instruct service members to gain the affected individual’s attention by connecting with them verbally, with eye contact and with physical touch; break through their sense of psychological dissociation by reminding them that they are not alone; ask simple questions to get them to begin responding; orient them in time with what has happened, what is happening and what will happen; and provide a specific request for purposeful action to counter a sense of helplessness.

The Israel Defense Force considered YaHaLOM so useful that the training was soon mandated. Since then, studies have found that YaHaLOM training was associated with improved knowledge about acute stress,⁷ less agreement with attitudes stigmatising ASR⁷ and fewer post-traumatic stress symptoms for those who witnessed an ASR in others.⁸ Case studies have also described the success and limitations of YaHaLOM in real-world applications.⁶ When YaHaLOM was shared with allied countries, it became clear that YaHaLOM addressed a gap that had not been previously considered. Consequently, YaHaLOM has received increasing attention,^{14 15} and several countries have begun adopting the training for their own use.

INTERNATIONAL ADOPTION

While many countries are working on adapting YaHaLOM, the five highlighted in this paper are in various stages of adaptation, ranging from initial investigation to full implementation. This international review illustrates how a psychological intervention

can be tailored for different contexts while maintaining its core principles.

The five countries included here, in alphabetical order, are Canada, Germany, Norway, the UK and the USA. Germany and the USA were early adopters of YaHaLOM, developing BESSER and iCOVER, respectively. Later, Canada, Norway and the UK began adapting the materials as well. We review these adaptations in greater detail below (see table 1 for details).

Canada

In 2020, the Canadian Armed Forces adapted iCOVER into a short training programme specifically for the Canadian Special Operations Forces Command (CANSOFCOM). This training, entitled ‘Back from the Black’ (BFB), teaches a three-step procedure: cover, connect and coach (CCC). This adaptation was prompted from subject matter experts who asked for there to be fewer steps than the original training. The six steps of iCOVER are collapsed into a shorter mnemonic device (CCC). In addition, BFB incorporates a postintervention step which emphasises the importance of following up with the individual who had the ASR after the fact to protect and preserve the individual’s health, self-esteem and attachment to the group.

A pilot study conducted in 2021 evaluated BFB to determine its applicability, acceptability and initial efficacy with a small group of CANSOFCOM members.⁴ Results were positive: the majority of participants rated the training programme as clear, relevant and important in helping them learn how to identify and intervene in the event they encounter someone experiencing an ASR. BFB increased knowledge and improved attitudes about ASRs and was highly accepted by participants, demonstrating its importance and value to the command.

The success of the pilot resulted in the BFB programme being widely disseminated across CANSOFCOM. Since August 2022, it has been incorporated into basic, resilience and routine trainings. An evaluation of the wider dissemination of the BFB programme is ongoing, and a long-term follow-up is planned to assess programme effectiveness and real-world experiences with ASRs. The Canadian Armed Forces are also considering adapting iCOVER and BFB into resilience training programmes across the conventional forces.

Table 1 Overview of five-country adaptation of peer-based training for managing acute stress reactions in team members

	Country				
	Canada	Germany	Norway	UK	USA
Name	Back from the Black	BESSER	ReSTART	iCOVER	iCOVER
Steps	C=cover C=connect C=coach	B=binden (connect) E=einstehen (assure) S=sprechen (speak) S=stabilisieren (stabilise) E=engagieren (engage) R=rückführen (reintegrate)	Re=register ASR (register ASR) S=skap kontakt (establish contact) T=tilby fellesskap (offer community) A=avklar fakta (establish facts) R=reetabler tidslinje (re-establish timeline) T=tilbake til oppgave (return to task)	i=identify C=connect O=offer commitment V=verify facts E=establish order of events R=request action	i=identify C=connect O=offer commitment V=verify facts E=establish order of events R=request action
Training video	Yes	Yes	Yes	Currently using US version	Yes
Adaptation process	In-depth feedback from Canadian Special Operations Forces Command	Feedback from trained soldiers and Army psychologists	Focus groups with target personnel and medical personnel Piloting of ReSTART among professional soldiers and conscripts	Focus groups with target audience	Iterative development with retired non-commissioned officers (NCOs) and pilot testing
Evaluation	Yes	Yes	Yes	Yes	Yes
Dissemination	Yes	Yes	Yes	Yes	Yes

Germany

Germany began adapting YaHaLOM in 2017 and developed BESSER, an acronym which means ‘better’ in German. Translated, BESSER stands for connect, assure, speak, stabilise, engage and reintegrate. The programme is largely identical to the steps of YaHaLOM or iCOVER, although the final step of requesting action is divided into two steps, with one step emphasising simple action and the other step emphasising complex tasks that support the team’s performance.

The first step, binden (connect), is focused on connection through the interruption of dissociation and reduction of subjective social isolation with verbal communication and tactile contact. Next, einstehe(n) (‘assurance’) addresses the first responder’s commitment to counteracting the individual’s perceived loneliness. In the following step, spreche(n) (‘speaking’) focuses on structured verbalisation and fact-checking to reduce emotional overload and prompt orientation in terms of simple facts. The next step, stabilisieren (‘stabilising’), establishes the order of the events to counteract confusion, fragmentation, derealisation and dissociation. The next step, engagieren (‘engaging’), requests the individual to complete relatively simple tasks to reduce subjective powerlessness and enhance expectation of self-efficacy. Finally, the rückführen (reintegrating) step involves the individual completing more complex tasks that support the team’s performance on the battlefield.

BESSER was piloted with approximately 500 soldiers in basic military training courses and in predeployment training for a logistics battalion. After 90 min of training in BESSER, participants had significantly higher levels of sense of coherence and self-efficacy, with an optimistic assessment of their own ability to act when confronted with stressful challenges and threatening situations. Overall, BESSER was found to be an efficient method for increasing soldier confidence, although the degree to which BESSER mitigates the risk of deployment-related mental health disorders requires further assessment as the intervention has not yet been used in real-world combat scenarios.

Currently, the training materials such as presentations, videos and a train-the-trainer course have been adopted by troop psychologists. In addition, BESSER was rolled out to units in the special forces, with the chief psychologist of the German Army aiming to train the approximately 5000 German members of NATO’s Very High Readiness Joint Task Force and the NATO Response Force.

Norway

In 2019, the Norwegian Armed forces began developing ReSTART, the Norwegian version of iCOVER. First, the US materials were presented to a focus group with personnel from the Naval Special Operations Command. These personnel had a history of engaging in highly demanding antiterror missions with the Afghan special police; thus, their feedback was particularly valuable in terms of evaluating the intervention’s real-world applicability. In their focus group, they reported that ASR was a common occurrence in high-stress combat situations, and they did not have an established way of managing ASRs. Another focus group was conducted with military medical specialists. Both focus groups provided positive reviews and recommended adapting iCOVER with only minor adjustments. Accordingly, ReSTART was developed using Norwegian words that correspond to the iCOVER steps: (1) registerer ASR (Re (register ASR)), (2) skap kontakt (S (establish contact)), tilby fellesskap (T (offer community)), avklar fakta (A (establish facts)), reetabler

tidslinje (R (re-establish timeline)) and tilbake til oppgave (T (return to task)).

Next, a 2-hour course with a professionally produced training video was developed, and ReSTART training was piloted with two groups: professional soldiers, as part of their predeployment training for a mission in Mali, and conscripted service members training to become medics. Findings from presurveys and postsurveys indicated course material retention and positive changes in attitudes towards ASRs. Moreover, all participants rated ReSTART training to be comprehensible, relevant and important.

Currently, ReSTART is being disseminated more broadly. A meeting of sergeants major resulted in a broad mandate for implementation as part of Tactical Combat Casualty Care training. This mandate led to a train-the-trainer course and certification of the first cadre of ReSTART trainers. Instructor materials are available on a digital learning platform, and systems for continuous data collection have been integrated into ReSTART training to support opportunities for research. In the future, ReSTART training is likely to be credited on participants’ service record and to involve refresher training. Grant funds have also been secured to evaluate the viability of virtual reality as a ReSTART training modality.

UK

In introducing the concept of iCOVER to the UK Armed Forces, UK began conducting focus groups in 2021 with Special Forces and Specialised Infantry, with more focus groups planned with the Royal Air Force, Royal Marines and Royal Navy Submarine Service. Thus far, commanders have judged iCOVER to be a useful addition to their toolkit, and focus groups have advised that changes to the terminology or structure of the intervention are not needed. Moreover, the iCOVER description of the ‘amygdala hijack’ was well received and has been incorporated into the mental resilience training delivered in Army basic training. Initial conversations with the Royal Marines and Royal Navy have also suggested that delivery may be enhanced through the use of training videos designed for their specialists. The Academic Department of Military Mental Health is now planning a trial of iCOVER within an Army infantry battalion prior to a wider Army roll out.

In addition, while iCOVER is designed as an intervention to be delivered by peers who do not have prior medical training, course designers and subject matter experts agreed that iCOVER may also enhance training for combat medical technicians. Course feedback following trials with two training courses has been positive, with trainees stating that iCOVER is clear while also expressing an increase in confidence in recognising and managing an ASR. Further evaluation assessing their use of this intervention during formal training exercises is planned.

USA

The USA adapted YaHaLOM in 2018, creating iCOVER. This adaptation resulted from close coordination with developer of YaHaLOM. The process was iterative, with retired US non-commissioned officers reviewing each version of the material. Adaptations included a new first step (‘i’ for ‘identify’), highlighting the importance of peers recognising a teammate experiencing an ASR. In addition, each step was explained. YaHaLOM, which was developed for conscripts, emphasised repetition. The US team believed that service members would assimilate the steps quickly, but that training would be more effective if the rationale for each step was provided. Thus, the US version briefly

described ASR neurobiology and introduced the term amygdala hijack to reinforce that an ASR occurred at the level of the brain and was not a personal choice. The training also addressed how iCOVER fit within the framework of Tactical Combat Casualty Care and care under fire. Finally, the YaHaLOM video¹⁶ served as a model for the iCOVER video.¹⁷

iCOVER was first tested in a tough, realistic training context.¹⁸ Soldiers and Marines demonstrated their ability to enact the steps during a high-stress scenario. Furthermore, computer-based versus in-person practice were compared, with in-person practice emerging as a more effective option.¹⁸ A follow-on study examined iCOVER training with units weeks before they deployed to combat; results demonstrated high training acceptability, improvements in confidence regarding the individual, unit and leadership, and positive changes in attitudes towards ASRs.¹⁹ A train-the-trainer manual has now been created, and iCOVER is being disseminated as part of the Army's Deployment Cycle Support Training Programme.

SUMMARY OF ADAPTATIONS

Country-specific adjustments to the procedure were not determined a priori but were rather an organic outcome of each country's desire to address the gap in managing ASRs while ensuring the materials were optimised for their personnel. As can be seen in table 1, each country consulted with subject matter experts and/or stakeholders to ensure that the materials were relevant to their service members.

The process of adaptation enables individual countries to maximise the degree to which the procedure fits their own perspective, which then aids in uptake and dissemination. Even with these country-specific adjustments, there are fundamental similarities; that is, each country has developed steps that are designed to connect with the individual experiencing an ASR. Each country's version begins with rapport being established, which directly acknowledges that relationships are an essential element to promoting change before other active ingredients can be administered. This approach is consistent with research on common factors in psychological interventions.²⁰

In addition, all five countries included the step in which the affected individual is prompted to respond to simple requests. This similarity suggests they converged in their assumption that ensuring the individual is not overwhelmed by complicated requests is a vital part of the intervention. Finally, each country includes the same final step of directing the individual towards purposeful action. This step can be used to determine if the individual can follow more complex directions or whether some other intervention is necessary. In summary, even if the exact number of steps differs, the fact that each country included establishing a personal connection, engaging in a simple way and requesting purposeful action suggests the methods are fundamentally similar across countries.

FUTURE DIRECTIONS

The broad international acceptance and adaptation of a peer-based intervention for managing ASR underscore the relevance of this training protocol to military organisations. Indeed, countries beyond those listed here, including Ukraine and Mexico, have already adopted iCOVER to address the needs of those serving in high-stakes and high-stress environments. Future research is needed to understand the parameters establishing when the intervention is effective and the impact of this intervention on both short-term and long-term trajectories of recovery. In the short-run, the service member might be able to

return to functioning and help other team members during the combat-related event. This potential outcome could reduce the likelihood that the service member develops shame, regret or self-recrimination following combat. Returning to immediate purposeful action could also potentially increase their chances of physical survival. Still, the service member who remains present during the combat-related event might be at risk of additional exposure to traumatic events that could compound their level of maladaptive outcomes^{21 22} and potentially worsen their trajectory of recovery over time.

While this negative impact is possible, iCOVER is consistent with PIES,^{11 12} suggesting that it might benefit the service member. In addition, the other unit members may benefit as well. Without the continued support of their affected team member, they could be at heightened risk and feel bitter and betrayed by their team member, potentially increasing their risk of moral injury^{23 24} and damaging the unit's ability to maintain cohesion, a critical variable in military mental health.^{25 26}

Future research should also assess how individual differences in the risk of developing an ASR or the presentation of ASR (frozen vs dissociated vs agitated) might interact with the intervention. In addition, research should examine whether individuals can be trained to identify when an ASR is imminent so that they can administer an intervention to themselves or others prior to the emergence of a full-blown ASR.

CONCLUSION

Innovative developments in the practical management of ASRs during combat offer an opportunity to intervene in real time, potentially improving the team's ability to function as well as the trajectory of recovery for both the affected individual and those witnessing the ASR. Furthermore, dissemination of peer-based interventions targeting ASRs can promote interoperability among allies and hasten advancement of this relatively new training protocol. Through international partnership, allied forces should endeavour to find ways to adapt peer-based interventions addressing ASRs to meet their organisational needs while also retaining the core principles of the original protocol, such that distinct variations continue to enable mutual intelligibility. These interventions also demonstrate the added value that psychology can bring to personnel working in high-stress occupations like the military. Building on continued collaboration, military scientists can demonstrate the utility of integrating mental skills and other psychological techniques into training as a way to enhance individual functioning and team performance among allied partners.

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