The effectiveness of the peer-led PITSTOP (hot debrief) training for healthcare professionals

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Abstract

Support from peers after a challenging and traumatic event could help mitigate the development of psychological distress. We tested whether a training programme on peer-led team debriefing (called "PITSTOP") improved healthcare professionals' confidence to facilitate such a session, including actual implementation over the subsequent six months and the barriers to implementation. There were significant improvements post-training (N=153) on participants' confidence, awareness, and knowledge to facilitate a PITSTOP. These effects were sustained over the subsequent six-month period (n=35), with 74% of participants at follow-up having been in a situation where a PITSTOP could have been helpful, with 62% of these then carrying out a PITSTOP. Team dynamics, staffing levels, and workload the main implementation barriers. This evaluation shows the utility and application of the PITSTOP training programme to support a psychologically informed peer-led approach as a way to support staff wellbeing following an adverse event.

Keywords

Peer-led interventions; psychological distress; trauma support; healthcare workers; psychological debriefing

Introduction

As part of their roles providing compassionate, effective care, healthcare professionals experience regular contact with work-related stressors and the potential for traumatic events. Alongside experiencing higher than average levels of stress and burnout (Greenberg et al., 2021; Kinman et al., 2020; Kinman & Teoh, 2018), studies highlight rates of clinically significant post-traumatic stress disorder (PTSD) as affecting more than 2 in 10 staff (Greene et al., 2021). Work-related stress, burnout, and trauma can also significantly affect the care they provide to patients including high rates of subsequent mistakes (Hodkinson et al., 2022; Teoh, Singh, et al., 2023).

Research highlights that alongside workload and physical safety, support from peers and managers is a key factor influencing psychological distress following events (d'Ettorre et al., 2021). An adverse event could be due to a situation that is particularly challenging, difficult, and / or traumatic. However, a study of surgeons on adverse surgical events highlighted that only 42.5% reported having spoken to someone following such an event (Turner et al., 2022). NICE guidance for post-traumatic stress advises against specialist psychological debriefing, but instead evidence supports the involvement of peer support after adverse events (Rose et al., 2002; Tamrakar et al., 2019). There has, however, been a lack of tailored training and guidance for how healthcare professionals can deliver peer support following work-related incidents.

Facilitated peer-led team discussions – known as hot debriefs - can be initiated in the immediate aftermath (ideally within 24 hours) of an adverse event (Sugarman et al., 2021). This is different to 'cold debriefing', which are psychological debriefings typically delivered by a medical professional or psychologist after a period of time has elapsed following the event (Ha, 2021). Hot debriefs typically involve teams coming together to discuss the event, its impact and to identify learning. Although examples of such tools for healthcare settings exist (TAKE STOCK (Sugarman et al., 2021); STOP5 (Walker et al., 2020); DebrIeF (James et al., 2022), there is limited research evaluating their effectiveness (Meneses Echavez et al., 2022). In addition, they were created for use within emergency department settings, demonstrating a need for hot debriefing in other contexts across the health service. Furthermore, existing models of peer support systems generally place a focus on learning from the event rather than individual and team wellbeing and support (Sugarman et al., 2021; Walker et al., 2020).

The PITSTOP model has adapted ideas from previous team discussion models, particularly the STOP5 model (Walker et al., 2020), and extended these to focus on wellbeing and support. PITSTOPs are brief and supportive, peer-led check ins that any member of any team can lead on, focusing specifically on promoting a climate of psychological safety and encouraging staff to connect with,

and support one another after an adverse event. PITSTOPs provide teams with a space to reflect on the event and the impact this has had on them, as well as to consider how best they, both as individuals and as a team, can move forward and support each other, and to feel able to manage the rest of the shift. Unlike other hot debriefing models, PITSTOPs also explicitly provide an opportunity to signpost individuals to further support should this be needed, tapping into wider wellbeing support and ensuring all staff are aware of this, and is part of wider interventions that promote psychologically safe and compassionate teams.

The PITSTOP approach requires the upskilling and empowering of individual healthcare workers to call for, and potentially facilitate, a peer-led team discussion after an adverse event. As such, it is important to determine to what impact a programme to train individuals in the PITSTOP approach will have. For any training programme to succeed, requires participation to first lead to learning, opportunities to apply learning, and behaviour change before outcomes are achieved (Kirkpatrick, 1954; Nielsen & Shepherd, 2022).

The current study therefore seeks to further the literature by evaluating whether a recently developed bespoke training programme (i) improved healthcare professionals' confidence in their abilities to support their colleagues during challenging times by using the PITSTOP peer-led approach; (ii) whether it led to any PITSTOPs being carried out over the subsequent six-months; and (iii) what factors hindered and supported the facilitation of a PITSTOP being carried out in real-world contexts.

1. Methods

This programme was set in an acute hospital in the south-west of England with approximately 12,500 healthcare staff. The PITSTOP training programme is one of several interventions offered as part of its *Staff Trauma | Support approach*, a pathway of psychologically informed interventions that span from preventative, enhanced, and specialist approaches to support staff in relation to work-based adverse events. This was developed by the Trust's in-house Staff Psychology team with input from senior medics. It draws on the service's ethos that '*resilience is between us, not just within us.'*

The training is a 90-minute interactive session which aims to provide staff with guidance, confidence, and skills on how to facilitate a peer-led discussion following a challenging incident in the workplace. These face-to-face trainings provide a brief overview of normal psychological reactions to adverse events and outline the seven steps of a PITSTOP (Figure 1). The experiential sessions include an opportunity for staff members to practise running a PITSTOP in groups using a scenario relevant for

their area. The intention is to encourage individuals to call for, and potentially facilitate, a PITSTOP should an adverse event occur. At the end of the training, there is a space for discussion for staff to troubleshoot and think about times when a PITSTOP could be useful in their area, as well as what the next steps would be to support its use as standard within their context.

Figure 1: The Seven Steps of a PITSTOP

PITSTOP training was made available to all staff across the Trust through operational updates and through Staff Psychology Team flyers. Staff members were recruited by either signing up to trust-wide face-to-face trainings independently through an e-learning portal, or by attending a training organised specifically for their team.

Participants were from one of 17 training sessions that ran between May 2022 and July 2023. Each completed a five-item questionnaire pre, post, and approximately six months following the training. Alongside demographics, the questionnaire used a six-point Likert scale to understand their confidence in their ability to support colleagues when an adverse event happens at work, as well as

knowledge of the wider support available. These questions were repeated in the six-month follow-up survey along with seven additional items, including how many PITSTOPs they had run, their confidence in running/facilitating a PITSTOP, and four free text items exploring their experience in facilitating or being unable to facilitate a PITSTOP. A higher score represented stronger agreement with the item.

SPSS (version 26) was used for analysis. Descriptive statistics summarised demographics. The quantitative items from the pre and post training surveys were compared using an independent samples t-test. One repeated measures ANOVA was run for each of the five questions that participants were asked pre, immediately post, and six-months post training. The open-ended questions were descriptively analysed by group responses into codes.

This project was considered as service evaluation by the Trust and no formal ethical review was required. In carrying out this study we adhered to the ethical principles of the British Psychological Society including informed consent.

2. Results

In total 153 participants (96.2% response rate) completed the pre and post PITSTOP training surveys (Table 1). For the six-month follow-up surveys, 35 participants (23%) completed their surveys.

Table 1. *Demographics of participants in the PITSTOP training*

Demographic	Frequency (%)
Total	153 (100%)
Gender	
Female	130 (85%)
Male	19 (12%)
Not specified	4 (3%)
Ethnicity	
Asian/Asian British	20 (13%)
Black/African/Caribbean/Black British	5 (3%)
White British	109 (71%)
White Irish/White Other	10 (7%)
Mixed	3 (2%)
Not specified	6 (4%)
Job Function	
Admin/ Clerical	3 (2%)
Allied Health Professionals	17 (9%)

Hotel Services	2 (1%)
Medical/ Clinical	23 (15%)
Nursing	101 (66%)
Not specified	7 (5%)

2.1. Changes in participants understanding and confidence to run a PITSTOP

Table 2 shows a significant improvement in the mean scores for each of the five survey items pre and post training. Further comparison of Cohen's *d* scores reports a small effect size ($d < 0.20$) improvement for item 1 while large effect sizes ($d > .70$) are found for the remaining four items. The largest improvement is in relation to item 5 and item 4.

Table 2. *Pre and post training evaluation scores*

Item	Question	N	Pre	Post	*t* statistics	Cohen's *d*
1	My team come together when faced with difficulties	151	5.13	5.27	$t(150) = -2.34$*	0.17
2	I know how to support my team when a challenging event occurs at work	152	4.66	5.31	$t(150) = -10.40$***	0.97
3	I would be confident in having a supportive conversation with colleagues following a difficult event at work	152	4.72	5.34	$t(151) = -8.68$***	0.79
4	I am aware of different types of wellbeing support available within the organisation	152	4.57	5.41	t(151) = -11.91***	1.05
5	How much knowledge do you have of PITSTOP	153	1.86	4.33	$t(152) = -29.96$***	2.99

Note. *$p<.05$, **$p<.01$, ***$p<.001$

Using a sub-sample of the data that completed the survey at all three time points (n=35), Items 2, 3, 4, and 5 had significant improvement between the pre-workshop survey and the follow-up survey six months later (Table 3). The same table also shows no changes between the post-workshop survey and the six months survey, indicating that there was no decline in scores post-workshop. No differences were observed between any of the measurement points for Item 1.

Table 3. *Pre and post training mean evaluation scores*

Item	N	Pre	Post	6-months Follow Up	*F* statistics
1	34	5.21	5.29	5.26	$F(2, 66) = 0.22$
2	35	4.74	5.43	5.17	$F(2, 68) = 11.46^{***}$
3	35	4.66	5.34	5.29	$F(2, 68) = 20.84^{***}$
4	35	4.71	5.49	5.46	$F(2, 68) = 14.87^{***}$
5	35	1.83	4.22	3.99	$F(2, 68) = 126.87^{***}$

Note. *p<.05, **p<.01, ***p<.001

Recognising that the longitudinal data was a subset of the data from Table 2, Table 4 shows a similar improvement between pre and post training on Items 2 – 4, but not for Item 1. Additional checks showed no significant difference on the means for participants who completed the 6-month follow up survey and those who did not on any of the ten items measured in the pre and post training surveys.

Table 4. *Post hoc analysis with mean differences across the three time points*

		Mean Difference (T2-T1)				
T1	T2	Item 1	Item 2	Item 3	Item 4	Item 5
Pre	Post	0.07	0.69***	0.69***	0.77***	2.40***
Pre	6-months	0.03	0.43*	0.63***	0.74**	2.12***
Post	6-months	-0.03	0.26	0.06	-0.03	-0.28

Note. *p<.05, **p<.01, ***p<.001

2.2. Opportunities to run a PITSTOP

In total, 26 out of the 35 respondents (74%) were in a situation where a PITSTOP could have been helpful, indicating the high proportion of healthcare workers exposed to an adverse event. Of these, 16 (62%) had then carried out a PITSTOP. The mean number of PITSTOPs carried out was 2.5 (range 1 – 7). Responses to open-ended questions about how the PITSTOPs ran highlighted that while the set template and structure was useful, it was somewhat clunky and there was often a need to deviate from the formal structure. Concerns around the lack of time and being interrupted, as well the need for further practice and confidence to develop further competence were also raised.

Further responses reflected that the PITSTOPs ran were well received, and that they gave the team a chance to come together, to reset, and to feel valued and noticed.

Seventeen percent of respondents had been in a situation where a PITSTOP could have been helpful but did not happen, with a further 42% unsure of whether they had been in a situation where a PITSTOP could have helped. When asked about what got in the way of running a PITSTOP, the most identified challenge was 'time' which, was raised by 39% of participants. Similarly, – workload – was raised by 17%. Additional challenges raised were around team dynamics (e.g., lacking authority; 22%) and not being exposed to adverse events (11%).

In terms of barriers to running and embedding PITSTOPs in their teams, 21% highlighted the lack of time. Team dynamics, in terms of authority and having the right people involved was also mentioned by 21%, with 18% highlighting staffing challenges in terms of having sufficient staffing to ensure service delivery while bringing together all staff involved in the incident. For 16% of respondents, existing or alternative support options (e.g., debriefs, informal support session) were available instead. Other less common barriers included not having had an occasion to use it, not having a suitable place to hold it, and not having the confidence or knowledge to run a PITSTOP. Crucially, 26% reported no barriers in terms of running and embedding PITSTOPs.

3. Discussion

We found that the PITSTOP peer-led training programme improved participants' confidence in their abilities to support their colleagues after an adverse event. Participants reported increased knowledge on how to support the team, confidence in having a supportive discussion, and awareness of support available within the organisation. Crucially, these improvements were sustained over the subsequent six-month period. At follow-up, the majority of participants had been in a situation where a PITSTOP could have been useful, with more than half of these reporting facilitating a PITSTOP. However, issues around team dynamics, time and workload were particular barriers to implementation.

The findings here add to a limited pool of evidence (El Hechi et al., 2020; Sage et al., 2016) demonstrating the potential utility and application of a training programme to support a psychologically-informed peer-led approach as a way to support staff wellbeing following an adverse event. Most notably, the training demonstrates its ability to change participants' perceptions of what support they can offer to their peers, and that most of these training effects appear to hold over the subsequent six-months is encouraging. Examination of participant feedback demonstrate

the value of the peer-led support intervention in fostering feelings of support and safety by creating a space and time for participants to come together and reflect in a structured manner (O'donovan & Mcauliffe, 2020). While these do not equate to actual improvement in wellbeing outcomes, the improvement of awareness and confidence are vital first steps that lead to subsequent behavioural change and improvements (Kirkpatrick, 1954). The facilitation of a PITSTOP in the majority of situations after an adverse event demonstrates the application of this learning when the appropriate opportunity arises (Nielsen & Shepherd, 2022). This is congruent with El Hechi et al.'s (2020) peer support program which not only led to subsequent interventions, but that this in turn led to improvements in the department's safety and support culture.

That 'the team coming together when faced with difficulties' was the only item to return to the baseline score is perhaps not surprising. Unlike the other four items which focus on the individual (e.g., "I know", "I am"), the emphasis here is on the team's behaviour. Across a six-month period there can be much change to team structure and dynamics (Rosenman et al., 2018), over which an individual participant may have limited agency over. This issue is reinforced by concerns that participants shared around a lack of authority and staffing availability as factors that led to a PITSTOP not running when a relevant situation occurs. As such, there may be value in exploring the role of PITSTOP training at a group (e.g., team, department) level rather than as the training of interested individuals across the organisation, and this may also help sustain the use of the approach and integrate this into routine practice. There may also be value in training up more senior colleagues who are more likely to have the authority to call a PITSTOP and are crucial in role modelling desired behaviours (Teoh et al., 2016). Doing so could ensure a strong understanding of the process, tailoring of the approach to team-specific contexts, embedding it within existing structures, and making it less reliant on key individuals – all of which could improve sustainability over a longer period of time (El Hechi et al., 2020; Knight & Parker, 2021; Teoh, Dhensa-Kahlon, et al., 2023).

The review of barriers towards running a PITSTOP highlights several considerations around training transfer and implementation. First, the findings where participants did not feel they had the authority to run a PITSTOP or where they had not been exposed to a potentially traumatic situation suggest a need to identify participants for which this training is more appropriate and relevant, including those colleagues with sufficient authority to call a PITSTOP during a busy shift. Second, challenges within the organisational system (e.g., workload, staffing, interruptions) must be addressed, or at least considered, to facilitate better implementation. These are not only important for working conditions (Kinman et al., 2020; Teoh, Singh, et al., 2023) but for the implementation of learning and staff development activities (Watson et al., 2018). Third, we see the importance of not

only whether an intervention worked, but the process in which it was administered (Nielsen & Randall, 2013). Here, we see development points that need to be considered in future iterations of this programme, including having to design flexibility into the developed tool to make it more adaptable to local settings, and to understand how this offering complements or competes with other support processes and programmes in place (e.g., After Action reviews). Finally, our findings show the importance of having leadership support and sponsorship to signal the importance of this support mechanism , role model compassionate behaviours, and show vulnerability in learning and supporting others, all of which are imperative in improving the implementation of PITSTOPs in the dynamic, pressurised context that is healthcare (Teoh, Dhensa-Kahlon, et al., 2023). All these demonstrate that a peer-support intervention cannot be delivered as a standalone workshop if it does not link in with the wider system.

The longitudinal aspect of the study is a strength as it examined the training effects over an extended period, allowing the examination of actual implementation behaviours. The longitudinal design also addresses concerns around common method bias (Podsakoff et al., 2003). The limitations here include the absence of a control group and the low response rate at follow-up, although this is similar to other studies in this area (Akhanemhe et al., 2021). There may also be a bias in the six-month follow-up with participants who found the training useful more likely to respond. However, our additional analysis with the longitudinal subgroup showed no substantial difference between the longitudinal sample and the study population. Finally, we also did not measure the actual impact on staff wellbeing.

In conclusion, this study shows that in busy, dynamic healthcare contexts, the delivery of the PITSTOP training programme can improve healthcare workers' skills and confidence in understanding and facilitating a psychologically informed peer interventions following adverse events. Crucially, this can be delivered by colleagues in their context as needed and connected to wider or more specialist wellbeing and psychological support. Nevertheless, there are several factors around implementation that need to be considered to improve its uptake, and understand its impact, while also offering avenues for future research to examine.

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References

Akhanemhe, R., Wallbank, S., & Greenberg, N. (2021). An evaluation of REACTMH mental health training for healthcare supervisors. *Occupational Medicine*, *71*(3), 127–130. https://doi.org/10.1093/occmed/kqab023

d'Ettorre, G., Ceccarelli, G., Santinelli, L., Vassalini, P., Innocenti, G. Pietro, Alessandri, F., Koukopoulos, A. E., Russo, A., D'Ettorre, G., & Tarsitani, L. (2021). Post-Traumatic Stress Symptoms in Healthcare Workers Dealing with the COVID-19 Pandemic: A Systematic Review. *International Journal of Environmental Research and Public Health*, *18*(2), 601. https://doi.org/10.3390/ijerph18020601

El Hechi, M. W., Bohnen, J. D., Westfal, M., Han, K., Cauley, C., Wright, C., Schulz, J., Mort, E., Ferris, T., Lillemoe, K. D., & MA Kaafarani, H. (2020). Design and Impact of a Novel Surgery-Specific Second Victim Peer Support Program. *Journal of the American College of Surgeons*, *230*(6), 926–933. https://doi.org/10.1016/j.jamcollsurg.2019.10.015

Greenberg, N., Weston, D., Hall, C., Caulfield, T., Williamson, V., & Fong, K. (2021). Mental health of staff working in intensive care during Covid-19. *Occupational Medicine*, *71*(2), 62–67. https://doi.org/10.1093/occmed/kqaa220

Greene, T., Harju-Seppänen, J., Adeniji, M., Steel, C., Grey, N., Brewin, C. R., Bloomfield, M. A., & Billings, J. (2021). Predictors and rates of PTSD, depression and anxiety in UK frontline health and social care workers during COVID-19. *European Journal of Psychotraumatology*, *12*(1). https://doi.org/10.1080/20008198.2021.1882781

Ha, E. (2021). Effects of hot and cold debriefing in simulation with case-based learning. *Japan Journal of Nursing Science*, *18*(3). https://doi.org/10.1111/jjns.12410

Hodkinson, A., Zhou, A., Johnson, J., Geraghty, K., Riley, R., Zhou, A., Panagopoulou, E., Chew-Graham, C. A., Peters, D., Esmail, A., & Panagioti, M. (2022). Associations of physician burnout with career engagement and quality of patient care: systematic review and meta-analysis. *BMJ*, e070442. https://doi.org/10.1136/bmj-2022-070442

James, S., Subedi, P., Indrasena, B. S. H., & Aylott, J. (2022). Review DebrIeF: a collaborative distributed leadership approach to "hot debrief" after cardiac arrest in the emergency department – a quality improvement project. *Leadership in Health Services*, *35*(3), 390–408. https://doi.org/10.1108/LHS-06-2021-0050

Kinman, G., & Teoh, K. R.-H. (2018). *What could make a difference to the mental health of UK*

doctors? A review of the research evidence. Society of Occupational Medicine.

Kinman, G., Teoh, K. R.-H., & Harriss, A. (2020). *The Mental Health and Wellbeing of Nurses and Midwives in the United Kingdom*. Society of Occupational Medicine. https://www.som.org.uk/sites/som.org.uk/files/The_Mental_Health_and_Wellbeing_of_Nurses_and_Midwives_in_the_United_Kingdom.pdf

Kirkpatrick, D. (1954). *Evaluating Human Relations Programs for Industrial Foremen and Supervisors*. University of Wisconsin-Madison.

Knight, C., & Parker, S. K. (2021). How work redesign interventions affect performance: An evidence-based model from a systematic review. *Human Relations*, *74*(1), 69–104. https://doi.org/10.1177/0018726719865604

Meneses Echavez, J. F., Borge, T. C., Nygård, H. T., Gaustad, J. V., & Hval, G. (2022). *Psykologisk debriefing for helsepersonell involvert i uønskede pasienthendelser: en systematisk oversikt.* https://fhi.brage.unit.no/fhi-xmlui/handle/11250/2992077

Nielsen, K., & Randall, R. (2013). Opening the black box: Presenting a model for evaluating organizational-level interventions. *European Journal of Work and Organizational Psychology*, *22*(5), 601–617. https://doi.org/10.1080/1359432X.2012.690556

Nielsen, K., & Shepherd, R. (2022). Understanding the outcomes of training to improve employee mental health: A novel framework for training transfer and effectiveness evaluation. *Work and Stress*, *36*(4), 377–391. https://doi.org/10.1080/02678373.2022.2028318

O'donovan, R., & Mcauliffe, E. (2020). A systematic review of factors that enable psychological safety in healthcare teams. *International Journal for Quality in Health Care*, *32*(4), 240–250. https://doi.org/10.1093/intqhc/mzaa025

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Rose, S. C., Bisson, J., Churchill, R., & Wessely, S. (2002). Psychological debriefing for preventing post traumatic stress disorder (PTSD). *Cochrane Database of Systematic Reviews*. https://doi.org/10.1002/14651858.cd000560

Rosenman, E. D., Fernandez, R., Wong, A. H., Cassara, M., Cooper, D. D., Kou, M., Laack, T. A., Motola, I., Parsons, J. R., Levine, B. R., & Grand, J. A. (2018). Changing Systems Through Effective Teams: A Role for Simulation. *Academic Emergency Medicine*, *25*(2), 128–143.

https://doi.org/10.1111/acem.13260

Sage, C. A. M., Brooks, S. K., Jones, N., & Greenberg, N. (2016). Attitudes towards mental health and help-seeking in railway workers. *Occupational Medicine*, *66*(2), 118–121. https://doi.org/10.1093/occmed/kqv165

Sugarman, M., Graham, B., Langston, S., Nelmes, P., & Matthews, J. (2021). Implementation of the 'TAKE STOCK' Hot Debrief Tool in the ED: a quality improvement project. *Emergency Medicine Journal*, *38*(8), 579–584. https://doi.org/10.1136/emermed-2019-208830

Tamrakar, T., Murphy, J., & Elklit, A. (2019). Was psychological debriefing dismissed too quickly? *Crisis, Stress, and Human Resilience: An International Journal*, *1*(3), 146–155.

Teoh, K. R.-H., Coyne, I., Devonish, D., Leather, P., & Zarola, A. (2016). The interaction between supportive and unsupportive manager behaviors on employee work attitudes. *Personnel Review*, *45*(6), 1386–1402. https://doi.org/10.1108/PR-05-2015-0136

Teoh, K. R.-H., Dhensa-Kahlon, R., Christensen, M., Frost, F., Hatton, E., & Nielsen, K. (2023). *Organisational Wellbeing Interventions: Case Studies from the NHS*.

Teoh, K. R.-H., Singh, J., Medisauskaite, A., & Hassard, J. (2023). Doctors' perceived working conditions, psychological health and patient care: a meta-analysis of longitudinal studies. *Occupational and Environmental Medicine*, *80*(2), 61–69. https://doi.org/10.1136/oemed-2022-108486

Turner, K., Bolderston, H., Thomas, K., Greville-Harris, M., Withers, C., & McDougall, S. (2022). Impact of adverse events on surgeons. *British Journal of Surgery*, *109*(4), 308–310. https://doi.org/10.1093/bjs/znab447

Walker, C. A., McGregor, L., Taylor, C., & Robinson, S. (2020). STOP5: a hot debrief model for resuscitation cases in the emergency department. *Clinical and Experimental Emergency Medicine*, *7*(4), 259–266. https://doi.org/10.15441/ceem.19.086

Watson, D., Tregaskis, O., Gedikli, C., Vaughn, O., & Semkina, A. (2018). Well-being through learning: a systematic review of learning interventions in the workplace and their impact on well-being. *European Journal of Work and Organizational Psychology*, *27*(2), 247–268. https://doi.org/10.1080/1359432X.2018.1435529