

EXPERT GUIDELINES:

DIAGNOSIS AND TREATMENT OF POST-TRAUMATIC STRESS DISORDER IN EMERGENCY SERVICE WORKERS



Endorsed by the Royal Australian and New Zealand College of Psychiatrists



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This document is a general guide to appropriate practice, to be followed only subject to the practitioner's judgement in each individual case.

The guidelines are designed to provide information to assist decision making but they do not override the individual responsibility of health professionals to make decisions appropriate to the circumstances of the individual patient.

These guidelines attempt to use the most up to date information at the time of publication, but health professionals must also be mindful of new evidence as it becomes available.

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FOREWORD

Emergency workers perform a vital role in our society. They protect the rule of law, ensure our safety and provide assistance in emergencies. Surveys consistently show that emergency workers are one of the most valued and trusted occupational groups. However, there is increasing realisation that emergency work can come at a cost. Large numbers of emergency workers report ongoing psychological consequences from exposure to trauma, most notably post-traumatic stress disorder (PTSD).

Over recent decades, a substantial body of evidence has accumulated regarding how PTSD should be treated. There are now a number of psychological and pharmacological treatments known to be effective at both reducing symptoms and improving functioning. There have also been a number of proposed treatments that have been found not to be beneficial. However, such is the scope of available literature on PTSD, it has become difficult for both clinicians and organisations to remain up to date with what is best practice.

There have been a number of very large, systematic reviews of the available literature.¹⁻⁸ Within the Australian context, the most important of these is the Australian Guidelines for the Treatment of Acute Stress Disorder and Posttraumatic Stress Disorder, which were published in 2007 and updated in 2013.² The Australian Guidelines were developed using best practice methods and involved a combination of a detailed systematic review of the literature and use of multidisciplinary expert committees. The final recommendations from these guidelines have been approved by the National Health and Medical Research Council (NHMRC), which highlights their integrity.

However, from the point of view of those managing emergency service personnel with symptoms of PTSD there are two main limitations of the previously available guidance. Firstly, while the Australian Guidelines make some comments about specific groups, such as emergency workers, the bulk of the document deals with the management of PTSD more generally, without consideration of some of the specific issues that may relate to emergency workers. Secondly, like much of the research in this field, most of the currently available guidance is focused on symptomatic improvement. While a reduction in symptoms is often a necessary first step towards functional recovery, in cases of work-related trauma exposure, it is often not enough. Managing the return to work of an emergency worker who has suffered PTSD is particularly complicated due to issues of public safety and the likelihood of further trauma exposure.

The guidelines presented in this report aim to complement, rather than replace previous guidance. The guidance provided is consistent with the NHMRC approved Australian Guidelines.² Where these guidelines differ from that previously available is the unique challenges associated with diagnosing and treating PTSD amongst emergency workers are considered in detail, with emergency worker specific guidance provided for each step of the process.

To the best of our knowledge, these are the first PTSD diagnosis and treatment guidelines written specifically for emergency workers anywhere in the world. Given the burden of trauma-related mental health problems amongst emergency workers, such guidance is long overdue. We hope these guidelines help emergency workers and their clinicians as they work together towards recovery.

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ABBREVIATIONS

ASD

Acute Stress Disorder

CBT

Cognitive behavioral therapy

DSM

Diagnostic and Statistical Manual of Mental Disorders

ISTSS

International Society for Traumatic Stress Studies

EMDR

Eye movement desensitisation and reprocessing

MAOI

Monoamine oxidase inhibitor

M-FAST

Miller Forensic Assessment of Symptoms Test

MMPI

Minnesota Multiphasic Personality Inventory

NICE

UK National Institute of Clinical Excellence

NHMRC

National Health and Medical Research Council

NaSSA

Noradrenergic and specific serotonergic antidepressant

PAI

Personality Assessment Inventory

PTSD

Post-traumatic stress disorder

RCT

Randomised controlled trial

SNRI

Serotonin-norepinephrine reuptake inhibitor

SSRI

Selective serotonin reuptake inhibitors

TCA

Tricyclic anti-depressions

EXECUTIVE SUMMARY

In Australia, there are over 80,000 full time emergency workers who perform a vital role in protecting and providing emergency assistance to other citizens. As a result of their work, emergency workers are regularly exposed to potentially traumatic experiences. There is increasing awareness and concern regarding the possible psychological consequences of trauma exposure amongst emergency workers.

Post-traumatic Stress Disorder (PTSD) describes a severe and persistent mental health impairment that can occur following exposure to a single or multiple traumatic events. An individual with PTSD typically has four clusters of symptoms: re-experiencing symptoms; avoidance symptoms; negative cognitions and mood associated with the traumatic event; and arousal symptoms, including insomnia and irritability. The most up to date literature estimates that around one in ten emergency workers are currently suffering from PTSD, although rates are likely to be even higher if retired emergency workers are considered.

Over recent years a substantial body of evidence has accumulated regarding how PTSD should be treated. There are now a number of psychological and pharmacological treatments known to be effective at both reducing symptoms and improving functioning. It should also be recognised that PTSD regularly presents with comorbid conditions such as Major Depressive Disorder and Alcohol Use Disorder. The guidelines presented in this report aim to utilise a combination of expert opinion and the best available research evidence to produce succinct, focused guidelines on the diagnosis and treatment of emergency workers with PTSD.

A panel of nine of Australia's leading experts in PTSD was assembled, with expertise in psychiatry, clinical psychology, general practice, epidemiology and occupational medicine. The resulting guidelines are summarised in this document.

DIAGNOSIS AND ASSESSMENT

- 1.** PTSD should only be diagnosed following a thorough clinical assessment covering the history of presentation, trauma history, symptom profile, general psychiatric assessment, physical health, substance use, personal history, family history and social and occupational functioning.
- 2.** Other potential post-traumatic mental health conditions, such as depression, anxiety disorders or substance misuse should be considered, both as alternative primary diagnoses and as co-morbid conditions.
- 3.** While primary care clinicians and other healthcare providers may be able to assist in identifying potential cases of PTSD, where possible health professionals trained in psychopathology and experienced in mental health assessments should conduct a mental health assessment of any emergency worker suspected of suffering PTSD.
- 4.** While clinician assessment should form the main basis of a diagnosis of PTSD, consideration should be given to combining clinician assessment with validated self-report and structured clinical interview measures. Clinicians should also not rely solely on self-report scales or purely directive questions. Emphasis should be placed on detailed analysis of patients' experiential reports and objectively verified evidence.
- 5.** Clinicians assessing emergency workers with possible PTSD should be aware of the different ways in which PTSD may present in this group, given the cumulative exposure to trauma in the course of employment, and should focus on the lifetime exposure to trauma, as well as the immediate antecedent event that may have prompted presentation for treatment.
- 6.** Clinicians should be aware of the risk of symptom minimisation or symptom exaggeration and assess these as a regular part of their diagnostic assessment.
- 7.** A functional assessment, including both occupational and non-occupational functioning should be part of any diagnostic assessment.
- 8.** Co-morbid mental health conditions should be identified and treated with evidence-based interventions.

9. Co-morbid physical health problems, particularly chronic pain, should be enquired about and addressed as part of the routine assessment of emergency workers suspected of suffering PTSD.

10. Subsyndromal symptoms of PTSD are relatively common amongst emergency workers and associated with a range of adverse outcomes. Early intervention should be considered in emergency workers with persistent or distressing subsyndromal symptoms.

TREATMENT PLANNING

11. Once a diagnosis of PTSD has been established, evidence-based treatment should be commenced without delay.

12. While only evidence-based treatments are recommended, a range of other factors, including patient choice, should be considered when deciding which treatments to commence.

13. Practitioners who provide mental health care to emergency workers with PTSD, regardless of professional background, must be appropriately trained to ensure adequate knowledge and competencies to deliver the recommended treatments. This requires specialist training, over and above basic mental health or counselling qualifications.

14. Even if treatment is being provided by psychiatrists or other mental health professionals, an emergency worker's general practitioner should remain an active member of the treating team. When treatment is shared between different clinicians or between primary and secondary care, it is essential that it is agreed who has primary responsibility for coordinating care and monitoring progress.

15. A safe environment is necessary for trauma-focused therapy to be able to be undertaken. In the case of an emergency worker, this may require their duties to be temporarily modified in order to prevent further exposure to potentially traumatic events while treatment is being undertaken. However, in many cases treatment can continue whilst working; these decisions should be made jointly between treating clinician, patient, and occupational rehabilitation case manager.

TREATMENT SETTING

16. The risk of self-harm, aggression and violence needs to be regularly assessed throughout each stage of treatment in any emergency worker with PTSD. The risk of these behaviours recurring requires reassessment when returning a worker to frontline duties.

17. In general, emergency workers with PTSD can be treated as outpatients. Inpatient care should only be required when there are severe comorbid psychiatric diagnoses, serious threat of harm to themselves or others or for severely ill patients who lack adequate social support outside a hospital setting.

TREATMENT GOALS

18. Prior to commencing treatment for PTSD, there should be an agreed set of treatment goals, which consider symptom levels, functional improvement, quality of life and occupational and social recovery.

19. Assessment and monitoring should be undertaken throughout treatment. When adequate progress towards the agreed goals are not being made, the treatment provider should revisit the case formulation, reassess potential treatment obstacles, and implement appropriate strategies, or refer to another practitioner.

PSYCHOLOGICAL INTERVENTIONS

20. All emergency workers suffering from PTSD should be offered either trauma-focused cognitive behavioural therapy (CBT) or eye movement desensitisation and reprocessing (EMDR). As outlined below, there are some circumstances when an emergency worker's presentation or co-morbidities may require a delay before these therapies can be safely offered.

21. Emergency workers will usually require 8 to 12 sessions of trauma-focused psychological treatment (either CBT or EMDR), each lasting between 60 and 120 minutes (at least 90 minutes in sessions where the traumatic events are discussed in detail). Many emergency workers will require additional treatment sessions, especially if they have severe symptoms, have experienced multiple traumatic events or have co-morbid mental health problems.

22. Trauma-focused therapy would normally include imaginal exposure therapy that systematically exposes the patient/worker to the traumatic memories that are associated with PTSD symptoms. If appropriate, feared or avoided situations, including those in the workplace, should be systematically addressed through in vivo exposure with the view to optimise functioning.

23. The development of a therapeutic alliance is necessary for undertaking specific psychological interventions and may require extra time for emergency workers who have experienced prolonged and/or repeated traumatic exposure.

24. Emergency workers' response to psychological therapy should be reviewed regularly. If an adequate response to one type of trauma-focused psychological therapy (CBT or EMDR) is not observed after 12 trauma-focused sessions, the practitioner should revisit the case formulation, assess potential treatment obstacles, and consider further sessions, alternative trauma-focused treatments or augmentation with pharmacological treatment (see below).

25. Empathic support can be an important step in preparing emergency workers for PTSD-specific treatment. However, non-trauma focused psychological interventions, such as relaxation or supportive counselling should not be used routinely for treatment of PTSD amongst emergency workers unless trauma focused interventions treatments are not available or cannot be tolerated by the worker.

26. Where possible, the prolonged exposure components of the trauma-focused psychological therapies should be offered in an individual face to face setting, even if other components are delivered in a group setting. However, when this is not possible or refused, other methods of providing trauma-focused therapy, including internet-delivered or group cognitive behavioral therapy, can be offered.

PHARMACOLOGICAL TREATMENT

- 27.** Medication should be considered for the treatment of PTSD amongst emergency workers when:
- a. the emergency worker has a co-morbid mental health condition or symptoms where medication may be indicated
 - b. the emergency worker's circumstances are not sufficiently stable to commence trauma-focused psychological therapy

- c. the emergency worker has not gained sufficient benefit from trauma-focused psychological therapy
- d. the emergency worker is unable or unwilling to engage in trauma-focused psychological therapy
- e. there is not immediate access to a trained professional who can deliver trauma-focused psychological therapy.

28. When medication is trialed for the treatment of PTSD, SSRI antidepressants should be used initially.

29. When treating PTSD, SSRI antidepressants should be commenced at half the usual starting dose used for treating depression (to reduce transient increases in anxiety symptoms), although titration to higher doses is often needed to gain a full effect.

30. If the required treatment response does not occur after 12 weeks of an adequate dose of a SSRI antidepressant, the treating clinician should revisit the case formulation, consider raising the dose (if the current dosage is well tolerated), swapping to an alternative antidepressant, combining pharmacological and psychological treatments or augmentation with another type of medication (as outlined below).

31. When an emergency worker has responded to a drug treatment and there are no unacceptable side effects, it should be continued for at least twelve months from the time of symptom response.

32. Alpha-adrenergic antagonists, atypical antipsychotics, benzodiazepines and anti-convulsant medication should not be routinely used as initial treatment amongst emergency workers with PTSD.

33. When symptoms have not responded adequately to antidepressant medication, the addition of an alpha-adrenergic (prazosin) or an atypical antipsychotic (risperidone, olanzapine or quetiapine) as an augmenting agent can be considered. Prazosin may help in reducing the frequency of nightmares and sleep disturbance.

34. Benzodiazepines can be prescribed for short term relief of severe anxiety or insomnia in cases of PTSD or to assist with a planned alcohol withdrawal, but should be prescribed at the lowest possible dose and ideally for less than four weeks.

35. Appropriate medication should be used to treat any diagnosed co-morbid mental illness, such as depression, in line with disorder-specific treatment guidelines.

TREATMENT SEQUENCING WHEN CO-MORBID CONDITIONS ARE PRESENT

36. When an emergency worker presents with both PTSD and mild to moderate depression, clinicians should consider either treating the PTSD first or providing concurrent treatments for both conditions.

37. When co-morbid depression is severe, primary or long-standing, clinicians are advised to treat the depression prior to treating the PTSD symptoms or to consider treating the disorders concurrently.

38. When PTSD is combined with substance misuse, the possibility of integrated treatment of both conditions should be considered. However, the trauma-focused psychological component of PTSD treatment should not commence until the emergency worker has demonstrated an ability to attend sessions and manage distress without abusing alcohol or drugs in a way that leads to dangerous situations.

39. When an emergency worker with PTSD presents with significant levels of anger, exposure therapy should be delayed, with treatment initially placing a greater emphasis on cognitive behavioural interventions targeted at anger.

ENHANCING OCCUPATIONAL FUNCTION AND RETURN TO WORK

40. Occupational recovery should be considered from the very beginning of treatment. Remaining at, or returning to, work should be an aim of treatment and considered an important part of the recovery of emergency workers with PTSD.

41. There should be an expectation that most emergency workers with PTSD can gain benefits from appropriate treatment. As such, where possible, constraints should not be put on their occupational recovery (for example, stating they will never work again) until adequate trials of proven treatments have been undertaken. However, the extended use of modified duties may be necessary in order to lessen the risk of recurrence or intensification of subsyndromal symptoms once treatment has been completed.

42. Employers should, when possible, attempt to maintain regular supportive contact with an emergency worker who is away from work due to PTSD. Regular, supportive contact is important during all stages of an episode of sickness absence.

43. The treatment of emergency workers with PTSD needs to be integrated with emergency services' return to work / recovery programs, with regular supportive contact between the worker, the workplace and the treating clinicians.

44. While a period away from operational duties may be required, clinicians should consider the possibility of adjusted duties and partial return to work as ways of promoting recovery and reducing the risk of long-term sickness absence.

45. Any adjustment to usual work duties should be agreed by the emergency worker, the treating clinicians and the relevant occupational health / rehabilitation coordinator. Positions should be provided that allow the meaningful rehabilitation and ongoing employment of emergency workers, with alternative duties that are non-stigmatizing and, where possible, commensurate with the worker's level of experience and seniority.

46. If an emergency worker with PTSD has required a period away from their usual duties, they should be made aware of which individual or individuals within the emergency service they or their clinician can speak to, if needed, in order to help plan their recovery and rehabilitation. This individual or individuals should have knowledge about the organisation, the recovery pathways available and the hazards, risks as well as benefits of return to work.

47. Symptomatic treatments alone may not prove effective in improving occupational outcomes. All emergency workers who are absent from work due to PTSD should be offered work-focused interventions, such as work-focused exposure therapy, in addition to standard symptom-focused treatment.

48. All emergency workers engaging with psychological therapy should have work-related triggers and work-specific anxieties addressed as part of their treatment. Reactivity to these triggers should be monitored carefully on return to emergency work as these are predictors of relapse.

49. Key factors acting as barriers preventing return to work and recovery should be identified and discussed as part of the management of emergency workers with PTSD. This may involve considering interventions for non-trauma related work and non-work factors.

50. A return to work should be planned between the emergency worker, the treating clinicians, the employer and, when present, the workplace occupational health service.

51. Emergency workers can return to operational duties if their symptoms have substantially improved, even while still undertaking treatment (including medication). However, it is necessary for all aspects of an emergency workers' role to be considered prior to a return to full duties, including special circumstances such as the need to carry a weapon or driving regular or heavy vehicles at high speed.

52. When an emergency worker who has had PTSD returns to work, the treating clinicians, emergency worker, the employer and the workplace occupational health service should agree on how the emergency worker's symptom levels will be monitored and what type of symptom recurrence should prompt a re-assessment.

53. In some circumstances it will be necessary to consider a permanent cessation of an emergency worker's employment in the emergency services. Consideration of this should only occur after an adequate trial of evidence-based treatments. All workers who are unable to continue with their employment should still be offered symptom and work-focused interventions to maximise their future functioning.

54. It is important that employers and occupational recovery agencies foster an environment where emergency workers that are unable to continue with their employment in the emergency services or who decide that they will cease their employment are able to feel proud and respected for the emergency work they have carried out.



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INTRODUCTION

Emergency services are organisations that ensure public health and safety by responding to, and preventing, various emergency situations. Within Australia there are three main emergency services; police, fire and rescue, and ambulance, with a range of additional voluntary emergency organisations including State Emergency Services (SES), coast guard, rural fire service and life savers. Workers within each of these organisations will be exposed to potentially traumatic events as part of their daily work or volunteer activities. A degree of psychological distress is common after such experiences.⁹ In most cases, an individual's personal coping strategies and established support networks will allow these initial responses to gradually settle down and an emergency worker will be able to quickly return to their usual level of functioning. However, for some individuals, such symptoms increase in intensity with the passage of time or may be persistent and thus lead to a psychiatric diagnosis. There are a range of potential mental health problems which may occur in the aftermath of a traumatic event, including depression, anxiety, acute stress disorder, post-traumatic stress disorder, adjustment disorder, increased physical complaints and substance misuse.¹⁰⁻¹⁵

Post-traumatic stress disorder (PTSD) is a relatively new diagnosis. However its predecessor, traumatic neurosis has long been documented in the scientific literature. While the psychological consequences of trauma have been known about for many years, PTSD was only formally recognised as a diagnostic label in the 1980s.¹⁶ Over the last 30 years there has been considerable debate regarding the frequency of PTSD following trauma and how the psychological consequences of trauma should be managed. Despite these debates, there is clear evidence that emergency workers have higher rates of PTSD symptoms than the general population and that for many emergency workers, these symptoms are causing significant distress and functional problems.^{17,18} As a result of this symptom burden, large numbers of emergency workers continue to be declared unfit to work because of PTSD symptoms. Disabling mental illness following workplace trauma is a tragic outcome for all concerned; the individual, the emergency services and society at large.

AIMS OF THESE GUIDELINES

The guidelines presented in this report aim to utilise a combination of expert opinion and the best available research evidence to produce succinct, focused guidance on the diagnosis and treatment of emergency workers with PTSD. As noted in the Foreword to this report, these guidelines build on National Health and Medical Research Council (NHMRC) approved Australian Guidelines for the Treatment of Acute Stress Disorder and Posttraumatic Stress Disorder, published in 2013.² However, they differ from these and other previously available guidance by focusing on the unique challenges associated with treating PTSD amongst emergency workers.

Treating emergency workers with PTSD can be a complicated task. The development of these guidelines has attempted to consider many of the common complicating factors and to allow for these in the guidance recommendations made. However, as with all clinical guidelines, the recommendations made need to be considered together with each clinician's own experience and patient's preference. This guidance provided is intended to be a general evidence-based guide to appropriate practice, to be followed subject to a practitioner's judgement and consideration of the circumstances of the individual patient in each case.

There is increasing interest in the notion of preventing mental disorder, such as PTSD, with evidence-based workplace interventions.¹⁹ As a result, topics such as resilience training, pre-employment screening, wellbeing checks, peer support schemes and post-trauma interventions are of vital importance to emergency services. However, these pre-diagnosis interventions were not within the scope of these guidelines, which aimed to focus on what should occur once PTSD is suspected or established in an emergency worker. More details about these topics can be found in other published reviews²⁰⁻²² and in the Australian Guidelines for the Treatment of Acute Stress Disorder and Posttraumatic Stress Disorder.²

To the best of our knowledge, these guidelines are the first expert guidance on the treatment of PTSD amongst emergency workers to be published anywhere in the world.

EXPERT PANEL COMPOSITION

The expert panel that authored these guidelines was co-chaired and convened by Dr Samuel Harvey and Prof Richard Bryant. The composition of the panel ensured that a wide variety of views and both clinical and academic expertise were considered in the construction of these guidelines. The professional background of panel members includes psychiatry, psychology, and occupational medicine. The expert panel and authors of this report were:

- **Dr Samuel B Harvey (lead author and co-chair)**

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- **A/Prof Jonathan Phillips AM**

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- **Prof Zachary Steel**

St John of God Health Care, Richmond Hospital; School of Psychiatry, University of New South Wales; and Black Dog Institute

ROLE OF FUNDING BODY AND PEER REVIEW

Employers Mutual, a regulated workers compensation insurer and claims manager that provides workers compensation claims management services to a number of Australian emergency service organisations, funded the development of these guidelines. The funder's role in the development of these guidelines was agreed in legal contract co-signed by the University of New South Wales and Employers Mutual Limited. This contract clearly sets out that the authors of these guidelines had full academic independence and that while Employers Mutual provided funding to support the development of these guidelines, they did not influence the final report conclusions in any way.

A detailed table provided in Appendix 1 provides the affiliation and a full conflict of interest statement for each author.

These guidelines have undergone independent peer review via the Royal Australian and New Zealand College of Psychiatrists Practice and Partnerships Committee. They have also been reviewed by a range of emergency service organisations and by emergency service workers' peer support services.

DOCUMENTS USED IN DEVELOPING THIS GUIDANCE

As outlined above, these guidelines aimed to interpret the detailed systematic reviews and guidance already available on PTSD treatment in the general population. As such, a new systematic review of the literature was not undertaken. Rather, the systematic appraisals contained within the following documents was utilised:

- Australian Guidelines for the Treatment of Acute Stress Disorder and Posttraumatic Stress Disorder²
- The UK National Institute of Clinical Excellence (NICE) guidelines on the Management of PTSD in Adults and Children in Primary and Secondary Care⁶
- International Society for Traumatic Stress Studies (ISTSS) revised Treatment Guidelines for PTSD³
- US Department of Defence's Clinical Practice Guidelines for the Management of Post-Traumatic Stress⁵
- American Psychiatric Association Practice Guideline for the Treatment of Patients With Acute Stress Disorder and Posttraumatic Stress Disorder¹
- Institute of Medicine's Treatment of PTSD: An Assessment of the Evidence⁴



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- Institute of Medicine's Treatment of posttraumatic stress disorder in military and veteran populations⁷
 - British Association for Psychopharmacology's evidence-based pharmacological treatment of anxiety disorders, post-traumatic stress disorder and obsessive-compulsive disorder.⁸

Information from these documents was combined with expert opinion, other published systematic reviews and the results from the key pieces of primary research in order to produce this detailed guidance.

WHAT IS PTSD AND HOW MAY IT PRESENT IN EMERGENCY WORKERS?

The potential for adverse psychological effects following exposure to trauma has been known for many years. Earlier conceptualisations of traumatic stress typically regarded these reactions as transient responses that would normally abate shortly after trauma exposure. The diagnosis of post-traumatic stress disorder (PTSD) was formally recognised in the third edition of the Diagnostic and Statistical Manual of Mental Disorders, DSM-III.¹⁶ This formal recognition was initially heavily influenced by the need to understand and meet the needs of veterans returning from Vietnam with PTSD reactions, although over time the relevance of PTSD to non-military populations has increasingly been recognised.

Post-traumatic Stress Disorder (PTSD) describes severe and persistent stress reactions after exposure to a traumatic event. A prerequisite to the symptoms of PTSD is that an individual must be exposed to threatened or actual death or serious injury to self or others, including repeated or extreme exposure to the adverse details of traumatic events, as typically occurs with emergency workers. PTSD comprises four additional major clusters of symptoms. One involves re-experiencing symptoms, including intrusive memories, flashbacks, nightmares, and distress to reminders of the trauma. The next cluster involves avoidance symptoms, including active avoidance of thoughts and situational reminders of the trauma. The third cluster of symptoms is negative cognitions and mood associated with the traumatic event, such as an inability to remember important details about the event or persistent unusual ideas about the cause or consequence of the traumatic experience. The final cluster involves arousal symptoms, including exaggerated startle response, insomnia, irritability, and sleeping and concentration difficulties. The latest version of the Diagnostic and Statistical Manual of Mental Disorders, DSM-5, requires that at least one symptom in each of these clusters be present for more than one month and be associated with significant distress or impairment in social, occupational, or other important areas of functioning.²³

There is strong evidence that many people who are exposed to a traumatic experience commonly report post-traumatic stress reactions in the initial weeks after trauma, but that for most, these symptoms are transient.⁹ For example, detailed studies of south Manhattan residents following the September 11 terrorist attacks show rates of probable PTSD one month after the attacks were around 7.5%, but that by six months after the incident, rates had decreased to more normal background rates of 0.6%.²⁴ A further study followed police responders who attended the World Trade Centre following the terrorist attacks over an eight year period.²⁵ Given the direct exposure to trauma, their rates of PTSD were, as expected, higher than those seen in the previously mentioned studies of civilian residents. However, after eight years, 78% of police officers were classed as demonstrating a resistant/resilient trajectory of PTSD symptoms, with a further 8% classed as continuing to recover.²⁵

Despite a general trend for symptoms to occur soon after a traumatic event, then gradually abate, it is also important to note that there are a number of different trajectories the emergence of mental health symptoms can follow. The most notable example of this is delayed-onset PTSD, where the initial symptoms present more than six months after a traumatic incident. Delayed-onset PTSD has been best described in military samples, where some estimates have suggested that this type of PTSD may account for as many as 38% of all PTSD cases.²⁶ In the eight year follow up of police officers attending the World Trade Centre attack described above, 9% of officers were described as having a delayed onset of PTSD symptoms.²⁵ A variety of explanations for delayed onset PTSD have been offered, including an exaggerated initial numbing response, additive impact of post-trauma stressors, the impact of cumulative trauma, missed early low-level symptoms and sensitisation.²⁶⁻²⁹

The nature and pattern of trauma exposure amongst emergency workers is different to those experienced by other populations. Emergency workers will expect to experience multiple episodes of potentially traumatic experiences while undertaking their usual work. They may witness individuals who have been badly hurt or deceased, directly threatened themselves or, in the case of police officers, be required to seriously wound or kill others as part of their job. As a result of this regular exposure, an emergency worker's response to trauma is often anger and guilt, rather than the fear or horror often described by members of the general population exposed to one off, unexpected trauma.²

Given these differences, it is not surprising that emergency workers with PTSD may present in different ways. Individual emergency workers may have experienced a gradual buildup of distress and symptoms

over a prolonged period of time, rather than a sudden onset of symptoms after one isolated event.³⁰ Alternatively, they may present with an acute onset of symptoms after a single event. Many emergency workers exposed to repeat traumas demonstrate sensitisation, with increasingly severe responses to each successive trauma exposure, or kindling, when lesser traumatic events that previously would not have caused them distress, begin to generate mental health problems.³¹ Given the culture of first response work, many emergency workers will attempt to minimise post-trauma symptoms, so may present initially with more indirect symptoms, such as substance abuse, interpersonal conflict or violent outbursts.² As a result of these complexities, there has been some debate regarding the exact prevalence of PTSD amongst emergency workers. However, a recently published systematic review and meta-regression examining the results of international studies of over 20,000 emergency workers concluded that the prevalence of PTSD amongst current workers was 10%.¹⁷ This figure may be an under-estimate as it is likely that rates are even higher amongst retired emergency workers, particularly those who have retired early due to poor health. The prevalence and nature of PTSD amongst volunteer emergency workers is less clear.

While there are many considerations around the presentation and management of PTSD that are common amongst emergency workers, it is important to note that there is also potential for there to be variation in the issues relevant for different types of emergency workers. Perhaps most notably, some emergency workers (such as rural fire fighters and State Emergency Service workers) perform their emergency service work in a voluntary capacity. Despite the intermittent nature of their emergency service work, these individuals may still be exposed to significant trauma. As emergency service work is not their primary occupation, volunteer workers are likely to have different levels of training and experience prior to any traumatic event and may also have less immediate access to specific supports. Even full time emergency service workers may have differing levels of support and rehabilitation options depending on whether they are based in metropolitan or rural areas. Finally, within each emergency service there are specific occupational aspects that will need to be considered, for example decisions around police officers carrying weapons or fire fighters holding heavy vehicle licenses.

SUBSYNDROMAL PTSD SYMPTOMS

A further complexity amongst emergency workers is the issue of subsyndromal symptoms. Subsyndromal symptoms occur when an emergency worker has symptoms consistent with PTSD, but where the intensity or combination of symptoms are not sufficient for PTSD to be diagnosed. A number of cross sectional and

longitudinal studies have suggested that subsyndromal PTSD is relatively common amongst emergency workers.³² Once subsyndromal symptoms are present, they can become chronic and associated with significant impairment.^{33,34} Studies of emergency workers have shown that early or prolonged subsyndromal symptoms increase the risk of future mental health problems, such as PTSD.³⁵ Subsyndromal PTSD symptoms have also been associated with higher rates of comorbid depression,³⁶ increased levels of suicidal ideation,³⁶ greater anger and hostility,³⁷ and more sickness absence.³⁸ There is increasing awareness of the importance of early recognition and early intervention within psychiatry.³⁹ As such, individuals with subsyndromal symptoms of PTSD or early signs of Acute Stress Disorder (ASD) are increasingly being considered as candidates for proactive early interventions.^{2,33} While a detailed discussion of these pre-diagnosis interventions falls outside the scope of these guidelines, it is important to recognise that subsyndromal symptoms are particularly relevant for emergency workers exposed to multiple traumatic incidents.

CO-MORBIDITY WITH OTHER DISORDERS

PTSD, particularly when long standing, rarely exists in isolation. Australian data suggests that 85% of men and 80% of women with PTSD also meet criteria for another mental health condition, most commonly depression, generalised anxiety disorder, alcohol abuse or illicit drug use.⁴⁰ Studies of PTSD populations experiencing chronic trauma exposure, such as military personnel, have also identified high rates of co-morbidity.⁴

The importance of co-morbidity is three fold; firstly co-morbid conditions can create diagnostic confusion, secondly there is a general acceptance that individuals with more than one mental health condition co-occurring have poorer outcomes and finally, when co-morbidity is present there is a need to decide which of the conditions present will be treated first or whether they can be treated concurrently.

A related concept to co-morbidity is the awareness that many individuals with PTSD will have suffered significant financial and social consequences of their emerging symptoms. One study of military reservists with PTSD found that more than 1 in 5 had reported actual or serious consideration of separation from their partner since their symptoms commenced.⁴¹ Thus, by the time PTSD is identified, there may be substantial psychosocial co-morbidity.

The issues surrounding co-morbidity also extend to physical health problems. It is well established that rates

of mental disorder are higher amongst those with chronic physical health problems.⁴² In recent years, there has been increasing evidence of the importance of physical health symptoms, particularly pain, amongst those with PTSD.⁴³ Some studies have found as many as 80% of veterans presenting with PTSD also complain of chronic pain.⁴⁴ Given such prevalence estimates and the complicating role that chronic pain can have on the treatment and functional recovery from PTSD, enquiring about chronic somatic symptoms such as pain should form part of the routine assessment of PTSD.²

DIAGNOSING PTSD AMONGST EMERGENCY WORKERS

As outlined above, while the symptom clusters that define PTSD are well described, the particular pattern and presentation of PTSD can be variable, particularly amongst emergency workers. This variability and atypical style of presentation can make PTSD more difficult to diagnose. Detailed studies have shown that PTSD is frequently overlooked and missed as a diagnosis in both primary and tertiary care.⁴⁵ This, combined with the stigma associated with mental health problems, which may make emergency workers reluctant to disclose their symptoms, suggests that PTSD may be under-diagnosed amongst emergency workers.

There are a number of potential barriers to care that may prevent emergency workers with mental health symptoms receiving appropriate mental health assessments. Many emergency workers will be reluctant to ask for help due to fear of the impact this may have on their career prospects or standing amongst their fellow workers. A lack of awareness of mental health symptoms and the potential for treatment may also reduce rates of presentation. When emergency workers do seek help, this may initially occur via Employee Assistance Programs (EAP) or workplace counselling services. The level of experience in conducting mental health assessments may vary within these services, which will have an impact on the utility of the initial advice provided.

In contrast to concerns regarding these barriers to appropriate diagnosis and care, PTSD may, at times, also be diagnosed too readily amongst emergency workers. An Australian study recently assessed the quality of diagnostic assessments in a selection of emergency service workers making PTSD-related compensation claims.⁴⁶ They found in most cases the quality and rigor of the diagnostic process was inadequate, with only one out of 31 reports meeting what was considered a minimum standard for diagnosis.⁴⁶ The presence of such obvious trauma exposure amongst emergency workers may lead clinicians to neglect other possible mental health diagnoses and to settle on a diagnosis of PTSD too rapidly. Based on these contrasting pieces

of evidence it is difficult to say whether PTSD is over or under-diagnosed amongst emergency workers. What is clear is that the precision of psychiatric diagnosis amongst emergency workers can be improved.

Diagnosing PTSD amongst emergency workers is a complex task that often takes time and multiple assessments. At present there is no agreed gold standard of clinical diagnostic assessments for PTSD.² However, it is likely that diagnostic accuracy will be increased via comprehensive clinical assessments that utilise a range of sources such as clinical interviews, structured assessments, self-report measures and collateral history. In cases where compensation is involved, the diagnostic assessment should also consider issues relating to causation and the possibility of symptom exaggeration or malingering.⁴⁷ There is increasing awareness of PTSD symptoms amongst emergency workers and evidence that individuals can fake post-traumatic stress symptoms with considerable proficiency in clinical interviews and particularly when using self-report symptom inventories.^{48,49} This observation is not intended to suggest that the majority of PTSD cases amongst emergency workers are not real, but highlights the importance of directly addressing this possibility at the time of diagnosis. Indeed, as noted above, under-reporting of mental health symptoms and symptom minimisation amongst emergency workers can also be a major problem. The possibility of symptom exaggeration or malingering should be examined more closely when an emergency worker reports all PTSD symptoms enquired about, emphasises re-experiencing (rather than avoidance and numbing) symptoms, or when symptom reports are inconsistent with functioning.² While interviewing techniques such as open questions and direct observation of possible symptoms such as hypervigilance and flat affect may help, the evidence suggests that clinical observation alone is not always a reliable means of detecting symptom exaggeration.⁴⁷ A number of psychological tests have been proposed to assist in detecting the feigning of psychological symptoms, including the Minnesota Multiphasic Personality Inventory (MMPI/MMPI-2),⁵⁰ Miller Forensic Assessment of Symptoms Test (M-FAST),⁵¹ and the Personality Assessment Inventory (PAI).⁴⁸ Collateral history can also be useful, as can determining the course of the symptoms relative to the timing of the legal and compensation-seeking actions.² Clinicians assessing an emergency worker for possible PTSD should not commence their assessment with self-report tests.

A further task when compensation-related questions are being asked is the distinction between diagnosis and impairment. It is important that the assessment of psychological injury goes beyond the simple level of diagnostic definitions and addresses how psychological injury is adversely affecting the individual. For example, an individual may suffer a range of PTSD symptoms, but may be able to function very ably.⁴⁷ As noted above, subsyndromal symptoms of PTSD are common amongst emergency workers, with increasing recognition of the importance of identification and possible early treatment of those with sub-threshold symptoms.^{34,52}

Guidance recommendations

- 1. PTSD should only be diagnosed following a thorough clinical assessment covering the history of presentation, trauma history, symptom profile, general psychiatric assessment, physical health, substance use, personal history, family history and social and occupational functioning.^{1,2,6}*
- 2. Other potential post-traumatic mental health conditions, such as depression, anxiety disorders or substance misuse should be considered, both as alternative primary diagnoses and as co-morbid conditions.^{1,2}*
- 3. While primary care clinicians and other healthcare providers may be able to assist in identifying potential cases of PTSD, where possible health professionals trained in psychopathology and experienced in mental health assessments should conduct a mental health assessment of any emergency worker suspected of suffering PTSD.⁵*
- 4. While clinician assessment should form the main basis of a diagnosis of PTSD, consideration should be given to combining clinician assessment with validated self-report and structured clinical interview measures. Clinicians should also not rely solely on self-report scales or purely directive questions. Emphasis should be placed on detailed analysis of patients' experiential reports and objectively verified evidence.^{2,3}*
- 5. Clinicians assessing emergency workers with possible PTSD should be aware of the different ways in which PTSD may present in this group, given the cumulative exposure to trauma in the course of employment, and should focus on the lifetime exposure to trauma, as well as the immediate antecedent event that may have prompted presentation for treatment.²*
- 6. Clinicians should be aware of the risk of symptom minimisation and symptom exaggeration and assess for these as a regular part of their diagnostic assessment.³*
- 7. A functional assessment, including both occupational and non-occupational functioning should be part of any diagnostic assessment.¹*
- 8. Co-morbid mental health conditions should be identified and treated with evidence-based interventions.*
- 9. Co-morbid physical health problems, particularly chronic pain, should be enquired about and addressed as part of the routine assessment of emergency workers suspected of suffering PTSD.²*
- 10. Subsyndromal symptoms of PTSD are relatively common amongst emergency workers and associated with a range of adverse outcomes. Early intervention should be considered in emergency workers with persistent or distressing subsyndromal symptoms.*



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TREATMENT PLANNING AND SETTING

General considerations

Once PTSD is established, effective, evidence-based treatments should be commenced as soon as possible. Although both early and delayed interventions for established PTSD have similar rates of symptom response,⁵³ early intervention should reduce some of the occupational and social consequences of PTSD.² In spite of this, many emergency service workers may be reluctant to seek help and may have been suffering from varying levels of PTSD symptoms for many years prior to asking for assistance. Once an emergency worker has sought treatment, it is essential that they feel the treatment setting is a safe environment. A strong therapeutic alliance between the treating clinician and patient has been shown to be associated with improved treatment adherence and improved outcomes amongst those with PTSD.⁵⁴ Individuals suffering from PTSD need to feel comfortable and safe before they can begin to discuss their prior traumatic experiences. Given the chronic nature of many emergency workers' trauma experiences, building of adequate therapeutic alliance may take additional time. This generally requires some prior knowledge and experience by the clinician of the occupation setting and culture. Whether a safe treatment environment can be constructed while an emergency worker is continuing to carry out their usual duties requires careful consideration. If their work is associated with significant risk of further trauma exposure and the threat of further exposure is impeding trauma-focused therapy, then a period of modified work duties is most likely required.

As outlined in the following sections, there are a range of evidence-based treatments that can be offered to an emergency worker with PTSD. The selection of the correct treatment or collection of treatments for any individual will depend on a range of individual factors, such as duration of symptoms, presence of co-morbidity, prominence of different symptoms clusters, the patient's ability to consider psychological concepts and patient preference. In more severe cases, a combination of interventions may be offered, meaning a whole team of clinicians are involved. Although this may be appropriate, it is essential that one clinician retain overall responsibility for management and co-ordination.^{1,6}

Guidance recommendations

- 11.** *Once a diagnosis of PTSD has been established, evidence-based treatment should be commenced without delay.²*
- 12.** *While only evidence-based treatments are recommended, a range of other factors, including patient choice, should be considered when deciding which treatments to commence.⁶*
- 13.** *Practitioners who provide mental health care to emergency workers with PTSD, regardless of professional background, must be appropriately trained to ensure adequate knowledge and competencies to deliver the recommended treatments. This requires specialist training, over and above basic mental health or counselling qualifications.²*
- 14.** *Even if treatment is being provided by psychiatrists or other mental health professionals, an emergency worker's general practitioner should remain an active member of the treating team. When treatment is shared between different clinicians or between primary and secondary care, it is essential that it is agreed who has primary responsibility for coordinating care and monitoring progress.^{1,6}*
- 15.** *A safe environment is necessary for trauma-focused therapy to be able to be undertaken. In the case of an emergency worker, this may require their duties to be temporarily modified in order to prevent further exposure to potentially traumatic events while treatment is being undertaken. However, in many cases treatment can continue whilst working; these decisions should be made jointly between treating clinician, patient, and occupational rehabilitation case manager.^{1,2}*

Treatment setting

The treatment of PTSD amongst emergency workers can be conducted in an inpatient hospital setting, day hospital programs or as an outpatient in the community. As noted in the following sections, the setting of any treatment is less important than the form and content of the intervention applied. However, the vast majority of clinical trials examining the efficacy of PTSD treatments are conducted in community and outpatient settings. Community treatment has a number of advantages, including less disruption to an emergency worker's usual relationships, social supports and functioning and an ability to incorporate in vivo exposure into treatment. However, inpatient treatment may sometimes be needed due to fear about safety or symptom severity.

PTSD is associated with an increased risk of self-harm or suicide,⁵⁵ and aggressive behaviour towards others.⁵⁶ Individuals with PTSD are six times more likely to attempt suicide and five times more likely to consider self-harm compared to the general population.⁵⁷ These risks are increased still further if co-morbid psychiatric conditions, such as depression or substance misuse are present. As a result it is essential that the risk of self-harm and violence are considered and assessed in every emergency worker with PTSD. If there is a significant risk of harm, then more restrictive treatment options, such as inpatient care need to be considered.

Guidance recommendations

16. *The risk of self-harm, aggression and violence needs to be regularly assessed throughout each stage of treatment in any emergency worker with PTSD.^{1-3,6} The risk of these behaviours recurring requires reassessment when returning a worker to frontline duties.*

17. *In general, emergency workers with PTSD can be treated as outpatients. Inpatient care should only be required when there are severe comorbid psychiatric diagnoses, serious threat of harm to themselves or others or for severely ill patients who lack adequate social support outside a hospital setting.¹*

Treatment goals

It is important that the planning stage of treatment for PTSD consider realistic treatment goals. These should be agreed between all treating clinicians and the emergency worker and should be reviewed regularly. If any of the treatment goals are not being met, this should prompt review of the treatment plan. Treatment goals should be individualised for each patient, but the American Psychiatric Association suggests there should be five broad categories of goals when treating PTSD:¹

1. Reduction in severity of PTSD symptoms
2. Prevent or reduce other trauma-related co-morbid conditions
3. Improve personal, social and occupational functioning
4. Protect against relapse
5. Integrate the danger experienced into a constructive schema of risk, safety, prevention, and protection

As a result of the increasing influence of patient groups in recent decades a new model of chronic disease management has emerged; the recovery model.⁵⁸ This model has primarily been used in the conceptualisation of severe mental illness, such as psychosis, but is equally relevant to the care of those

with PTSD. Within the current context, treatment within the recovery model emphasises the importance of the partnership between the emergency services worker, health care professionals, employers, insurers and occupational recovery agencies. This model emphasises the importance of recognising and valuing the lived experience of emergency workers and integrating this with the clinical and workplace competencies of health practitioners and employers. The recovery model encourages all parties to recognise that a service worker who has developed PTSD in the course of their duties has a personal identity beyond their diagnoses and that all parties should aim to interact with the emergency service worker in a manner that recognises their dignity and maintains a respectful consideration of the service they have provided to the wider community. The model also encourages all parties to move beyond a narrow focus on symptoms to one that involves a broader focus on recovery including improved social and occupational functioning and reducing stigma and other unhelpful attitudes, beliefs and behaviours.⁵⁹

Guidance recommendations

18. *Prior to commencing treatment for PTSD, there should be an agreed set of treatment goals, which consider symptom levels, functional improvement, quality of life and occupational and social recovery.*

19. *Assessment and monitoring should be undertaken throughout treatment. When adequate progress towards the agreed goals are not being made, the treatment provider should revisit the case formulation, reassess potential treatment obstacles, and implement appropriate strategies, or refer to another practitioner*

PSYCHOLOGICAL TREATMENTS FOR PTSD

Trauma-focused cognitive behavioural therapy (CBT)

Cognitive behavioural therapy (CBT) is based on the underlying rationale that an individual's affect and behaviour is determined by their cognitions, which are in turn influenced by behaviour. Therapy aims to change an individual's specific misconceptions and maladaptive assumptions, either directly or via behaviour providing correcting information.⁶⁰ CBT has been successfully used to treat a range of mental disorders, including depression and many anxiety disorders.⁶⁰⁻⁶² When used in PTSD, CBT should have two main components. The cognitive component of therapy should aim to help individuals identify, challenge and modify distorted thoughts relating to themselves and the world around them that have arisen as a result of their traumatic experience. The behavioural aspect of therapy should utilise prolonged imaginal

and in vivo exposure to allow the emergency worker to confront their memory of the traumatic event and trauma-related situations in a gradual and supported manner. Through the process of 'habituation', these behavioural processes should present corrective information and result in reduced anxiety levels when the emergency worker is exposed to their memories of trauma events or situational triggers.² In practice, a course of trauma-focused CBT for PTSD will usually begin with psychoeducation. The patient is then led through a series of exercises in which the traumatic event and its aftermath are imagined and described, with particular focus on the level of negative emotion and arousal generated.¹ As with all CBT, homework assignments allow progress to continue outside of regular session times, with the patient often being asked to record observations while they expose themselves to particular anxiety provoking in vivo situations. Different variations of trauma-focused CBT have been used to treat PTSD, with each having a different level of emphasis on the cognitive and behavioural aspects of therapy. As with the Australian Guidelines for the Treatment of Acute Stress Disorder and Posttraumatic Stress Disorder, treatments included under the heading trauma-focused CBT included imaginal and in vivo exposure, cognitive therapy, cognitive processing therapy and narrative exposure therapy.²

Trauma-focused CBT is the most studied intervention for adults with PTSD; there have been over 60 published randomised controlled trials comparing its effectiveness to both waitlist controls and other interventions.² Based on the results of these multiple trials, there is good quality evidence that trauma-focused CBT is effective at reducing PTSD symptoms and is more effective than other types of general psychosocial support, such as supportive counselling.¹⁻⁶

More recently, there has been interest in the use of internet-delivered CBT for PTSD, with a number of trials suggesting internet-based CBT can be an effective treatment, either by itself or in addition to therapist-based treatment.^{63,64} New technologies have also begun to be used within face-to-face therapy, with virtual reality experiences being used as a safe and easily modifiable way to reproduce anxiety provoking situations within exposure therapy.⁶⁵

Despite the large volume of research literature surrounding trauma-focused CBT in the general population, a recent systematic review,⁶⁶ was only able to identify two randomised controlled trials of CBT for treating PTSD amongst emergency workers.^{67,68} Although both studies reported positive effects from CBT compared to waitlist, the total number of emergency workers involved was only 73, meaning any conclusions about the effectiveness of this technique specifically amongst emergency workers is preliminary. While there is no

reason to suspect that trauma-focused CBT should be less effective amongst emergency workers, it is possible that modifications to usual treatment plans may be needed.

CBT treatment is designed to be a short-term treatment, with most studies of CBT for PTSD using 8 to 12 sessions, with each session lasting 60 to 120 minutes.^{3,6} When specific traumatic events are discussed within a session, it is recommended that longer session times (90 minutes) be used to ensure any anxiety and distress can be appropriately managed within the session.^{2,6} Some guidelines suggest that if treatment commences in the first month after an event, then fewer treatment sessions (around five) may be needed, although the relevance of this recommendation to emergency service workers who have multiple exposures to potentially traumatic events remains unclear.⁶ It should be noted that some patients may also require more than 12 sessions, especially if they have more chronic, complex symptoms and extensive histories of traumatic exposure. As noted above, many emergency workers will require additional time with a clinician before they feel safe discussing their trauma experiences and may have chronic symptoms. As such, some emergency workers will require more sessions of trauma-focused CBT. Treatment duration should be determined by a combination of progress and current symptom level;³ if an emergency worker has gained benefit from trauma-focused CBT, but continues to experience significant PTSD symptoms, then it is reasonable for treatment to be extended.

Eye movement desensitisation and reprocessing (EMDR)

Eye movement desensitisation and reprocessing (EMDR) is a specific form of treatment for PTSD first described in 1989.³ It is based on a belief that when PTSD occurs, the emotions and memories of the traumatic event are stored in an unprocessed manner. During EMDR therapy a patient is asked to repeatedly focus on trauma-related thoughts, experiences and memories while following the movement of a therapist's finger across their field of vision. It is proposed that this dual attention facilitates the appropriate processing of the traumatic event.² EMDR therapy has evolved over time and now usually involves 8 to 12 sessions and includes many components that would be considered core aspects of trauma-focused CBT.^{1,2} This has resulted in some questioning the contribution of eye movements in any treatment effect of EMDR.¹ In spite of these concerns, EMDR has been shown to be an effective treatment for PTSD in multiple randomised controlled trials, with a number of head-to-head comparison trials suggesting EMDR is as effective as trauma-focused CBT.¹ Some have also suggested it may be a particularly useful intervention for those who have difficulty verbalising or discussing their traumatic experiences.¹ On the basis of this evidence, a number (but not all⁴) international guidelines for the treatment of PTSD recommend the use of EMDR.^{1,2,6} While a number of case reports

describing the successful use of EMDR amongst emergency workers are available,⁶⁹ to date there are no published randomised controlled trials of EMDR amongst emergency workers with PTSD.⁶⁶

Other psychological interventions

A wide range of other psychological interventions have been described in the treatment of PTSD. The Australian Guidelines for the Treatment of Acute Stress Disorder and Posttraumatic Stress Disorder provide a comprehensive list and outline of these interventions.² The majority of literature relating to these other forms of intervention consists of case reports, hence providing only limited evidence regarding their efficacy. A number of non-trauma focused interventions, particularly counselling and relaxation therapy have been used as control conditions in trials of trauma-focused psychological interventions, which have demonstrated them to be less effective in reducing PTSD symptoms than trauma focused CBT and EMDR.² Other non-trauma focused interventions, such as stress inoculation training have been found to reduce PTSD symptoms in the short term, but again these gains are less than that seen with trauma-focused CBT in the long term.⁷⁰

There is increasing interest in the role of lifestyle interventions in the treatment of PTSD. The positive effects of physical activity on mental health, particularly levels of depression and more generalised anxiety have been well documented.⁷¹⁻⁷³ While interventions aimed at increasing physical activity have a building evidence base for enhancing wellbeing and as a treatment for other mental disorders, most notably depression,⁷⁴ studies investigating physical activity as a treatment for PTSD are still ongoing.⁷⁵

Group therapy

Group therapy can be an efficient means of delivering psychological interventions. Well conducted groups also provide an opportunity for peer support, normalisation of post-traumatic experiences and learning and motivation from other patients' experiences of recovery. Group cognitive behavioural therapy has been shown to be effective in treating PTSD,⁷⁶ but to date the published trials are small and there are no direct comparisons of individual versus group therapy. Given the vast majority of the PTSD treatment literature relies on studies of individual therapy, most treatment guidelines tend to promote this as the most evidence-based treatment type.^{1,2,6} Because of the highly distressing nature of many traumatic incidents and the need to monitor the process of habituation to traumatic memories and situational triggers, it is generally recommended that the prolonged exposure components of any group based CBT program be offered in an individual face to face format where progressive engagement with exposure tasks can be monitored and adjusted to maximise the emergency service worker's recovery.

Guidance recommendations

20. All emergency workers suffering from PTSD should be offered either trauma-focused cognitive behavioural therapy (CBT) or eye movement desensitisation and reprocessing (EMDR).^{1-3,6} As outlined below, there are some circumstances when an emergency worker's presentation or co-morbidities may require a delay before these therapies can be safely offered.

21. Emergency workers will usually require 8 to 12 sessions of trauma-focused psychological treatment (either CBT or EMDR), each lasting between 60 and 120 minutes (at least 90 minutes in sessions where the traumatic events are discussed in detail). Many emergency workers will require additional treatment sessions, especially if they have severe symptoms, have experienced multiple traumatic events or have co-morbid mental health problems.^{2,3,6}

22. Trauma-focused therapy would normally include imaginal exposure therapy that systematically exposes the patient/worker to the traumatic memories that are associated with PTSD symptoms. If appropriate, feared or avoided situations, including those in the workplace, should be systematically addressed through in vivo exposure with the view to optimise functioning.

23. The development of a therapeutic alliance is necessary for undertaking specific psychological interventions and may require extra time for emergency workers who have experienced prolonged and/or repeated traumatic exposure.²

24. Emergency workers' response to psychological therapy should be reviewed regularly. If an adequate response to one type of trauma-focused psychological therapy (CBT or EMDR) is not observed after 12 trauma-focused sessions, the practitioner should revisit the case formulation, assess potential treatment obstacles, and consider further sessions, alternative trauma-focused treatments or augmentation with pharmacological treatment (see below).^{2,6}

25. Empathic support can be an important step in preparing emergency workers for PTSD-specific treatment. However, non-trauma focused psychological interventions, such as relaxation or supportive counselling should not be used routinely for treatment of PTSD amongst emergency workers unless trauma focused interventions treatments are not available or cannot be tolerated by the worker.⁶

26. Where possible, the prolonged exposure components of the trauma-focused psychological therapies should be offered in an individual face to face setting, even if other components are delivered in a group setting. However, when this is not possible or refused, other methods of providing trauma-focused therapy, including internet-delivered or group cognitive behavioural therapy, can be offered.²



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PHARMACOLOGICAL TREATMENTS FOR PTSD

Antidepressant medication

Antidepressant medications were, as their name suggests, primarily developed as a specific treatment for depressive disorders. However, many antidepressant medications have also been found to be effective in the treatment of anxiety disorders.^{8,77} There are a number of different classes of antidepressant medication that are named according to their mode of action or chemical structure. The most commonly prescribed antidepressants are the selective serotonergic reuptake inhibitors (SSRIs), including citalopram, escitalopram, fluoxetine, fluvoxamine, paroxetine and sertraline. Other classes of antidepressants include serotonin-noradrenaline reuptake inhibitors (SNRIs), such as venlafaxine and duloxetine, and noradrenergic and specific serotonergic antidepressants (NaSSAs), such as mirtazapine. There are also a number of older classes of antidepressants still used, including tricyclic antidepressants (TCAs), such as amitriptyline and monoamine oxidase inhibitors (MAOIs) including phenelzine. In terms of their efficacy as antidepressants, each of these classes are relatively similar, with the choice of antidepressant prescribed often dictated by the different side effect profile. In general, the newer antidepressants, such as the SSRIs, SNRIs and NaSSAs, tend to be better tolerated than the older TCA and MAOI classes of antidepressants.⁷⁸ Despite this, the individual side effect profile of each SSRI/SNRI varies and needs to be taken into account. For example, SSRIs with a shorter half life, such as paroxetine, appear more likely to produce discontinuation symptoms, while SNRIs can contribute to an elevation of blood pressure in some individuals. MAOI have the potential for particularly dangerous adverse effects and interactions with alcohol, foods high in tyramine and other medications.

In 2009, the Cochrane Library published a detailed systematic review and meta-analysis of all randomised controlled trials (RCTs) of pharmacotherapy for PTSD.⁷⁹ This review identified 25 trials involving antidepressant medication; 17 focused on SSRIs, two focused on TCAs, four on MAOIs and one each focused on SNRIs and NaSSAs. As well as being greater in number, the trials examining the efficacy of SSRIs were also significantly larger than the non-SSRI trials (mean number of participants of 184 compared to 41).⁷⁹ The results of the meta-analysis showed that, compared to placebo, antidepressants were effective at reducing some of the core symptoms of PTSD, including re-experiencing, avoidance and hyperarousal.⁷⁹ The Cochrane analysis was not able to directly compare the effectiveness of different classes of medication, but given the bulk of the trial evidence was based on SSRI antidepressants, the authors concluded that their results supported the use of SSRIs as first line pharmacotherapy for PTSD.⁷⁹ The British Association for Psychopharmacology recently published updated

evidence-based guidance for the treatment of PTSD.⁸ They similarly reported evidence for the efficacy of a range of antidepressants in PTSD, with the strongest evidence for SSRIs sertraline and paroxetine and the SNRI venlafaxine.⁸

The Australian Guidelines for the Treatment of Acute Stress Disorder and Posttraumatic Stress Disorder provide a further up to date appraisal of the evidence, with a new systematic literature review completed in late 2011.² Overall, they concluded that while there is evidence for antidepressants having a beneficial effect in cases of PTSD, the available literature suggests that greater clinical improvement could be gained from psychological treatments.² However, both they and other authors note that there is very little evidence of head to head comparisons between different treatment modalities and that pharmacological trials tend to use a more active placebo than trials of psychological interventions.^{2,6} A recent systematic review of this topic across all mental disorders confirmed that trials of medications tended to have larger sample sizes, better blinding and more appropriate control groups compared to trials of psychological treatment and that the wait-list control design often used on psychotherapy trials tended to produce larger effect sizes.⁸⁰ As a result, the apparent greater effects observed with psychological therapy compared to pharmacotherapy may be partly or entirely the result of different types of control conditions used. There is also uncertainty about the synergistic impact of medication and psychological therapies. While some RCTs have suggested that antidepressants can enhance the effectiveness of exposure therapy⁸¹, most reviews still concluded there is inconclusive evidence regarding any additional benefits of combined psychological and pharmacological treatments.^{8,82}

Systematic reviews have failed to identify any randomised controlled trials of antidepressants or any other pharmacological agents amongst emergency workers with PTSD.⁶⁶ Arguably, military personnel share some important characteristics with emergency response personnel. Both groups often have chronic exposure to multiple, potentially traumatic, events in the course of their usual work experiences, meaning they often present to services with more chronic symptoms. There have been a number of published trials of antidepressants being used to treat PTSD amongst military veterans. Analysis of these have suggested that veterans with chronic PTSD tend not to respond to antidepressant medication as well as civilian populations with more acute symptoms.⁴

Guidance recommendations

27. Medication should be considered for the treatment of PTSD amongst emergency workers when:

- a. the emergency worker has a co-morbid mental health condition or symptoms where medication may be indicated

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- b. the emergency worker's circumstances are not sufficiently stable to commence trauma-focused psychological therapy*
 - c. the emergency worker has not gained sufficient benefit from trauma-focused psychological therapy*
 - d. the emergency worker is unable or unwilling to engage in trauma-focused psychological therapy*
 - e. there is not immediate access to a trained professional who can deliver trauma-focused psychological therapy.*

28. *When medication is trialed for the treatment of PTSD, SSRI antidepressants should be used initially.*^{1,3,6,8}

29. *When treating PTSD, SSRI antidepressants should be commenced at half the usual starting dose used for treating depression (to reduce transient increases in anxiety symptoms), although titration to higher doses is often needed to gain a full effect.*^{7,8}

30. *If the required treatment response does not occur after 12 weeks of an adequate dose of a SSRI antidepressant, the treating clinician should revisit the case formulation, consider raising the dose (if the current dosage is well tolerated), swapping to an alternative antidepressant, combining pharmacological and psychological treatments or augmentation with another type of medication (as outlined below).*⁸

31. *When an emergency worker has responded to a drug treatment and there are no unacceptable side effects, it should be continued for at least twelve months from the time of symptom response.*^{2,6}

Other types of medication

A number of other types of medication have been proposed as treatment for PTSD. While none of these have been studied extensively, those most often considered are alpha-adrenergic antagonists, atypical antipsychotics, benzodiazepines and anti-convulsants.

Alpha-adrenergic antagonists (often termed alpha-blockers) are used to treat a variety of conditions, including high blood pressure and prostate disease. A small number of studies have examined prazosin, an alpha-blocker, as a treatment for the arousal and re-experiencing symptoms of PTSD.^{1,3} RCTs have shown prazosin can reduce the frequency of nightmares and the level of sleep disturbance amongst US war veterans with PTSD,⁸³ but these trials tend not to show any significant reduction in more generalised measures of PTSD.⁴

Atypical antipsychotics, such as olanzapine, risperidone and quetiapine are often prescribed for PTSD, either in isolation or as adjunctive treatment in addition to an antidepressant. Figures from the US Veterans Affairs administrative databases show that almost 20% of patients with PTSD are prescribed atypical antipsychotics,⁸⁴ with Australian-based audits suggesting similar or even higher usage within the Australian private psychiatric sector.⁸⁵ However, this usage is occurring with only limited support from the published literature. A systematic review and meta-analysis published in 2011 identified eight placebo-controlled trials assessing the impact of risperidone on PTSD, and two each for olanzapine and quetiapine.⁸⁶ While each of these studies were relatively small in size and the findings were mixed, with only some showing a beneficial effect, a meta-analysis of the studies examining risperidone demonstrated a pooled effect suggestive of improvements in clinician administered PTSD scales.⁸⁷ While encouraging, others have noted that many of the published studies have significant methodological limitations and that the size of the reported effect is relatively small.⁴ Atypical antipsychotics are also associated with a range of important side effects, most notably sedation, weight gain and an increased risk of type 2 diabetes mellitus.⁷⁸

Previous reviews have identified only one published RCT of benzodiazepine use in PTSD.⁴ In this small crossover study, ten patients with PTSD received alprazolam for five weeks, without any identifiable benefit in terms of specific PTSD symptoms.⁸⁸ While some large observational studies have suggested benzodiazepine use amongst veterans with PTSD does not seem to be associated with worse outcomes,⁸⁹ others have reported severe reactions at the time benzodiazepine withdrawal is attempted, with increased anxiety, sleep disturbance, anger, hyperalertness, increased nightmares, and intrusive thoughts.⁹⁰ Given unproven efficacy and concerns regarding dependence, previously published guidelines tend to either recommend avoiding the use of benzodiazepines in PTSD,³ or suggest cautious short term use only.^{2,6}

A number of anticonvulsant medications, initially developed to aid in the treatment of epilepsy, have been found to have mood stabilizing properties which makes them useful in the treatment of bipolar affective disorder.⁷⁸ Open-labelled studies have examined the use of a number of different anticonvulsant medications in PTSD, including carbamazepine, valproate, lamotrigine, topiramate and tiagabine, although results have been mixed with limited or no efficacy regarding specific PTSD symptoms.^{1,4} While a very small trial (involving only 15 patients) suggested lamotrigine may have some benefits,⁹¹ a much larger RCT of the anticonvulsant tiagabine found it had no significant benefit beyond placebo for symptoms of PTSD.⁹² Given the paucity of evidence relating to efficacy in PTSD and the potentially serious side effects, most of the currently available treatment guidelines do not recommend the use of anticonvulsants in PTSD.^{2-4,6}

Guidance recommendations

32. *Alpha-adrenergic antagonists, atypical antipsychotics, benzodiazepines and anti-convulsant medication should not be routinely used as initial treatment amongst emergency workers with PTSD.*^{2,3,6}

33. *When symptoms have not responded adequately to antidepressant medication, the addition of an alpha-adrenergic (prazosin) or an atypical antipsychotic (risperidone, olanzapine or quetiapine) as an augmenting agent can be considered.⁸ Prazosin may help in reducing the frequency of nightmares and sleep disturbance.*

34. *Benzodiazepines can be prescribed for short term relief of severe anxiety or insomnia in cases of PTSD or to assist with a planned alcohol withdrawal, but should be prescribed at the lowest possible dose and ideally for less than four weeks.*^{2,6}

35. *Appropriate medication should be used to treat any diagnosed co-morbid mental illness, such as depression, in line with disorder-specific treatment guidelines.*

TREATMENT SEQUENCING IN THE SETTING OF CO-MORBIDITY

As noted above, co-morbid psychiatric diagnoses are very common amongst those with PTSD, particularly depression and substance misuse. This needs to be considered when planning treatment. If other psychiatric conditions have arisen in response to PTSD symptoms, then treating PTSD may cause some of the co-morbid conditions to resolve. Alternatively, some co-morbid conditions may inhibit effective engagement with trauma-focused therapy and will need to be addressed prior to any PTSD-specific treatment. As a result, treating clinicians need to make a decision regarding treatment sequencing, specifically, if more than one condition is present, which will be treated initially.

A recent systematic review failed to find any studies specifically comparing the outcomes from different treatment sequencing options when PTSD is co-morbid with either depression or substance misuse.² There is, however, some evidence that effective PTSD treatments result in some improvements in co-morbid depressive symptoms,² and some promising preliminary results suggesting that PTSD and substance misuse can be treated effectively with simultaneous treatments.⁹³

A further co-morbidity that appears to be particularly relevant for emergency workers and the planning of their treatment is anger. Problematic anger associated with PTSD has been demonstrated across a broad array of trauma-exposed populations. Most often, it has been reported in military personnel,⁹⁴ but problematic anger has also been identified as significant in other PTSD populations, including emergency services personnel and disaster relief workers.^{95,96} The presence of anger has been demonstrated to influence the development of PTSD,⁹⁷ create increased risk of harm to self,⁹⁸ and others,⁹⁹⁻¹⁰¹ act as a key factor in PTSD maintenance,¹⁰² and importantly negatively influence the outcome of PTSD treatment.^{94,103-105} As a result, it is important that when present, anger is addressed early in treatment, with focused cognitive behavioural interventions, such as cognitive remedial work and arousal management training.

Guidance recommendations

- 36.** *When an emergency worker presents with both PTSD and mild to moderate depression, clinicians should consider either treating the PTSD first or providing concurrent treatments for both conditions.*^{2,6}
- 37.** *When co-morbid depression is severe, primary or long-standing, clinicians are advised to treat the depression prior to treating the PTSD symptoms or to consider treating the disorders concurrently.*²
- 38.** *When PTSD is combined with substance misuse, the possibility of integrated treatment of both conditions should be considered. However, the trauma-focused psychological component of PTSD treatment should not commence until the emergency worker has demonstrated an ability to attend sessions and manage distress without abusing alcohol or drugs in a way that leads to dangerous situations.*^{2,6}
- 39.** *When an emergency worker with PTSD presents with significant levels of anger, exposure therapy should be delayed, with treatment initially placing a greater emphasis on cognitive behavioural interventions targeted at anger.*



ENHANCING OCCUPATIONAL FUNCTION AND RETURN TO WORK

There is increasing recognition of the importance of work for individual wellbeing and recovery from mental illness. Most individuals with mental illness, even those with severe mental health problems, want to return to meaningful work.¹⁰⁶ Paid employment not only provides financial security, it can also give daily structure, a sense of worth and regular supportive social engagement. Given this, it is not surprising that a number of cross sectional and longitudinal studies have found that being at work is associated with better mental health and lower incidence of suicide.^{107,108} In line with such evidence, Waddell and Burton, in their landmark 2006 report for the UK Department of Work and Pensions, concluded that work is generally good for health and wellbeing and that in most situations the benefits of work outweigh the risks.¹⁰⁹ There are some caveats to this general conclusion, with longitudinal studies showing that the mental health benefits of work depend to some extent on the psychosocial characteristics of the work environment.¹¹⁰

While there may be a general consensus that facilitating return to work amongst emergency workers with PTSD is an important goal, devising practical guidance to assist with this is complex. Most emergency workers with PTSD will have experienced their index or cumulative trauma exposure at work. Given that avoidance of environmental reminders of the traumatic experience is a core feature of PTSD and that further trauma exposure is likely when undertaking usual duties in emergency work, it is not surprising that many emergency workers with PTSD find remaining at and returning to work difficult. In addition, there is a risk that additional trauma exposure may precipitate a relapse or exacerbation of PTSD symptoms. The ability for emergency work roles to be modified in order to reduce the risk of trauma exposure can be difficult. Some emergency service work involves additional complexities, such as the need for police to carry weapons, ambulance personnel to deliver medical treatment and for other emergency service personnel to drive heavy or regular vehicles at high speed. These additional factors require the safety of the public to be considered in addition to the needs of the emergency service worker. These difficulties are compounded by the lack of a useful evidence base on which to base solutions, with most of the available literature on the treatment of PTSD focusing on symptom reduction, with relatively few trials considering occupational function as a primary outcome.

The workers' compensation system in Australia creates further complexities. Many emergency workers describe the compensation process as being extremely stressful and find undertaking multiple clinical assessments anxiety provoking. Conversely, a number of studies have suggested that as workers' compensation benefits increase, so

too do the number and length of compensation claims and sickness absence.^{112,113} However, there is substantial debate around this topic. A recent systematic meta-review challenged the notion that compensation processes are associated with worse health outcomes, noting that much of the research in this area is limited by methodological challenges and highlighting evidence questioning the link between legal processes and negative health outcomes. While the financial and psychological aspects of a work injury compensation system have the potential to offer incentives that encourage symptom reporting, a recent review by the US National Center for PTSD concluded that any suggestion that the majority of claimants exaggerate PTSD symptoms to obtain benefits and are cured by claim resolution is “overly simplistic” and that compensation seeking does not dampen PTSD treatment outcome in most contexts.¹¹¹

Amongst other common mental disorders, most notably depression, there is increasing recognition that standard symptom-focused treatments do not necessarily lead to improvements in occupational function.¹¹⁵ These findings add weight to the assertion that symptomatology and occupational functioning are not always closely linked, meaning specific work-focused interventions are often needed in addition to symptomatic treatment if rates of return to work are to be improved.¹¹⁶ Work-focused interventions that have some evidence for improving rates of return to work amongst other disorders include cognitive behavioural therapy (CBT) focused on the specific issues surrounding the workplace and return to work,^{117,118} regular contact with managers,¹¹⁹ and alternative duties while on sickness absence.¹²⁰ Undertaking alternative duties while on sickness absence (often termed ‘partial sickness absence’ in Europe) is where an injured worker returns or remains at work part-time or with substantially modified duties. It is based on an assumption that early and continued contact with the broader work environment is important to ensure that secondary anxiety is not increased and individual’s perceptions about their own vulnerability and the risks of work are not amplified. These types of work-focused intervention can help reduce what some authors have described as a “vicious cycle”, with workers feeling their PTSD prevents them working, while their continued absence from work prevents them from overcoming the disorder.¹²¹ For this reason, it is important that both treating clinicians and the emergency services recognise that emergency workers with PTSD can often return to work once their symptoms begin to improve, even if they are still undergoing active treatment. This includes returning to work while taking medication, although it should be noted that there are specific guidelines around some activities, such as possession of a firearm and driving heavy vehicles while taking medication which need to be considered.¹²²

A systematic review published in 2011 identified six studies that had specifically focused on evaluating techniques to improve occupational outcomes in cases of work-related PTSD.¹²¹ Three of these studies, all of which were

pre-post study designs, utilised work-focused exposure treatments, such as on-site evaluations and graded work exposure. Taken together, the results of these studies demonstrate a return to work rate of 85%, an impressive figure which was maintained at six month follow up.¹²¹ A similar type of intervention is exposure in vivo, a component of standard CBT, which when focused on the workplace can allow PTSD sufferers to learn to deal with anxiety-provoking work situations in a gradual and supported manner.¹²³ One published RCT has shown that exposure in vivo is able to produce a moderate to large effect size in terms of both PTSD symptoms and occupational outcomes, with return to work being able to be achieved without an increase in anxiety.¹²⁴ Similar findings regarding the work-related benefits of work-focused exposure therapy has been identified in other anxiety disorders.¹²³ Prospective studies of emergency workers have also demonstrated the importance of non-trauma workplace factors in many cases of PTSD. A study of over 250 traumatised police officers found that workplace factors such as lack of perceived organisational support, job insecurity and job dissatisfaction were associated with increased rates of PTSD at various times over a 12 month follow-up.¹²⁵ Similarly, studies of military personnel returning from recent conflicts in Iraq and Afghanistan have shown the importance of non-trauma related risk factors, such as team cohesion, leadership and perceived support, in predicting the development and persistence of PTSD.^{28,126} Such observations highlight the importance of good leadership and all barriers preventing return to work being identified and managed early. In a situation where other work-related factors are impacting on an emergency worker's occupational recovery, they may need to be highlighted to the employer. Additional individual cognitive behavioural stress management techniques may also prove useful in dealing with such situations.¹²⁷ These findings also highlight the importance of social support outside of the workplace. In addition to an emergency worker's usual network of support, additional support from peer support networks or other emergency service worker groups may be useful, particularly if an emergency worker has a period of time away from their usual co-workers support network.

Even with the best possible treatment and occupational rehabilitation, it is likely that there will always be some emergency workers with PTSD who are either not able or choose not to return to emergency service work. In such cases, it is important that where possible, treatment and rehabilitation continue to maximise the functional outcome for these workers. Any exit from the emergency services due to PTSD should be handled in a way that allows the emergency worker to feel proud of the contribution they have made and confident that their recovery can continue outside of emergency service work.

Guidance recommendations

40. *Occupational recovery should be considered from the very beginning of treatment. Remaining at or returning to work should be an aim of treatment and considered an important part of the recovery of emergency workers with PTSD.*^{1,2}

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- 41.** *There should be an expectation that most emergency workers with PTSD can gain benefits from appropriate treatment. As such, where possible, constraints should not be put on their occupational recovery (for example, stating they will never work again) until adequate trials of proven treatments have been undertaken. However, the extended use of modified duties may be necessary in order to lessen the risk of recurrence or intensification of subsyndromal symptoms once treatment has been completed.*
- 42.** *Employers should, when possible, attempt to maintain regular supportive contact with an emergency worker who is away from work due to PTSD. Regular, supportive contact is important during all stages of an episode of sickness absence.⁷*
- 43.** *The treatment of emergency workers with PTSD needs to be integrated with emergency services' return to work / recovery programs, with regular supportive contact between the worker, the workplace and the treating clinicians.*
- 44.** *While a period away from operational duties may be required, clinicians should consider the possibility of adjusted duties and partial return to work as ways of promoting recovery and reducing the risk of long-term sickness absence.*
- 45.** *Any adjustment to usual work duties should be agreed by the emergency worker, the treating clinicians and the relevant occupational health / rehabilitation coordinator. Positions should be provided that allow the meaningful rehabilitation and ongoing employment of emergency workers, with alternative duties that are non-stigmatizing and, where possible, commensurate with the worker's level of experience and seniority.*
- 46.** *If an emergency worker with PTSD has required a period away from their usual duties, they should be made aware of which individual or individuals within the emergency service they or their clinician can speak to, if needed, in order to help plan their recovery and rehabilitation. This individual or individuals should have knowledge about the organisation, the recovery pathways available and the hazards, risks as well as benefits of return to work.*
- 47.** *Symptomatic treatments alone may not prove effective in improving occupational outcomes. All emergency workers who are absent from work due to PTSD should be offered work-focused interventions, such as work-focused exposure therapy, in addition to standard symptom-focused treatment.*
- 48.** *All emergency workers engaging with psychological therapy should have work-related triggers and work-specific anxieties addressed as part of their treatment. Reactivity to these triggers should be monitored carefully on return to emergency work as these are predictors of relapse.*
- 49.** *Key factors acting as barriers preventing return to work and recovery should be identified and discussed as part of the standard treatment of emergency workers with PTSD. This may involve considering interventions for non-trauma related work and non-work factors.*

50. *A return to work should be planned between the emergency worker, the treating clinicians, the employer and, when present, the workplace occupational health service.*

51. *Emergency workers can return to operational duties if their symptoms have substantially improved, even while still undertaking treatment (including medication). However, it is necessary for all aspects of an emergency workers' role to be considered prior to a return to full duties, including special circumstances such as the need to carry a weapon or driving regular or heavy vehicles at high speed.*

52. *When an emergency worker who has had PTSD returns to work, the treating clinicians, emergency worker, the employer and the workplace occupational health service should agree on how the emergency worker's symptom levels will be monitored and what type of symptom recurrence should prompt a re-assessment.*

53. *In some circumstances it will be necessary to consider a permanent cessation of an emergency worker's employment in the emergency services. Consideration of this should only occur after an adequate trial of evidence-based treatments. All workers who are unable to continue with their employment should still be offered symptom and work-focused interventions to maximise their future functioning.*

54. *It is important that employers and occupational recovery agencies foster an environment where emergency workers that are unable to continue with their employment in the emergency services or who decide that they will cease their employment are able to feel proud and respected for the emergency work they have carried out.*

RESEARCH RECOMMENDATIONS

Our expert group has attempted to use the best available research evidence to develop these guidelines. However, as noted a number of times throughout this document, considerable gaps remain in the research literature surrounding the assessment and treatment of PTSD amongst emergency workers. Given the cost of PTSD amongst emergency workers, both for the individuals affected and society at large, it is essential that further research is funded and conducted to help address these issues.

The following list of research recommendations is not exhaustive, but reflects the issues that the expert group authoring these guidelines felt should be research priorities.

- There is an urgent need for more research specifically focused on the psychological consequences of trauma amongst emergency workers. There are sound reasons to believe that PTSD may present differently in emergency

workers (compared to civilians exposed to single traumatic incidents) and that modified treatment strategies may be needed, but to date there is not adequate information on these points of differentiation.

- There is the possibility that many cases of PTSD amongst emergency workers may be preventable, via initiatives such as resilience training and pre-incident preparedness training. While such interventions are popular, the evidence base for their use amongst emergency workers is limited. There is an urgent need for good quality trials of these interventions within emergency services.
- Delivering evidence-based psychological interventions to Australia's geographically dispersed emergency worker population creates major logistical challenges. The emergence of e-health interventions, which deliver psychological therapies via the internet or mobile devices, offers a potential solution to these difficulties. The effectiveness of e-health interventions amongst emergency workers with PTSD demands more research.
- The validity of currently used impairment rating scales to determine the functional capacity of emergency workers is not clear. There is a need for new research into how to best measure functioning and impairment in emergency workers and how to better understand the interaction between physical health, mental health and work function in this group.
- The systems involved in medical assessments and compensation for emergency workers with PTSD symptoms may, at times, contribute to dysfunction and impairment. The potential iatrogenic effects of such systems are not well understood. Any attempt to improve the outcomes of emergency workers affected by the trauma they have experienced must also consider, and ideally research, the impact of these systemic factors.



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APPENDIX 1: Competing interest statements for all authors.*

NAME	AFFILIATIONS	COMPETING INTERESTS
Dr Samuel B Harvey	<ul style="list-style-type: none">• University of New South Wales• The Black Dog Institute• St George Hospital	Dr Harvey acts as an advisor to and conducts research collaboratively with Fire and Rescue NSW, NSW Police and NSW Ambulance. Over the last 5 years, Dr Harvey has received research funding and payments from NSW Health, Beyondblue, Movember Foundation, Comcare, Employers Mutual Ltd, the Royal Medical Benevolent Fund and the Australian National Mental Health Commission. Dr Harvey is employed by the Black Dog Institute to provide expert clinical opinions on PTSD as part of clinic funded by EML. He has not received any funding or payments from pharmaceutical companies for over 10 years.
Prof Richard Bryant	<ul style="list-style-type: none">• University of New South Wales• Traumatic Stress Clinic, Westmead Hospital	Prof Bryant conducts research collaboratively with Fire and Rescue NSW, and NSW Police. Over the last 5 years, Prof Bryant has received research funding from NHMRC, ARC, and Employers Mutual Ltd. He has not received any funding or payments from pharmaceutical companies. He also has a NHMRC Partnership grant; 'Improving the Resilience, Health and Wellbeing of Australian Firefighters', which has the South Australian Metropolitan Fire Service as an Industry Partner.
A/Prof Grant Devilly	<ul style="list-style-type: none">• Griffith University• Melbourne University• Australasian Society for Traumatic Stress Studies	Grant acts as an advisor to and conducts research collaboratively with the Qld SES and also works with (holds grants with) Qld Police Service. He has received grants from the National Drug Law Enforcement Research Fund and also the National Drug Strategy Law Enforcement Funding Committee. He currently, and has previously, acted as a forensic expert witness in cases of claimed PTSD by people in the emergency services.

NAME	AFFILIATIONS	COMPETING INTERESTS
Prof David Forbes	<ul style="list-style-type: none"> Phoenix Australia University of Melbourne 	<p>David sits on a range of Commonwealth government policy and scientific advisory panels in veteran and military mental health. He, through Phoenix Australia, has received funding for service development and research projects funded through AFAC, Bushfire Natural Hazards CRC, Ambulance Victoria and St John Ambulance WA, Queensland and Victoria police services.</p>
Prof Nicholas Glozier	<ul style="list-style-type: none"> Brain and Mind Centre, Sydney Medical School, The University of Sydney 	<p>Prof Glozier has received related research funding from beyondblue, The Movember Foundation and the National Council for Vocational and Educational Research. He is an Approved Medical Specialist and a member of the Medical Appeals Panel of the NSW Workers Compensation Commission. He has conducted medicolegal assessments of emergency service workers for both employers and employee representatives. In the past three years he has received lecturing / educational honoraria from Servier, Lundbeck and Janssen and advisory board fees from Lundbeck</p>
Prof Alexander McFarlane	<ul style="list-style-type: none"> The University of Adelaide RAAF Specialist Reserve 	<p>Prof McFarlane has received funding from the Department of Defence and Department of Veterans Affairs. He receives funding from an NHMRC Program Grant. He has an NHMRC Partnership Grant with the South Australian Metropolitan Fire Service and is a member of the MFS Medical Advisory Board in a voluntary capacity. He is on an independent panel examining suicide in the Western Australian Ambulance Service. He does work as an expert witness in legal cases involving emergency service personnel. He has not received any funding or payments from pharmaceutical companies for over 10 years.</p>

NAME	AFFILIATIONS	COMPETING INTERESTS
Prof Malcolm Sim	<ul style="list-style-type: none"> • Monash University 	<p>Prof Sim has recently conducted a national cohort study of cancer and causes of death in employed and volunteer firefighters, which was funded by the Australasian Fire and Emergency Services Authorities Council (AFAC). For the past 15 years he has undertaken a series of studies of physical and mental health in war veterans funded by the Department of Veterans' Affairs. He has a NHMRC Partnership grant; 'Improving the Resilience, Health and Wellbeing of Australian Firefighters', which has the South Australian Metropolitan Fire Service as an Industry Partner.</p>
A/Prof Jonathan Phillips	Nil	Nil
Prof Zachary Steel	<ul style="list-style-type: none"> • University of New South Wales • St John of God Health Care, Richmond Hospital • The Black Dog Institute 	<p>Prof. Steel has a clinical and research joint position with University of New South Wales and St John of God Health Care which provides treatment for emergency service personal with mental health impairment. Over the last 5 years, Prof Steel has received research funding from NHMRC and ARC to conduct research with trauma affected populations. He provides expert clinical review for EML as part of the Black Dog Institute. He is undertaking clinical research with military and emergency service populations. He has not received any funding or payments from pharmaceutical companies.</p>

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NOTES:



FIRE

POLICE



