ClinicalEvidence

Post-traumatic stress disorder

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ABSTRACT

INTRODUCTION: Post-traumatic stress disorder (PTSD) may affect 10% of women and 5% of men at some stage, and symptoms may persist for several years. Risk factors include major trauma, lack of social support, peritraumatic dissociation, and previous psychiatric history or personality factors. METHODS AND OUTCOMES: We conducted a systematic review and aimed to answer the following clinical questions: What are the effects of interventions to prevent PTSD? What are the effects of interventions to treat PTSD? We searched: Medline, Embase, The Cochrane Library, and other important databases up to March 2009 (Clinical Evidence reviews are updated periodically; please check our website for the most up-to-date version of this review). We included harms alerts from relevant organisations such as the US Food and Drug Administration (FDA) and the UK Medicines and Healthcare products Regulatory Agency (MHRA). RESULTS: We found 46 systematic reviews, RCTs, or observational studies that met our inclusion criteria. We performed a GRADE evaluation of the quality of evidence for interventions. CONCLUSIONS: In this systematic review we present information relating to the effectiveness and safety of the following interventions: affect management; antiepileptic drugs; antihypertensive drugs; benzodiazepines; brofaromine; CBT; drama therapy; eye movement desensitisation and reprocessing; fluoxetine; group therapy; hydrocortisone; hypnotherapy; inpatient treatment programmes; Internet-based psychotherapy; mirtazapine; multiple-session CBT; multiple-session collaborative trauma support; multiple-session education; nefazodone; olanzapine; paroxetine; phenelzine; psychodynamic psychotherapy; risperidone; SSRIs (versus other antidepressants); sertraline; single-session group debriefing; single-session individual debriefing; supportive psychotherapy; supportive counselling; temazepam; tricyclic antidepressants; and venlafaxine.

QUESTIONS

INTERVENTIONS

PREVENTIVE INTERVENTIONS

TREATMENTS

Key points

- Post-traumatic stress disorder (PTSD) is characterised by disabling symptoms of re-experiencing a traumatic event, avoidance behaviour, and hyperarousal (e.g., irritability or hypervigilance), lasting at least 1 month.

  PTSD may affect 10% of women and 5% of men at some stage, and symptoms may persist for several years.

  Risk factors include major trauma, lack of social support, peritraumatic dissociation, and previous psychiatric or personality factors.

- Multiple-session trauma-focused CBT may be effective at preventing development of PTSD in people with psychological distress after a traumatic event.

  However, we don't know whether multiple-session trauma-focused CBT is beneficial for people who have experienced a traumatic event but have not been diagnosed with psychological distress.

- We don't know whether antiepileptic drugs, antihypertensive drugs, hydrocortisone, multiple-session collaborative trauma support, multiple-session education, single-session group debriefing, or temazepam are beneficial in preventing PTSD.

  Single-session individual debriefing may increase the rate of PTSD after a traumatic event compared with no debriefing, and supportive counselling may be less effective than multiple-session CBT at preventing onset of PTSD.

- In people with PTSD, trauma-focused CBT improves PTSD symptoms compared with no treatment or with other psychological interventions, including stress management and present-centred therapy. Eye movement desensitisation and reprocessing seems as effective as trauma-focused CBT in the treatment of chronic PTSD.

  We don't know whether other psychological treatments (affect management, drama therapy, group therapy, hypnotherapy, inpatient treatment regimens, Internet-based psychotherapy, psychodynamic psychotherapy, or supportive psychotherapy) are beneficial in people with PTSD.

- Paroxetine may improve symptoms in people with PTSD. However, venlafaxine does not seem effective at improving symptoms, and the benefits of fluoxetine are unclear.

  We found insufficient good evidence to assess the effects of sertraline, tricyclic antidepressants, or benzodiazepines.

  We found limited evidence that sertraline and nefazodone may be equally effective at improving symptoms of PTSD, but we don't know how other antidepressants compare with each other in the treatment of PTSD.

  We don't know whether antiepileptic drugs, antihypertensive drugs, brofaromine, nefazodone, olanzapine, phenelzine, mirtazapine, or risperidone are beneficial in people with PTSD.

DEFINITION

Post-traumatic stress disorder (PTSD) can occur after any major traumatic event. Symptoms include upsetting thoughts and nightmares about the traumatic event, avoidance behaviour, numbing of general responsiveness, increased irritability, and hypervigilance. [1] To fulfil the *Diagnostic and Statistical Manual-IV* (DSM-IV) criteria for PTSD, an individual must have been exposed to a traumatic event; have at least one re-experiencing, three avoidance, and two hyperarousal phenomena; have had the symptoms for at least 1 month; and the symptoms must cause clinically important distress or reduced day-to-day functioning. It is labelled as acute for the first 3 months and chronic if it lasts beyond 3 months. [1] People with subsyndromal PTSD have all the criteria for PTSD except one of the re-experiencing, avoidance, or hyperarousal phenomena. **Acute stress disorder** occurs within the first month after a major traumatic event and requires the presence of symptoms for at least 2 days. It is similar to PTSD, but dissociative symptoms are required to make the diagnosis. Treatments for PTSD may have similar effects, regardless of the traumatic event that precipitated PTSD. However, great caution should be applied when generalising from one type of trauma to another.

INCIDENCE/ PREVALENCE

One large cross-sectional study in the USA found that 1/10 (10%) women and 1/20 (5%) men experience PTSD at some stage in their lives. [2]

AETIOLOGY/ RISK FACTORS

Risk factors include major trauma, such as: rape; a history of psychiatric disorders; acute distress and depression after the trauma; lack of social support; and personality factors. [3]

PROGNOSIS

One large cross-sectional study in the USA found that over a third of people with previous PTSD continued to satisfy the criteria for PTSD 6 years after initial diagnosis. [2] However, cross-sectional studies provide weak evidence about prognosis.

AIMS OF INTERVENTION

To reduce initial distress after a traumatic event; to prevent PTSD and other psychiatric disorders; to reduce levels of distress in the long term; to improve function and quality of life; with minimal adverse effects.

OUTCOMES

Prevention: **incidence of PTSD; symptoms that may lead to a diagnosis of PTSD** (anxiety, depression, avoidance, intrusive symptoms). *Treatment:* **incidence of PTSD, and symptom severity** assessed by continuous measures. Continuous measures for assessing changes in symptoms include Impact of Event Scale (range 0–75), Post-traumatic Stress Diagnostic Scale (range 0–51), Clinician Administered PTSD Scale (0–136), Trauma Symptom Checklist 40 (range 0–160), Post-traumatic Stress Disorder Checklist (17 items graded from 1 = not at all to 5 = extremely), and Clinical Global Impression Scale (a composite measure of symptoms and everyday functioning; range very much worse–very much improved). Symptoms assessed include anxiety, depression, intrusion, and avoidance. Changes in continuous measures are often expressed as effect sizes. It is difficult to interpret effect sizes in terms of clinical importance. Some categorise effect sizes of less than 0.5 as small, 0.5–0.8 as medium, and greater than 0.8 as large. *Prevention and treatment:* **Adverse effects of treatment.**

METHODS

Clinical Evidence search and appraisal March 2009. The following databases were used to identify studies for this systematic review: Medline 1966 to March 2009, Embase 1980 to March 2009, and The Cochrane Database of Systematic Reviews and Cochrane Central Register of Controlled Clinical Trials 2009, Issue 1 (1966 to date of issue). An additional search was carried out for the Database of Abstracts of Reviews of Effects (DARE) and Health Technology Assessment (HTA). We also searched for retractions of studies included in the review. Abstracts of the studies retrieved from the initial search were assessed by an information specialist. Selected studies were then sent to the contributor for additional assessment, using predetermined criteria to identify relevant studies. Study design criteria for inclusion in this review were: published systematic reviews of RCTs and RCTs in any language, at least single blinded, and containing more than 20 individuals of whom more than 80% were followed up. There was no minimum length of follow-up required to include studies. We excluded all studies described as “open”, “open label”, or not blinded unless blinding was impossible. We included systematic reviews of RCTs and RCTs where harms of an included intervention were studied applying the same study design criteria for inclusion as we did for benefits. In addition, we use a regular surveillance protocol to capture harms alerts from organisations such as the FDA and the UK Medicines and Healthcare products Regulatory Agency (MHRA), which are added to the reviews as required. To aid readability of the numerical data in our reviews, we round many percentages to the nearest whole number. Readers should be aware of this when relating percentages to summary statistics such as relative risks (RRs) and odds ratios (ORs). We have performed a GRADE evaluation of the quality of evidence for interventions included in this review (see table, p 59). The categorisation of the quality of the evidence (high, moderate, low, or very low) reflects the quality of evidence available for our chosen outcomes in our defined populations of interest. These categorisations are not necessarily a reflection of the overall methodological quality of any individual study, because the Clinical Evidence population and outcome of choice may represent only a small subset of the total outcomes reported, and population included, in any individual trial. For further details of how we perform the GRADE evaluation and the scoring system we use, please see our website (www.clinicalevidence.com).

QUESTION What are the effects of interventions to prevent post-traumatic stress disorder?

OPTION ANTIEPILEPTIC DRUGS TO PREVENT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether antiepileptic drugs are beneficial in preventing PTSD.

Benefits and harms

Antiepileptics versus placebo:

We found no systematic review on the effects of antiepileptics in the prevention of PTSD. We found one small three-arm RCT. [4]

Incidence of PTSD

Gabapentin compared with placebo We don't know whether gabapentin is more effective than placebo at reducing the proportion of people diagnosed with PTSD in people who have experienced a severe injury (very low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[4] RCT **3-armed trial**	48 people admitted to a surgical trauma centre with severe injuries The third arm assessed the effects of propranolol	**Proportion of people diagnosed with PTSD (assessed using various scales) , 4 months** 2/10 (20%) with gabapentin (initially 300 mg three times daily increasing to 400 mg three times daily over 2 days) 4/16 (25%) with placebo 31 people in this analysis (14 in gabapentin group and 17 in placebo group) Gabapentin was administered within 48 hours of severe physical injury: treatment was given for 14 days	Significance not assessed People with and without risk factors for PTSD after injury were enrolled in the RCT The RCT may have been underpowered to detect clinically meaningful differences between groups		

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects					
[4] RCT **3-armed trial**	48 people admitted to a surgical trauma centre with severe injuries The third arm assessed the effects of propranolol	**Adverse effects , 4 months** with gabapentin (initially 300 mg three times daily increasing to 400 mg three times daily over 2 days) with placebo Absolute results not reported The RCT gave no information on adverse effects but reported that gabapentin was well tolerated 31 people in this analysis (14 in gabapentin group and 17 in placebo group)			

Further information on studies

Comment: None.

OPTION ANTIHYPERTENSIVE DRUGS TO PREVENT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether antihypertensive drugs are beneficial in preventing PTSD.

Benefits and harms

Antihypertensive drugs versus placebo:

We found no systematic review assessing the effects of antihypertensives in the prevention of PTSD. We found two RCTs assessing the effects of propranolol. [5] [4]

Incidence of PTSD

Compared with placebo We don't know whether propranolol is more effective than placebo at reducing the proportion of people diagnosed with PTSD at 3 to 4 months in people who have experienced a traumatic event or severe injury (very low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[5] RCT	41 people with early symptoms of PTSD 6 hours after a traumatic event	**Proportion of people with PTSD (measured by Clinician Administered Post-traumatic Stress Disorder Scale) , 1 month** 2/11 (18%) with propranolol 40 mg four times daily for 10 days 6/20 (30%) with placebo	RR 0.52 95% CI 0.09 to 3.16 The follow-up of the RCT is 75%, which is slightly below our reporting criteria of 80%. However, because of the paucity of data on the effects of propranolol in the prevention of PTSD, we have decided to include this RCT	⟷	Not significant
[5] RCT	41 people with early symptoms of PTSD 6 hours after a traumatic event	**Proportion of people with PTSD (measured by Clinician Administered Post-traumatic Stress Disorder Scale) , 3 months** 1/11 (9%) with propranolol 40 mg four times daily for 10 days 2/15 (13%) with placebo	RR 0.65 95% CI 0.05 to 8.23 The follow-up of the RCT is 75%, which is slightly below our reporting criteria of 80%. However, because of the paucity of data on the effects of propranolol in the prevention of PTSD, we have decided to include this RCT	⟷	Not significant
[4] RCT **3-armed trial**	48 people admitted to a surgical trauma centre with severe injuries The third arm assessed the effects of gabapentin	**Proportion of people diagnosed with PTSD (assessed using various scales) , 4 months** 3/12 (25%) with propranolol (initially 20 mg three times daily increasing to 40 mg three times daily) 4/16 (25%) with placebo 34 people in this analysis (17 in propranolol group and 17 in placebo group) Propranolol was administered within 48 hours of severe physical injury: treatment was given for 14 days	Significance not assessed People with and without risk factors for PTSD after injury were enrolled in the RCT The RCT may have been underpowered to detect clinically meaningful differences between groups		

Adverse effects

No data from the following reference on this outcome. [5] [4]

Further information on studies

Comment: **Clinical guide:**
There is no evidence from RCTs to support the use of propranolol at present.

OPTION HYDROCORTISONE TO PREVENT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether hydrocortisone is beneficial in preventing PTSD.

Benefits and harms

Hydrocortisone versus saline:

We found no systematic review but found one small RCT comparing intravenous hydrocortisone versus saline. [6]

Incidence of PTSD

Hydrocortisone compared with saline Hydrocortisone may be more effective at reducing the proportion of people diagnosed with PTSD at 31 months in people with septic shock-induced PTSD (low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[6] RCT	20 people in an intensive care unit with septic shock	**Proportion of people with PTSD (assessed by Structured Clinical Interview using DSM-IV criteria for PTSD) , 31 months** 1/9 (11%) with intravenous hydrocortisone 7/11 (64%) with saline	RR 0.07 95% CI 0.01 to 0.80 The results of this RCT may not be generalisable to people with trauma not induced by septic shock	●●●	intravenous hydrocortisone

Adverse effects

No data from the following reference on this outcome. [6]

Further information on studies

Comment: **Clinical guide:**
More research is required before hydrocortisone can be recommended for routine clinical use but these results suggest that further work is indicated.

OPTION MULTIPLE-SESSION CBT TO PREVENT PTSD IN PEOPLE WITH ACUTE STRESS DISORDER

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- Multiple-session trauma-focused CBT may be effective at preventing development of PTSD in people with psychological distress after a traumatic event.

Benefits and harms

Multiple-session CBT versus supportive counselling (people with acute stress disorder):

We found three RCTs. [7] [8] [9]

Incidence of PTSD

Multiple-session CBT compared with supportive counselling Multiple-session CBT may be more effective at reducing rate of PTSD in people with acute stress disorder, but we don't know whether CBT plus hypnosis is more effective than supportive counselling at reducing rate of PTSD (low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[7] RCT	24 people with acute stress disorder two weeks after a road traffic accident (RTA) or industrial accident	**Proportion of people who fulfilled diagnostic criteria for PTSD , immediately after treatment** 8% with five sessions of CBT 83% with five sessions of supportive counselling Absolute numbers not reported	P <0.001	○○○	CBT
[7] RCT	24 people with acute stress disorder two weeks after RTA or industrial accident	**Proportion of people who fulfilled diagnostic criteria for PTSD , 6 months** 17% with five sessions of CBT 67% with five sessions of supportive counselling Absolute numbers not reported	P <0.05	○○○	CBT
[8] RCT **3-armed trial**	45 people with acute stress disorder two weeks after an RTA or non-sexual assault The third arm assessed the effects of prolonged exposure therapy plus anxiety management	**Proportion of people with PTSD (measured by Clinician Administered PTSD Scale) , immediately after treatment** 2/14 (14%) with prolonged exposure (five 90-minute sessions) 9/16 (56%) with supportive counselling 30 people in this analysis	P <0.05	○○○	CBT
[8] RCT **3-armed trial**	45 people with acute stress disorder two weeks after an RTA or non-sexual assault The third arm assessed the effects of prolonged exposure therapy alone	**Proportion of people with PTSD (measured by Clinician Administered PTSD Scale) , immediately after treatment** 3/15 (20%) with prolonged exposure (five 90-minute sessions) plus anxiety management 9/16 (56%) with supportive counselling 31 people in this analysis	P <0.05	○○○	CBT
[8] RCT **3-armed trial**	45 people with acute stress disorder two weeks after an RTA or non-sexual assault The third arm assessed the effects of prolonged exposure therapy plus anxiety management	**Proportion of people with PTSD (measured by Clinician Administered PTSD Scale) , 6 months** 2/13 (15%) with prolonged exposure (five 90-minute sessions) 10/15 (67%) with supportive counselling 30 people in this analysis	P <0.05	○○○	CBT

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
[8] RCT **3-armed trial**	45 people with acute stress disorder two weeks after an RTA or non-sexual assault The third arm assessed the effects of prolonged exposure therapy alone	**Proportion of people with PTSD (measured by Clinician Administered PTSD Scale) , 6 months** 3/13 (23%) with prolonged exposure (five 90-minute sessions) plus anxiety management 10/15 (67%) with supportive counselling 31 people in this analysis	P <0.05	○○○	CBT
[9] RCT **3-armed trial**	87 people with acute stress disorder after an RTA or non-sexual assault The third arm assessed the effects of CBT plus hypnosis	**Proportion of people with PTSD (measured by Clinician Administered PTSD Scale) , immediately after completion of treatment** 36% with CBT (five 90-minute sessions) 50% with supportive counselling Absolute numbers not reported	Reported as not significant (reduction in numeric scores was greater in the CBT group) P value not reported	⟷	Not significant
[9] RCT **3-armed trial**	87 people with acute stress disorder after an RTA or non-sexual assault The third arm assessed the effects of CBT alone	**Proportion of people with PTSD (measured by Clinician Administered PTSD Scale) , immediately after completion of treatment** 30% with CBT (five 90-minute sessions) plus hypnosis 50% with supportive counselling Absolute numbers not reported	Reported as not significant (reduction in numeric scores was greater in the CBT plus hypnosis group) P value not reported	⟷	Not significant
[9] RCT **3-armed trial**	87 people with acute stress disorder after an RTA or non-sexual assault The third arm assessed the effects of CBT plus hypnosis	**Proportion of people with PTSD (measured by Clinician Administered PTSD Scale) , 6 months** 42% with CBT (five 90-minute sessions) 58% with supportive counselling Absolute numbers not reported	Reported as not significant (reduction in numeric scores was greater in the CBT group) P value not reported	⟷	Not significant
[9] RCT **3-armed trial**	87 people with acute stress disorder after an RTA or non-sexual assault The third arm assessed the effects of CBT alone	**Proportion of people with PTSD (measured by Clinician Administered PTSD Scale) , 6 months** 40% with CBT (five 90-minute sessions) plus hypnosis 58% with supportive counselling Absolute numbers not reported	Reported as not significant (reduction in numeric scores was greater in the CBT plus hypnosis group) P value not reported	⟷	Not significant

Adverse effects

No data from the following reference on this outcome. [7] [8] [9]

Further information on studies

Comment: The overall quality of RCTs was poor. [7] [8] [9] Problems included failure to state loss to follow-up, and lack of intention-to-treat analysis despite high withdrawal rates. It is not possible to blind people treated with this type of intervention, but the lack of blinding may affect results.

OPTION MULTIPLE-SESSION CBT TO PREVENT PTSD IN ALL PEOPLE EXPOSED TO A TRAUMATIC EVENT

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether multiple-session trauma-focused CBT is beneficial for people who have experienced a traumatic event but have not been diagnosed with psychological distress.

Benefits and harms

Multiple-session CBT versus no treatment or standard care (all people exposed to a traumatic event):

We found no systematic review, but we found two RCTs. [10] [11]

Incidence of PTSD

Multiple-session CBT compared with no treatment or standard care We don't know whether multiple sessions of CBT are more effective than no treatment or standard care at reducing the proportion of people who meet diagnostic criteria for PTSD at 13 months and in people exposed to a traumatic event (low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people developing PTSD					
[11] RCT	152 people with psychological distress after physical injury, 116 followed up at 13 months (per protocol analysis)	**Proportion of people meeting DSM-IV criteria for PTSD , 13 months** 10/61 (16%) with CBT (4 sessions between 5 and 10 weeks after the injury) 15/55 (27%) with no psychological intervention	RR 0.6 95% CI 0.3 to 1.5	⟷	Not significant
Symptoms that may lead to a diagnosis of PTSD					
[10] RCT	132 bus drivers who had been attacked in the previous few days	**Improvement in measures of anxiety (assessed using Horowitz scale; change in mean score from baseline) , 6 months** from 7.4 to 6.2 with CBT (1 to 6 sessions) from 7 to 6.9 with standard care	Significance not assessed		
[10] RCT	132 bus drivers who had been attacked in the previous few days	**Improvement in intrusive symptoms (change in mean score from baseline) , 6 months** from 10.9 to 7.7 with CBT (1 to 6 sessions) from 7.2 to 4.7 with standard care	Significance not assessed		
[10] RCT	132 bus drivers who had been attacked in the previous few days	**Improvement in measures of depression (change in mean score from baseline) , 6 months** from 3.6 to 3.2 with CBT (1 to 6 sessions) from 3.6 to 3.3 with standard care	Significance not assessed		

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
[10] RCT	132 bus drivers who had been attacked in the previous few days	**Improvement in avoidance symptoms (change in mean score from baseline) , 6 months** from 11 to 9.5 with CBT (1 to 6 sessions) from 8.4 to 7.3 with standard care	Significance not assessed		
[11] RCT	152 people with psychological distress after physical injury, 116 followed up at 13 months	**Mean reduction in severity of PTSD symptom score (assessed using the Impact of Event Scale) , 13 months** 20.7 with CBT (4 sessions between 5 and 10 weeks after the injury) 11.2 with no psychological intervention	Adjusted mean difference 8.4 95% CI 2.4 to 14.4	○○○	CBT

Adverse effects

No data from the following reference on this outcome. [10] [11]

CBT plus education versus no treatment:

We found one RCT comparing three to six sessions of CBT plus educational techniques versus no psychological intervention. [12]

Incidence of PTSD

Multiple-session CBT plus education compared with no treatment We don't know whether multiple sessions of CBT plus education is more effective than no treatment at reducing rates of PTSD at 6 months in people who have experienced a traumatic event (very low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people who developed PTSD					
[12] RCT	151 people who had been involved in a road traffic accident in the past month	**Rate of PTSD , 6 months** with CBT (three to six sessions) plus educational techniques with no psychological intervention Absolute results not reported The treatment group included multiple types of intervention (help, information, support, and reality testing/confrontation)	P = 0.39 The RCT found that people in the treatment group had a significantly higher baseline risk of PTSD compared with the no-intervention group, which makes the results difficult to interpret	⟷	Not significant

Adverse effects

No data from the following reference on this outcome. [12]

Further information on studies

Comment: The overall quality of RCTs was poor. [10] [11] [12] Problems included failure to state loss to follow-up, and lack of intention-to-treat analysis despite high withdrawal rates. It is not possible to blind people treated with this type of intervention, but the lack of blinding may affect results.

Clinical guide:
There is some evidence that the provision of trauma-focused CBT for individuals with marked traumatic stress symptoms can be beneficial.

OPTION MULTIPLE-SESSION COLLABORATIVE TRAUMA SUPPORT TO PREVENT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether multiple-session collaborative trauma support is beneficial in preventing PTSD.

Benefits and harms

Multiple-session collaborative trauma support versus no treatment/usual care/immediate review:

We found no systematic review but found three RCTs. [13] [14] [15]

Incidence of PTSD

Multiple-session collaborative trauma support compared with no treatment or usual care We don't know whether multiple-session collaborative trauma support is more effective than no treatment or usual care at reducing risk of developing PTSD, reducing poor outcome, or improving PTSD symptoms at 3 to 12 months (very low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people who developed PTSD					
[13] RCT **3-armed trial**	70 people who had been admitted to hospital after a road traffic accident (RTA) in the past week The third arm assessed the effects of immediate review (a single debriefing intervention)	**Proportion of people with poor outcome (based on traumatic neurosis symptoms)** 9/30 (30%) with multiple-session collaborative trauma-support (emotional, practical, and social support for 2–10 hours in the first 3 months) 26/30 (87%) with no intervention	ARR 57% P <0.001	○○○	multiple-session collaborative trauma support
[13] RCT **3-armed trial**	70 people who had been admitted to hospital after a road traffic accident (RTA) in the past week The third arm assessed the effects of no intervention	**Proportion of people with poor outcome (based on traumatic neurosis symptoms)** 9/30 (30%) with multiple-session collaborative trauma-support (emotional, practical, and social support for 2–10 hours in the first 3 months) 6/10 (60%) with immediate review (single-session debriefing)	P <0.05	○○○	multiple-session collaborative trauma support
[15] RCT	120 injured survivors of various physical traumas occurring 24 hours before assessment for eligibility for inclusion	**Difference in rate of PTSD from baseline (changes in symptoms assessed using the Post-traumatic Stress Disorder Checklist) , 12 months** –0.07% with multiple-session collaborative trauma-support +6% with usual care	P = 0.02	○○○	multiple-session collaborative trauma-support

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
		Absolute numbers not reported Collaborative care incorporated emotional, practical, and social support from a trauma-support specialist with motivational interviews targeting alcohol abuse/dependence and evidence-based pharmacotherapy or CBT (for people with persistent PTSD 3 months after injury)			
[14] RCT	34 survivors of RTAs or assault in the past 24 hours	**Proportion of people who developed PTSD (assessed by the Post-traumatic Stress Disorder Checklist) , 4 months** 17% with multiple-session collaborative trauma-support (emotional, practical, and social support from a trauma support specialist for 4 months) 43% with no intervention Absolute numbers not reported	P >0.1 The RCT might have lacked power to detect a clinically important difference in outcomes	⟷	Not significant

Adverse effects

No data from the following reference on this outcome. [13] [14] [15]

Further information on studies

The overall quality of RCTs was poor. [13] [14] [15] Problems included failure to state loss to follow-up and lack of intention-to-treat analysis despite high withdrawal rates. It is not possible to blind people treated with this type of intervention, but the lack of blinding may affect results. The third RCT carried out a subgroup analysis of the effects of collaborative care on alcohol misuse. [15] It found that collaborative care significantly decreased the rate of alcohol abuse compared with usual care after 12 months (P = 0.48). However, these results should be interpreted with caution because of the methodological problems outlined above.

Comment: **Clinical guide:**
There is some weak evidence that multiple-session collaborative trauma support may be beneficial. However, more work is required before it can be recommended for routine use.

OPTION MULTIPLE-SESSION EDUCATION TO PREVENT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether multiple-session education is beneficial in preventing PTSD.
- We found no direct information from RCTs about multiple-session education alone compared with no active treatment in people exposed to a traumatic event.

Benefits and harms

Multiple-session education alone:

We found no systematic review or RCTs.

Multiple-session education plus CBT versus no treatment:

See option on multiple-session CBT (all people exposed to a traumatic event), p 9 .

Further information on studies

Comment: **Clinical guide:**
There is no evidence from RCTs for the use of multiple-session education alone at present.

OPTION SINGLE-SESSION GROUP DEBRIEFING TO PREVENT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether single-session group debriefing is beneficial in preventing PTSD.
- We found no direct information from RCTs about single-session group debriefing compared with no active treatment in people exposed to a traumatic event.

Benefits and harms

Group debriefing versus no debriefing:

We found one systematic review (search date 2004). [16] The review identified no RCTs assessing the effects of single-session group debriefing versus no debriefing. [16]

Early versus delayed group debriefing:

We found one systematic review (search date 2004). [16] The review identified one RCT comparing early group debriefing (within 10 hours) versus delayed group debriefing (after 48 hours). [16]

Symptom severity

Early single-session group debriefing compared with delayed single-session group debriefing Early group debriefing (within 10 hours of the traumatic event) may be more effective at reducing the symptoms of PTSD at 2 weeks (low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Symptoms of PTSD					
[16] Systematic review	77 people Data from 1 RCT	**Severity of PTSD symptoms (mean score on the Post-traumatic Stress Diagnostic Scale; lower score favourable) , 2 weeks** 6.94 with early group debriefing (within 10 hours) 33.10 with delayed group debriefing (after 48 hours)	P <0.001	○○○	early group debriefing

Adverse effects

No data from the following reference on this outcome. [16]

Further information on studies

Comment: See comment on single-session individual debriefing, p 14 .

OPTION SINGLE-SESSION INDIVIDUAL DEBRIEFING TO PREVENT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- Single-session individual debriefing may increase the rate of PTSD after a traumatic event compared with no debriefing.

Benefits and harms

Individual debriefing versus no debriefing:

We found one systematic review (search date 2004, 5 RCTs, 356 people). [16]

Incidence of PTSD

Individual debriefing compared with no debriefing Single-session individual psychological debriefing seems no more effective than no debriefing at reducing rate of PTSD in the shorter term (3–6 months) and may be less effective at reducing rate of PTSD at 13 months (moderate-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Rate of PTSD					
[16] Systematic review	238 people 2 RCTs in this analysis	**Rate of PTSD , 3 to 6 months** with single-session individual psychological debriefing with no debriefing Absolute results not reported	RR 1.2 95% CI 0.84 to 1.71	⟷	Not significant
[16] Systematic review	133 people Data from 1 RCT	**Rate of PTSD , 13 months** with single-session individual psychological debriefing with no debriefing Absolute results not reported	RR 1.87, 95% CI 1.12 to 3.12	●○○	no debriefing

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects					
[16] Systematic review		**Adverse effects** with single-session individual psychological debriefing with no debriefing Two RCTs included in the systematic review found an increased risk of subsequent psychological problems in people receiving the intervention. However, initial			

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
		traumatic exposure had been higher in these people			

Further information on studies

Comment: The overall quality of RCTs was moderate. Methodological problems included failure to state loss to follow-up, lack of intention-to-treat analysis, and high withdrawal rates. It is not possible to blind people treated with this type of intervention, but the lack of blinding may affect results.

Clinical guide:
It seems that single-session debriefing is not beneficial in preventing PTSD.

OPTION SUPPORTIVE COUNSELLING TO PREVENT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- Supportive counselling may be less effective than multiple-session CBT at preventing onset of PTSD.
- We found no direct information from RCTs about supportive counselling compared with no active treatment in people exposed to a traumatic event.

Benefits and harms

Supportive counselling versus no treatment:

We found no systematic review or RCTs comparing supportive counselling versus no treatment.

Supportive counselling versus multiple-session CBT:

See option on multiple-session CBT in people with acute stress disorder, p 6 .

Further information on studies

Comment: **Clinical guide:**
There is currently no evidence from RCTs for the use of supportive counselling.

OPTION TEMAZEPAM TO PREVENT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether temazepam is beneficial in preventing PTSD.

Benefits and harms

Temazepam versus placebo:

We found no systematic review, but found one RCT comparing temazepam versus placebo. [17]

Incidence of PTSD

Temazepam compared with placebo We don't know whether temazepam is more effective than placebo at reducing the proportion of people with PTSD at 6 weeks in people with acute stress disorder or early symptoms of PTSD (low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people who developed PTSD					
[17] RCT	22 people with PTSD symptoms and sleep-initiation difficulties a mean 14 days after a road traffic accident, industrial accident, or non-sexual assault, seven with acute stress disorder See further information on studies for effects of temazepam on sleep patterns	**Proportion of people with PTSD (assessed by Structured Clinical Interview using DSM-IV criteria for PTSD) , 6 weeks** 6/11 (54%) with temazepam (30 mg daily for 5 days followed by 15 mg daily for 2 days) 3/11 (27%) with placebo	P value not reported The RCT is likely to have been underpowered to detect clinically important differences in outcomes		

Adverse effects

No data from the following reference on this outcome. [17]

Further information on studies

[17] The RCT found that temazepam significantly improved sleep after one night compared with placebo (P <0.04), but found similar total sleep patterns after 1 week (P value not reported).

Comment: The RCT was published as a letter to the editor. [17]

Clinical guide:
There is no evidence from RCTs to support the use of temazepam at present.

QUESTION What are the effects of interventions to treat post-traumatic stress disorder?

OPTION AFFECT MANAGEMENT TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether affect management is beneficial in people with PTSD.

Benefits and harms

Affect management versus waiting list control:

We found no systematic review, but found one RCT comparing 15 weeks of versus waiting list control. [18]

Symptom severity

Affect management compared with waiting list control Affect management plus drug treatment may be more effective at reducing symptom severity of PTSD at 15 weeks (low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
PTSD symptoms					
[18] RCT	48 women with PTSD related to childhood sexual abuse	**Improvement in PTSD symptoms (assessed by the Davidson Trauma Scale; mean change from baseline) , 15 weeks** 45.8 with affect management treatment (in addition to drug treatment) for 15 weeks 73.1 with waiting list control	P = 0.02	○○○	affect management
Dissociative symptoms					
[18] RCT	48 women with PTSD related to childhood sexual abuse	**Improvement in dissociative symptoms (assessed by the Dissociative Experiences Scale; mean change from baseline) , 15 weeks** 11.9 with affect management treatment (in addition to drug treatment) for 15 weeks 25.2 with waiting list control	P = 0.02	○○○	affect management

Incidence of PTSD

No data from the following reference on this outcome. [18]

Adverse effects

No data from the following reference on this outcome. [18]

Further information on studies

Comment: **Clinical guide:**
There is some evidence for the use of affect management, but further studies are needed.

OPTION ANTIEPILEPTIC DRUGS TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether antiepileptic drugs are beneficial in people with PTSD.

Benefits and harms

Antiepileptic drugs versus placebo:
We found no systematic review but found two RCTs. [19] [20]

Symptom severity

Antiepileptic drugs compared with placebo Antiepileptic drugs (topiramate and tiagabine) seem no more effective than placebo at reducing the severity of symptoms of PTSD at 12 weeks in people with non-combat-related traumatic events (moderate-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
PTSD symptoms					
[19] RCT	38 people with chronic PTSD resulting from various non-combat-related traumatic events	**Change in PTSD symptoms (mean change in Clinician Administered PTSD Scale) , 12 weeks (end of treatment)** –52.7 with topiramate (flexible dose: 25–400 mg/day) –42.0 with placebo	P = 0.23	⟷	Not significant
[20] RCT	232 people with PTSD resulting from various non-combat-related traumatic events	**Change in PTSD symptoms (mean change in Clinician Administered PTSD Scale) , 12 weeks (end of treatment)** –30.7 with tiagabine (flexible dose: 4–16 mg/day) –30.2 with placebo	P = 0.85	⟷	Not significant

Incidence of PTSD

No data from the following reference on this outcome. [19] [20]

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects					
[19] RCT	38 people with chronic PTSD resulting from various non-combat-related traumatic events	**Proportion of people withdrawing owing to adverse effects** 4/19 (21%) with topiramate (flexible dose: 25–400 mg/day) 3/19 (16%) with placebo	Significance not assessed		
[19] RCT	38 people with chronic PTSD resulting from various non-combat-related traumatic events	**Proportion of people with headache** 7/19 (37%) with topiramate (flexible dose: 25–400 mg/day) 5/19 (26%) with placebo Headache was one of most common adverse effects associated with topiramate	Significance not assessed		
[19] RCT	38 people with chronic PTSD resulting from various non-combat-related traumatic events	**Proportion of people with sinusitis** 5/19 (26%) with topiramate (flexible dose: 25–400 mg/day) 2/19 (11%) with placebo Sinusitis was one of most common adverse effects associated with topiramate	Significance not assessed		

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
[19] RCT	38 people with chronic PTSD resulting from various non-combat-related traumatic events	**Proportion of people with taste perversion** 5/19 (26%) with topiramate (flexible dose: 25–400 mg/day) 0/19 (0%) with placebo Taste perversion was one of most common adverse effects associated with topiramate	Significance not assessed		
[20] RCT	232 people with PTSD resulting from various non-combat-related traumatic events	**Proportion of people with dizziness** 32% with tiagabine (flexible dose: 4–16 mg/day) 13% with placebo Absolute numbers not reported The RCT reported that tiagabine was generally well tolerated Dizziness was one of the most common adverse effects associated with tiagabine	Significance not assessed		
[20] RCT	232 people with PTSD resulting from various non-combat-related traumatic events	**Proportion of people with headache** 25% with tiagabine (flexible dose: 4–16 mg/day) 27% with placebo Absolute numbers not reported The RCT reported that tiagabine was generally well tolerated Headache was one of the most common adverse effects associated with tiagabine	Significance not assessed		
[20] RCT	232 people with PTSD resulting from various non-combat-related traumatic events	**Proportion of people with somnolence** 20% with tiagabine (flexible dose: 4–16 mg/day) 10% with placebo Absolute numbers not reported The RCT reported that tiagabine was generally well tolerated Somnolence was one of the most common adverse effects associated with tiagabine	Significance not assessed		

Further information on studies

Comment: None.

OPTION ANTIHYPERTENSIVE DRUGS TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether antihypertensive drugs are beneficial in people with PTSD.

- We found no clinically important results from RCTs about the effects of antihypertensive drugs as treatments in people with PTSD.

Benefits and harms

Antihypertensive drugs:

We found no systematic review or RCTs of antihypertensive drugs as treatments in people with PTSD.

Further information on studies

Comment: None.

OPTION BENZODIAZEPINES TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We found insufficient good evidence to assess the effects of benzodiazepines.
- We found no clinically important results from RCTs about the effects of benzodiazepines in people with PTSD.

Benefits and harms

Benzodiazepines:

We found one systematic review (search date 2004), which identified no RCTs of sufficient quality on the effects of benzodiazepines in people with PTSD. [21]

Further information on studies

Comment: **Clinical guide:**
There is no evidence from RCTs to support the use of benzodiazepines at present.

OPTION BROFAROMINE TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether brofaromine is beneficial in people with PTSD.
- MAOIs may require dietary restriction and can precipitate a hypertensive crisis.

Benefits and harms

Brofaromine versus placebo:

We found one systematic review (search date 2004, 1 RCT, 45 people). [16]

Symptom severity

Brofaromine compared with placebo We don't know whether brofaromine (a monoamine oxidase inhibitor [MAOI]) is more effective at reducing the severity of symptoms of PTSD (low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
PTSD symptoms					
[16] Systematic review	45 people Data from 1 RCT	**Severity of self-reported PTSD symptoms , 8 weeks** with brofaromine with placebo Absolute results not reported	SMD –0.58 95% CI –1.18 to +0.02	⟷	Not significant

Incidence of PTSD

No data from the following reference on this outcome. [16]

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects					
[16] Systematic review	66 people Data from 1 RCT	**Proportion of people withdrawing from RCT , 12 weeks** with brofaromine with placebo Absolute results not reported Known adverse effects of monoamine oxidase inhibitors (MAOIs) include possible hypertensive crisis. MAOIs may require dietary restriction (see harms of prescription antidepressant drugs in review on depression in adults [drug and other physical treatments])	RR 1.44 95% CI 0.69 to 3.01 No other information on adverse effects given	⟷	Not significant

Further information on studies

Comment: Brofaromine, an MAOI, has not been marketed in the UK.

OPTION CBT TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- In people with PTSD, trauma-focused CBT improves PTSD symptoms compared with no treatment or with other psychological interventions, including stress management and present-centred therapy.

Benefits and harms

CBT versus no treatment or usual care:

We found one systematic review (search date 2004, 24 RCTs, total number of people not reported) [16] and nine subsequent RCTs. [22] [23] [24] [25] [26] [27] [28] [29] [30]

Symptom severity

Individual CBT compared with no treatment Individual CBT is more effective at reducing the severity of PTSD symptoms after 1–14 sessions (moderate-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
PTSD symptoms					
[22] RCT	59 people with PTSD after an earthquake	**Change in Clinician Administered PTSD Scale (mean score at baseline and at follow-up) , 6 weeks** from 67.8 to 44.4 with CBT (single 60-minute session) from 60.5 to 54.7 with no treatment	P <0.001	○○○	CBT
[23] RCT **3-armed trial**	74 women with PTSD related to childhood sexual abuse The third arm assessed the effects of present-centred therapy	**Change in Clinician Administered PTSD Scale (mean score at baseline and after therapy) , 14 weeks** from 69.9 to 53.1 with CBT (14 sessions lasting 90–120 minutes) from 72.0 to 65.5 with no treatment 52 women in this analysis (29 in the CBT group and 23 in the waiting list control group)	Significance not assessed		
[24] RCT **3-armed trial**	171 female survivors of assault and who had PTSD The third arm assessed the effects of prolonged exposure/cognitive restructuring	**Change in PTSD symptom scale interview score (mean score at baseline and after treatment)** from 35.1 to 19.0 with prolonged exposure (9–12 sessions of 90–120 minutes' duration) from 35.5 to 29.4 with no treatment	P <0.001	○○○	CBT
[24] RCT **3-armed trial**	171 female survivors of assault and who had PTSD The third arm assessed the effects of prolonged exposure alone	**Change in PTSD symptom scale interview (mean score at baseline and after treatment)** from 30.0 to 17.1 with prolonged exposure/cognitive restructuring (9–12 sessions of 90–120 minutes' duration) from 35.5 to 29.4 with no treatment	P <0.001	○○○	CBT
[25] RCT **Crossover design**	40 Cambodian refugees with treatment-resistant PTSD and panic attacks	**Change in Clinician Administered PTSD scale (mean score at baseline and after treatment) , cessation of treatment** from 74.9 to 39.3 with CBT (12 weekly sessions) from 75.9 to 73.1 with no treatment	P <0.001	○○○	CBT
[26] RCT	60 US veterans with chronic military-related PTSD	**Change in Clinician Administered PTSD scale , 10 weeks** with cognitive processing therapy (12 bi-weekly sessions) with no treatment Absolute results not reported	Regression analysis for reduction in Clinician administered PTSD scale P <0.01	○○○	CBT

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
[27] RCT	42 people with chronic (20 people) or severe (22 people) subsyndromal PTSD after a motor vehicle accident	**Change in Clinician Administered PTSD scale (mean score at baseline and follow-up) , 12 weeks after cessation of treatment** from 47.6 to 18.3 with cognitive processing therapy (8–12 sessions) from 41.8 to 35.2 with no treatment	P <0.001	○○○	CBT
[28] RCT	31 people with chronic PTSD after an earthquake	**Change in Clinician Administered PTSD scale (mean score at baseline and follow-up) , 8 weeks after cessation of treatment** from 63.1 to 30.2 with single-session of CBT (exposure to simulated earth tremors supplemented with instructions on self-exposure) from 62.3 to 49.1 with no treatment	P <0.01	○○○	CBT
[29] RCT	58 people with chronic PTSD related to terrorism and civil conflict	**Self-reported Post-Traumatic Stress Diagnostic Scale , 12 weeks (end of treatment)** with CBT (up to 12 sessions) with no treatment Absolute results not reported	Mean difference between groups 9.6 95% CI 3.6 to 15.6	○○○	CBT
[30] RCT	28 people with PTSD related to discrete traumatic events in adulthood	**Change in frequency component of the Clinician Administered PTSD scale (mean score at baseline and at end of treatment) , end of treatment** from 42.0 to 16.0 with CBT (up to 12 sessions of cognitive therapy) from 31.6 to 35.5 with no treatment	P <0.0005 The RCT reported a significant difference in baseline Clinician Administered PTSD scale scores between the two groups (reported as significant; P value not reported)	○○○	CBT
[30] RCT	28 people with PTSD related to discrete traumatic events in adulthood	**Change in intensity component of the Clinician Administered PTSD scale (mean score at baseline and at end of treatment) , end of treatment** from 36.5 to 13.7 with CBT (up to 12 sessions of cognitive therapy) from 29.0 to 30.9 with no treatment	P <0.0005 The RCT reported a significant difference in baseline Clinician Administered PTSD scale scores between the two groups (reported as significant; P value not reported)	○○○	CBT

Incidence of PTSD

Individual CBT compared with no treatment Individual CBT is more effective at reducing the proportion of people meeting diagnostic criteria for PTSD after 1–14 sessions (high-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[16] Systematic review	716 people 14 RCTs in this analysis	**Proportion of people meeting diagnostic criteria for PTSD** 186/435 (43%) with trauma-focused CBT 249/281 (89%) with waiting list control and usual care Usual treatment may include no formal intervention, medication, psychological treatment, or both medication and psychological treatment	RR 0.47 95% CI 0.37 to 0.59	●●○	trauma-focused CBT
[30] RCT	28 people with PTSD related to discrete traumatic events in adulthood	**Proportion of people no longer meeting diagnostic criteria for PTSD , end of treatment** 10/14 (71%) with CBT (up to 12 sessions of cognitive therapy) 0/14 (0%) with no treatment	P <0.005 The RCT reported a significant difference in baseline Clinician Administered PTSD scale scores between the two groups (reported as significant; P value not reported)	○○○	CBT

No data from the following reference on this outcome. [22] [23] [24] [25] [26] [27] [28] [29]

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects					
[16] Systematic review	814 people 14 RCTs in this analysis	**Proportion of people withdrawing for any reason** 107/483 (22%) with trauma-focused CBT 50/331 (15%) with waiting list control and usual care Usual treatment may include no formal intervention, medication, psychological treatment, or both medication and psychological treatment	RR 1.47 95% CI 1.07 to 2.02	●○○	usual care or waiting list control
[23] RCT **3-armed trial**	74 women with PTSD related to childhood sexual abuse The third arm assessed the effects of present-centred therapy	**Proportion of people withdrawing (no details given on reasons for withdrawal) , 14 weeks** 12/29 (41%) with CBT (14 sessions lasting 90–120 minutes) 3/23 (13%) with no treatment 52 women in this analysis (29 in the CBT group and 23 in the waiting list control group)	Significance not assessed		

No data from the following reference on this outcome. [22] [24] [25] [26] [27] [28] [29] [30]

CBT versus present-centred therapy:
We found two RCTs. [23] [31]

Symptom severity

CBT compared with present-centred therapy We don't know whether CBT is more effective than present-centred therapy at reducing the severity of PTSD symptoms in women with PTSD related to childhood sexual abuse or to military active service (low-quality evidence)

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
PTSD symptoms					
[23] RCT **3-armed trial**	74 women with PTSD related to childhood sexual abuse The third arm assessed the effects of no treatment	**Change in Clinician Administered PTSD Scale (mean score before and after treatment) , 14 weeks** from 69.9 to 53.1 with CBT (14 sessions lasting 90–120 minutes) from 67.7 to 47.2 with present-centred therapy (14 sessions lasting 90–120 minutes) 51 women in this analysis (29 in the CBT group and 22 in present-centred therapy group)	Significance not assessed		
[31] RCT	284 women with PTSD; 277 veterans and 7 active-service personnel	**Change in Clinician Administered PTSD Scale (mean score before and after treatment) , immediately after treatment** from 77.6 to 52.9 with CBT (10 weekly sessions of prolonged exposure lasting 90 minutes) from 77.9 to 60.1 with present-centred therapy (10 weekly sessions lasting 90 minutes)	P <0.05	○○○	CBT
[31] RCT	284 women with PTSD; 277 veterans and 7 active-service personnel	**Change in Clinician Administered PTSD Scale (mean score before and after treatment) , 3 months** from 77.6 to 49.7 with CBT (10 weekly sessions of prolonged exposure lasting 90 minutes) from 77.9 to 56.0 with present-centred therapy (10 weekly sessions lasting 90 minutes)	P <0.05	○○○	CBT
[31] RCT	284 women with PTSD; 277 veterans and 7 active-service personnel	**Change in Clinician Administered PTSD Scale (mean score before and after treatment) , 6 months** from 77.6 to 50.4 with CBT (10 weekly sessions of prolonged exposure lasting 90 minutes) from 77.9 to 54.5 with present-centred therapy (10 weekly sessions lasting 90 minutes)	Reported as not significant P value not reported	⟷	Not significant

Incidence of PTSD

CBT compared with present-centred therapy CBT is more effective at reducing the proportion of women meeting diagnostic criteria for PTSD in women with PTSD related to military active service (high-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[31] RCT	284 women with PTSD; 277 veterans and 7 active-service personnel	**Proportion of women no longer meeting diagnostic criteria for PTSD , immediately after treatment** 55/141 (39%) with CBT (10 weekly sessions of prolonged exposure lasting 90 minutes) 29/143 (20%) with present-centred therapy (10 weekly sessions lasting 90 minutes)	P = 0.002	○○○	CBT

No data from the following reference on this outcome. [23]

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects					
[23] RCT **3-armed trial**	74 women with PTSD related to childhood sexual abuse The third arm assessed the effects of no treatment	**Proportion of people withdrawing (no details given on reasons for withdrawal)** 12/29 (41%) with CBT (14 sessions lasting 90–120 minutes) 2/22 (9%) with present-centred therapy (14 sessions lasting 90–120 minutes) 51 women in this analysis (29 in the CBT group and 22 in present-centred therapy group)	Significance not assessed		
[31] RCT	284 women with PTSD; 277 veterans and 7 active-service personnel	**Proportion of people withdrawing (no details given on reasons for withdrawal)** 53/141 (38%) with CBT (10 weekly sessions of prolonged exposure lasting 90 minutes) 30/143 (21%) with present-centred therapy (10 weekly sessions lasting 90 minutes)	P = 0.002	○○○	present-centred therapy

CBT versus stress management:

We found one systematic review (search date 2004, 24 RCTs, total number of people not reported). [16]

Incidence of PTSD

CBT compared with stress management CBT is more effective at reducing the proportion of people meeting diagnostic criteria for PTSD (high-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[16] Systematic review	284 people 6 RCTs in this analysis	**Proportion of people with a diagnosis of PTSD** 81/180 (45%) with trauma-focused CBT 62/104 (60%) with stress management	RR 0.78 95% CI 0.61 to 0.99	●○○	trauma-focused CBT

Symptom severity

No data from the following reference on this outcome. [16]

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects					
[16] Systematic review	284 people 6 RCTs in this analysis	**Proportion of people withdrawing (any reason)** 32/180 (18%) with trauma-focused CBT 17/104 (16%) with stress management	RR 1.17 95% CI 0.69 to 2.00	⟷	Not significant

CBT versus supportive psychotherapy, psychodynamic psychotherapy, or hypnotherapy:
We found one systematic review (search date 2004, 24 RCTs, total number of people not reported). [16]

Incidence of PTSD

CBT compared with supportive psychotherapy, psychodynamic psychotherapy, or hypnotherapy CBT seems more effective at reducing the rate of PTSD (moderate-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[16] Systematic review	286 people 5 RCTs in this analysis	**Proportion of people with a diagnosis of PTSD** 59/136 (43%) with trauma-focused CBT 88/150 (59%) with supportive psychotherapy, psychodynamic psychotherapy, and hypnotherapy (combined analysis)	RR 0.71 95% CI 0.56 to 0.89	●○○	trauma-focused CBT

Symptom severity

No data from the following reference on this outcome. [16]

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects (any)					
[16] Systematic review	290 people 5 RCTs in this analysis	**Proportion of people withdrawing (any reason)** 28/138 (20%) with trauma-focused CBT 24/152 (16%) with supportive psychotherapy, psychodynamic psychotherapy, and hypnotherapy (combined analysis)	RR 1.14, 95% CI 0.68 to 1.90	⟷	Not significant

CBT versus supportive psychotherapy alone:
See option on supportive psychotherapy, p 52 .

CBT versus eye movement desensitisation and reprocessing:
See option on eye movement desensitisation and reprocessing, p 29 .

Further information on studies

Comment: **Clinical guide:**
The higher rate of withdrawal in the CBT group (compared with no treatment) noted by the review [16] raises questions regarding tolerability that require further investigation, not least because there have been case reports of worsening symptoms in some people receiving imaginal flooding. [32] There is good evidence from RCTs for the use of individual trauma-focused CBT as a first-line treatment for PTSD.

OPTION DRAMA THERAPY TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether drama therapy is beneficial in people with PTSD.
- We found no clinically important results from RCTs about the effects of drama therapy in improving symptoms of PTSD.

Benefits and harms

Drama therapy:
We found no systematic review or RCTs on drama therapy in people with PTSD.

Further information on studies

Comment: **Clinical guide:**
There is no evidence from RCTs for the use of drama therapy at present.

OPTION EYE MOVEMENT DESENSITISATION AND REPROCESSING TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- Eye movement desensitisation and reprocessing seems as effective as trauma-focused CBT in the treatment of chronic PTSD.

Benefits and harms

Eye movement desensitisation and reprocessing (EMDR) versus no treatment or usual care:

We found one systematic review (search date 2004, 11 RCTs, total number of people not reported), [16] and one subsequent RCT. [33]

Incidence of PTSD

Eye movement desensitisation and reprocessing (EMDR) compared with no treatment or usual care EMDR may be more effective at reducing the rate of PTSD (low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[16] Systematic review	169 people 5 RCTs in this analysis	**Proportion of people with diagnosis of PTSD** 47/87 (54%) with EMDR 79/82 (96%) with waiting list control or usual care (combined analysis) Usual treatment may include medication, psychological treatment, or both	RR 0.51 95% CI 0.28 to 0.95	●○○	EMDR
[33] RCT	24 public transport workers with work-related chronic PTSD; people had been assaulted at work or had experienced a person-under-a-train accident	**Proportion of people no longer meeting diagnostic criteria for PTSD** 8/12 (67%) with EMDR (five sessions of 90 minutes' duration during a 2-month period) 1/9 (11%) with waiting list control	P = 0.02	○○○	EMDR

Symptom severity

No data from the following reference on this outcome. [16] [33]

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects					
[16] Systematic review	168 people 5 RCTs in this analysis	**Proportion of people withdrawing for any reason** 17/88 (19%) with EMDR	RR 1.28 95% CI 0.64 to 2.56	⟷	Not significant

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
		11/80 (14%) with waiting list control or usual care (combined analysis) Usual treatment may include medication, psychological treatment, or both			

No data from the following reference on this outcome. [33]

EMDR versus stress management:

We found one systematic review (search date 2004, 11 RCTs, total number of people not reported). [16]

Incidence of PTSD

EMDR compared with stress management EMDR and stress management seem equally effective at reducing the proportion of people with PTSD (moderate-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[16] Systematic review	84 people 3 RCTs in this analysis	**Proportion of people with diagnosis of PTSD** 19/41 (46%) with EMDR 29/43 (67%) with stress management	RR 0.69, 95% CI 0.46 to 1.04	⟷	Not significant

Symptom severity

No data from the following reference on this outcome. [16]

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects					
[16] Systematic review	84 people 3 RCTs in this analysis	**Proportion of people withdrawing for any reason** 6/41 (15%) with EMDR 6/43 (14%) with stress management	RR 1.03 95% CI 0.37 to 2.88	⟷	Not significant

EMDR versus CBT:

We found one systematic review (search date 2004, 11 RCTs, total number of people not reported). [16]

Incidence of PTSD

EMDR compared with CBT EMDR and CBT are equally effective at reducing the rate of PTSD (high-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[16] Systematic review	220 people 6 RCTs in this analysis	**Proportion of people with diagnosis of PTSD** 56/109 (51%) with EMDR 60/111 (54%) with trauma-focused CBT	RR 1.03, 95% CI 0.64 to 1.66	⟷	Not significant

Symptom severity

No data from the following reference on this outcome. [16]

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects					
[16] Systematic review	240 people 7 RCTs in this analysis	**Proportion of people withdrawing for any reason** 29/119 (24%) with EMDR 35/121 (29%) with trauma-focused CBT	RR 0.83 95% CI 0.54 to 1.27	⟷	Not significant

EMDR versus fluoxetine:

We found one RCT comparing three interventions: EMDR, fluoxetine 10–60 mg/day, or placebo over 8 weeks. [34]

Symptom severity

EMDR compared with fluoxetine We don't know whether EMDR is more effective than fluoxetine at reducing severity of symptoms of PTSD (symptom score and cure rate) at 8 weeks. However, EMDR may be more effective than fluoxetine at maintaining any improvement in symptoms (symptom score) at 6 months (very low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
PTSD symptoms					
[34] RCT **3-armed trial**	88 people with chronic PTSD resulting from various traumatic events The third arm assessed the effects of placebo	**Change in Clinician Administered PTSD Scale (mean score before and after treatment) , 8 weeks (end of treatment)** from 69.4 to 32.55 with EMDR from 73.7 to 42.67 with fluoxetine 10–60 mg/day 59 people in this analysis (29 people in the EMDR group and 30 people in the fluoxetine group)	P = 0.13 The RCT reported that all people randomised had intense exposure treatment (2 personalised trauma manuscripts), which may have contributed to the improvements seen in both groups	⟷	Not significant
[34] RCT **3-armed trial**	88 people with chronic PTSD resulting from various traumatic events	**Change in Clinician Administered PTSD Scale (mean score before and after treatment) , 6 months**	P = 0.005 The RCT reported that all people randomised had intense exposure treatment (2 personalised trauma manuscripts), which may	○○○	EMDR

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
	The third arm assessed the effects of placebo	from 71.7 to 25.79 with EMDR from 75.9 to 42.12 with fluoxetine 10–60 mg/day 59 people in this analysis (29 people in the EMDR group and 30 people in the fluoxetine group)	have contributed to the improvements seen in both groups		

Incidence of PTSD

EMDR compared with fluoxetine EMDR and fluoxetine may be equally effective at reducing the proportion of people with a diagnosis of PTSD at 8 weeks and 6 months (very low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[34] RCT **3-armed trial**	88 people with chronic PTSD resulting from various traumatic events The third arm assessed the effects of placebo	**Proportion of people no longer meeting diagnostic criteria for PTSD , 8 weeks (end of treatment)** 76% with EMDR 73% with fluoxetine 10–60 mg/day Absolute numbers not reported 59 people in this analysis (29 people in the EMDR group and 30 people in the fluoxetine group)	P = 0.82 The RCT reported that all people randomised had intense exposure treatment (2 personalised trauma manuscripts), which may have contributed to the improvements seen in both groups	⟷	Not significant
[34] RCT **3-armed trial**	88 people with chronic PTSD resulting from various traumatic events The third arm assessed the effects of placebo	**Proportion of people no longer meeting diagnostic criteria for PTSD , 6 months** 88% with EMDR 73% with fluoxetine 10–60 mg/day Absolute numbers not reported 59 people in this analysis (29 people in the EMDR group and 30 people in the fluoxetine group)	P = 0.20 The RCT reported that all people randomised had intense exposure treatment (2 personalised trauma manuscripts), which may have contributed to the improvements seen in both groups	⟷	Not significant

No data from the following reference on this outcome. [34]

Adverse effects

No data from the following reference on this outcome. [34]

Further information on studies

Comment: **Clinical guide:**
There is good evidence from RCTs for the use of EMDR as a first-line treatment for PTSD.

OPTION FLUOXETINE (SELECTIVE SEROTONIN REUPTAKE INHIBITOR) TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- The benefits of fluoxetine are unclear.
- SSRIs cause adverse effects including nausea and headache, and have been associated with an increased risk of self-harm in adults.

Benefits and harms

Fluoxetine versus placebo:

We found one systematic review (search date 2004, 5 RCTs, total number of people not reported) [16] and two subsequent RCTs. [34] [35]

Symptom severity

Fluoxetine compared with placebo We don't know whether fluoxetine is more effective at reducing symptom severity of PTSD (symptom score and cure rate) at 8 to 12 weeks (very low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
PTSD symptoms					
[16] Systematic review	301 people Data from 1 RCT	**Severity of clinician-rated PTSD symptoms , 12 weeks** with fluoxetine with placebo Absolute results not reported	SMD –0.28 95% CI –0.54 to –0.02	◌◌◌	fluoxetine
[34] RCT **3-armed trial**	88 people with chronic PTSD resulting from various traumatic events The third arm assessed the effects of EMDR	**Change in Clinician Administered PTSD Scale (mean score before and after treatment) , 8 weeks (end of treatment)** from 73.7 to 42.67 with fluoxetine 10–60 mg/day from 70.3 to 43.55 with placebo 59 people in this analysis (30 people in the fluoxetine group and 29 people in the placebo group)	P = 0.61 The RCT reported that all people randomised had intense exposure treatment (2 personalised trauma manuscripts), which may have contributed to the improvements seen in both groups	⟷	Not significant
[35] RCT **3-armed trial**	411 people with chronic PTSD resulting from various traumatic events	**Mean change in Clinician Administered PTSD Scale , 12 weeks (end of treatment)** –42.9 with fluoxetine 20 mg daily (fixed dose) –42.8 with fluoxetine 40 mg/daily (fixed dose) –36.6 with placebo Randomisation was 2:2:1 for fluoxetine 20 mg daily (163 people): fluoxetine 40 mg daily (160 people): placebo (88 people)	P = 0.151 P value for comparison among all three groups; statistical assessments for between-group comparisons of fluoxetine versus placebo not carried out The number of people who withdrew from the RCT is unclear	⟷	Not significant

Incidence of PTSD

fluoxetine compared with placebo We don't know whether fluoxetine is more effective at reducing proportion of people no longer meeting diagnostic criteria for PTSD at 8 weeks (very low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[34] RCT **3-armed trial**	88 people with chronic PTSD resulting from various traumatic events The third arm assessed the effects of EMDR	**Proportion of people no longer meeting diagnostic criteria for PTSD , 8 weeks (end of treatment)** 73% with fluoxetine 10–60 mg/day 59% with placebo Absolute numbers not reported 59 people in this analysis (30 people in the fluoxetine group and 29 people in the placebo group)	P = 0.23 The RCT reported that all people randomised had intense exposure treatment (2 personalised trauma manuscripts), which may have contributed to the improvements seen in both groups	⟷	Not significant

No data from the following reference on this outcome. [16] [35]

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects					
[16] Systematic review	66 people 2 RCTs in this analysis	**Proportion of people withdrawing (any reason)** 7/33 (21%) with fluoxetine 12/33 (36%) with placebo	RR 0.60 95% CI 0.28 to 1.30	⟷	Not significant
[36] RCT	65 people In review [16]	**Nausea** with fluoxetine with placebo Absolute results not reported	P <0.05	○○○	placebo
[36] RCT	65 people In review [16]	**Diarrhoea** with fluoxetine with placebo Absolute results not reported	P <0.05	○○○	placebo
[36] RCT	65 people In review [16]	**Thirst** with fluoxetine with placebo Absolute results not reported	P <0.05	○○○	placebo
[35] RCT **3-armed trial**	411 people with chronic PTSD resulting from various traumatic events	**Proportion of people withdrawing due to adverse effects , 12 weeks (end of treatment)** 4% with fluoxetine 20 mg daily (fixed dose) 13% with fluoxetine 40 mg daily (fixed dose) 8% with placebo Absolute numbers not reported Randomisation was 2:2:1 for fluoxetine 20 mg daily (163 people): fluoxetine 40 mg daily (160 people): placebo (88 people)	P greater than 0.20 for both comparisons of fluoxetine versus placebo The number of people who withdrew from the RCT is unclear	⟷	Not significant

No data from the following reference on this outcome. [34]

Fluoxetine versus eye movement desensitisation and reprocessing (EMDR):
See option on EMDR, p 29 .

Further information on studies

Comment: All antidepressants have been associated with increased risk of suicidal thinking and behaviour in young adults aged 18 to 24 years (see harms of prescription antidepressant drugs in review on depression in adults [drug and other physical treatments]). There is limited robust evidence available to examine the link between SSRIs and increased risk of self-harm or suicide in adults and, in light of this, practitioners should be guided by the recommendations and warnings issued by their national drug regulatory authorities with respect to the prescribing of antidepressants, particularly in children and adolescents (see review on depression in children and adolescents).

We found one RCT (62 people treated for PTSD for 6 months) assessing the effects of fluoxetine on relapse rates. [37] The RCT found that fluoxetine for 6 months resulted in significantly fewer relapses than placebo for 6 months (22% with fluoxetine *v* 50% with placebo; P = 0.02). It has been noted that the placebo response in RCTs in PTSD can be high, which is likely to affect interpretation of the results.

OPTION GROUP THERAPY TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether group therapy is beneficial in people with PTSD.

Benefits and harms

Group CBT versus no treatment or usual care:
We found one systematic review (search date 2004, 4 RCTs, total number of people not reported). [16]

Incidence of PTSD

CBT compared with waiting list control We don't know whether group CBT is more effective than waiting list control and usual care at reducing the rate of PTSD (low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[16] Systematic review	48 people Data from 1 RCT	**Proportion of people meeting diagnostic criteria for PTSD** 9/24 (38%) with group CBT 16/24 (67%) with waiting list control and usual care (combined analysis) Usual treatment may include medication, psychological treatment, or both	RR 0.56 95% CI 0.31 to 1.01	⟷	Not significant

Symptom severity

No data from the following reference on this outcome. [16]

Adverse effects

No data from the following reference on this outcome. [16]

Group CBT versus present-centred therapy:

We found one systematic review (search date 2004, 4 RCTs, total number of people not reported). [16]

Incidence of PTSD

Group CBT compared with present-centred group therapy Trauma-focused group therapy and present-focused group therapy are equally effective at reducing the rate of PTSD (high-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[16] Systematic review	360 people Data from 1 RCT	**Proportion of people meeting diagnostic criteria for PTSD** 110/180 (61%) with trauma-focused group therapy 112/180 (62%) with present-focused group therapy	RR 0.98 95% CI 0.83 to 1.16	⟷	Not significant

Symptom severity

No data from the following reference on this outcome. [16]

Adverse effects

No data from the following reference on this outcome. [16]

Group CBT plus individual CBT versus no treatment:

We found one RCT. [38]

Symptom severity

Group plus individual CBT compared with no treatment Group plus individual CBT seems more effective at reducing severity of symptoms of PTSD (moderate-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
PTSD symptoms					
[38] RCT	71 women with PTSD after sexual abuse	**Change in Clinician Administered PTSD Scale (mean score before and after treatment) , frame** from 65.5 to 9 with group CBT plus individual CBT from 68.3 to 63 with no treatment Therapy consisted of 17 group sessions (session duration 90 minutes) combined with 10 individual sessions of CBT (session duration 60 minutes)	P <0.001	○○○	group CBT plus individual CBT

Incidence of PTSD

No data from the following reference on this outcome. [38]

Adverse effects

No data from the following reference on this outcome. [38]

Further information on studies

Comment: **Clinical guide:**
There is limited evidence for the use of group therapy alone at present. It was found to be more effective when combined with individual CBT, but it is not clear how much the group therapy contributed to the overall effect.

OPTION HYPNOTHERAPY TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether hypnotherapy is beneficial in people with PTSD.

Benefits and harms

Hypnotherapy versus waiting list control:
We found one systematic review (search date 2004), [16] which identified one four-arm RCT. [39]

Symptom severity

Hypnotherapy compared with waiting list control Hypnotherapy may be more effective at reducing PTSD symptom severity (intrusion/avoidance) at 4 months (low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Intrusion/avoidance symptoms					
[39] RCT **4-armed trial**	112 people In review [16] The third and fourth arms assessed the effects of psychodynamic psychotherapy and trauma desensitisation	**Improvement in intrusion and avoidance symptom score (change from baseline) , 4 months** 19.1 with hypnotherapy 4.6 with waiting list control	P <0.05	○○○	hypnotherapy

Incidence of PTSD

No data from the following reference on this outcome. [39]

Adverse effects

No data from the following reference on this outcome. [16]

Further information on studies

Comment: **Clinical guide:**
There is no good evidence from RCTs for the use of hypnotherapy at present.

OPTION INPATIENT TREATMENT PROGRAMMES TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether inpatient treatment regimens are beneficial in people with PTSD.
- We found no clinically important results from RCTs about the effects of inpatient treatment programmes in improving symptoms of PTSD.

Benefits and harms

Inpatient treatment programmes:

We found no systematic review or RCTs on inpatient treatment programmes in people with PTSD.

Further information on studies

Comment: **Clinical guide:**
There is no evidence from RCTs for the use of inpatient treatment programmes at present.

OPTION INTERNET-BASED PSYCHOTHERAPY TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether Internet-based psychotherapy is beneficial in people with PTSD.

Benefits and harms

Internet-based psychotherapy versus waiting list control:

We found no systematic review but found one RCT that compared Internet-based psychotherapy versus waiting list control for 5 weeks. [40]

Symptom severity

Internet-based psychotherapy compared with waiting list control Internet-based psychotherapy may be more effective at reducing PTSD symptom severity (intrusion/avoidance) at 5 weeks (low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Intrusion/avoidance symptoms					
[40] RCT	25 people	**Mean reduction in intrusive symptom score (change from baseline) , 5 weeks** 11.0 with Internet-based psychotherapy 3.6 with waiting list control	P <0.04	○○○	Internet-based psychotherapy
[40] RCT	25 people	**Mean reduction in avoidance symptom score (change from baseline) , 5 weeks** 9.6 with Internet-based psychotherapy 2.9 with waiting list control	P <0.03	○○○	Internet-based psychotherapy

Incidence of PTSD

No data from the following reference on this outcome. [40]

Adverse effects

No data from the following reference on this outcome. [40]

Further information on studies

Comment: **Clinical guide:**
There is some evidence from one small RCT that Internet-based psychotherapy may be effective. More studies are required.

OPTION MIRTAZAPINE TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether mirtazapine is beneficial in people with PTSD.
- SSRIs cause adverse effects including nausea and headache, and have been associated with an increased risk of self-harm in adults.

Benefits and harms

Mirtazapine versus placebo:

We found one systematic review (search date 2004, 1 RCT, 29 people). [16]

Symptom severity

Compared with placebo Mirtazapine may be more effective at reducing the severity of symptoms of PTSD (very low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
PTSD symptoms					
[16] Systematic review	29 people Data from 1 RCT	**Severity of clinician-rated PTSD symptoms** with mirtazapine with placebo Absolute results not reported 21 people in this analysis	SMD –1.89 95% CI –3.00 to –0.78 The results of this RCT should be interpreted with caution, as people allocated to mirtazapine had less-severe symptoms at baseline, and the withdrawal rate was 31%	○○○	mirtazapine

Incidence of PTSD

No data from the following reference on this outcome. [16]

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects					
[16] Systematic review	29 people Data from 1 RCT	**Proportion of people withdrawing** with mirtazapine with placebo Absolute results not reported	RR 1.20 95% CI 0.29 to 2.82	⟷	Not significant
[41] RCT	29 people In review [16]	**Proportion of people withdrawing** with with Absolute results not reported Three people taking mirtazapine withdrew because of adverse effects, including sedation, panic attacks, and increased anxiety and irritability			

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
		Three people taking placebo withdrew because of pain or lack of efficacy			
[41] RCT	26 people In review [16]	**Proportion of people with palpitations** 0/17 (0%) with mirtazapine 3/9 (33%) with placebo	P = 0.03	○○○	mirtazapine
[41] RCT	26 people In review [16]	**Proportion of people with increased appetite** 6/17 (35%) with mirtazapine 1/9 (11%) with placebo	P value not reported		
[41] RCT	26 people In review [16]	**Proportion of people with weight gain** 3/17 (18%) with mirtazapine 1/9 (11%) with placebo	P value not reported		

Further information on studies

Comment: All antidepressants have been associated with increased risk of suicidal thinking and behaviour in young adults ages 18 to 24 years (see harms of prescription antidepressant drugs in review on depression in adults [drug and other physical treatments]).

Clinical guide:
There is limited evidence for the use of mirtazapine.

OPTION NEFAZODONE TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether nefazodone is beneficial in people with PTSD.
- We found limited evidence that sertraline and nefazodone may be equally effective at improving symptoms of PTSD, but we don't know how other antidepressants compare with each other in the treatment of PTSD.
- We found no clinically important results from RCTs about the effects of nefazodone compared with placebo in improving symptoms of PTSD.

Benefits and harms

Nefazodone versus placebo:

We found no systematic review or RCTs

Nefazodone versus sertraline:

See option on SSRIs versus other antidepressants, p 50 .

Further information on studies

Comment: All antidepressants have been associated with increased risk of suicidal thinking and behaviour in young adults ages 18 to 24 years (see harms of prescription antidepressant drugs in review on depression in adults [drug and other physical treatments]).

OPTION OLANZAPINE TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether olanzapine is beneficial in people with PTSD.

Benefits and harms

Olanzapine versus placebo:

We found one systematic review (search date 2004, 2 RCTs). [16] The first RCT (15 people with PTSD, of whom 4 withdrew) did not meet *Clinical Evidence* reporting criteria because of small sample size and loss to follow-up. [42]

Symptom severity

Olanzapine compared with placebo We don't know whether olanzapine is more effective than placebo at reducing the severity of symptoms of PTSD in people taking SSRIs but not responding in the first 12 weeks (low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
PTSD symptoms					
[16] Systematic review	19 people receiving SSRIs but not responding within the first 12 weeks of SSRI treatment Data from 1 RCT	**Clinician-rated PTSD symptoms , 10 weeks** with olanzapine with placebo Absolute results not reported	SMD –0.92 95% CI –1.88 to +0.04	⟷	Not significant

Incidence of PTSD

No data from the following reference on this outcome. [16]

Adverse effects

No data from the following reference on this outcome. [16]

Further information on studies

Comment: **Clinical guide:**
There is insufficient evidence for the use of olanzapine at present.

OPTION PAROXETINE (SELECTIVE SEROTONIN REUPTAKE INHIBITOR) TO TREAT PTSD:

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- Paroxetine may improve symptoms in people with PTSD.
- SSRIs cause adverse effects including nausea and headache, and have been associated with an increased risk of self-harm in adults.

Benefits and harms

Paroxetine versus placebo:

We found one systematic review (search date 2004, 4 RCTs, 1086 people). [16]

Symptom severity

Paroxetine compared with placebo Paroxetine is more effective at reducing severity of symptoms of PTSD (high-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
PTSD symptoms					
[16] Systematic review	1070 people 3 RCTs in this analysis	**Severity of clinician-rated PTSD symptoms** with paroxetine with placebo Absolute results not reported	SMD –0.42 95% CI –0.55 to –0.30	○○○	paroxetine

Incidence of PTSD

No data from the following reference on this outcome. [16]

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects					
[16] Systematic review	1196 people 3 RCTs in this analysis	**Proportion of people withdrawing** 188/692 (27%) with paroxetine 129/504 (26%) with placebo	RR 0.95 95% CI 0.79 to 1.15	⟷	Not significant
[43] RCT	307 people In review [16]	**Proportion of people with nausea** 19% with paroxetine 8% with placebo Absolute numbers not reported Adverse effects reported by RCT occurred in at least 10% of people and were at least twice as common with paroxetine compared with placebo			
[43] RCT	307 people In review [16]	**Proportion of people with somnolence** 17% with paroxetine			

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
		4% with placebo Absolute numbers not reported Adverse effects reported by RCT occurred in at least 10% of people and were at least twice as common with paroxetine compared with placebo			
[43] RCT	307 people In review [16]	**Proportion of people with dry mouth** 14% with paroxetine 5% with placebo Absolute numbers not reported Adverse effects reported by RCT occurred in at least 10% of people and were at least twice as common with paroxetine compared with placebo			
[43] RCT	307 people In review [16]	**Proportion of people with asthenia** 13% with paroxetine 5% with placebo Absolute numbers not reported Adverse effects reported by RCT occurred in at least 10% of people and were at least twice as common with paroxetine compared with placebo			
[43] RCT	307 people In review [16]	**Proportion of people with abnormal ejaculation** 12% with paroxetine 4% with placebo Absolute numbers not reported Adverse effects reported by RCT occurred in at least 10% of people and were at least twice as common with paroxetine compared with placebo			

Further information on studies

Comment: All antidepressants have been associated with increased risk of suicidal thinking and behaviour in young adults aged 18 to 24 years (see harms of prescription antidepressant drugs in review on depression in adults [drug and other physical treatments]). There is limited robust evidence available to examine the link between SSRIs and increased risk of self-harm or suicide in adults and, in light of this, practitioners should be guided by the recommendations and warnings issued by their national drug regulatory authorities with respect to the prescribing of antidepressants, particularly in children and adolescents (see review on depression in children and adolescents).

Clinical guide:
There is limited evidence for the use of paroxetine.

OPTION PHENELZINE TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether phenelzine is beneficial in people with PTSD.
- Monoamine oxidase inhibitors (MAOIs) may require dietary restriction and can precipitate a hypertensive crisis.

Benefits and harms

Phenelzine versus placebo:

We found one systematic review (search date 2004, 1 RCT, 37 people). [16]

Symptom severity

Phenelzine compared with placebo Phenelzine seems more effective at reducing the severity of symptoms of PTSD at 8 weeks (moderate-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
PTSD symptoms					
[16] Systematic review	37 people Data from 1 RCT	**Self-reported PTSD symptoms, 8 weeks** with phenelzine with placebo Absolute results not reported	SMD –1.06 95% CI –1.75 to –0.36	◌◌◌	phenelzine

Incidence of PTSD

No data from the following reference on this outcome. [16]

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects					
[16] Systematic review	37 people Data from 1 RCT	**Withdrawal rate** with phenelzine with placebo Absolute results not reported Known adverse effects of MAOIs include possible hypertensive crisis. MAOIs may require dietary restriction (see harms of prescription antidepressant drugs in review on depression in adults [drug and other physical treatments]).	RR 0.32 95% CI 0.12 to 0.80	●●○	phenelzine

Further information on studies

Comment: **Clinical guide:**
There is limited evidence for the use of phenelzine at present.

OPTION PSYCHODYNAMIC PSYCHOTHERAPY TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether psychodynamic psychotherapy is beneficial in people with PTSD.

Benefits and harms

Psychodynamic psychotherapy versus waiting list control:

We found one systematic review (search date 2004), [16] which identified one RCT. [39]

Symptom severity

Psychodynamic psychotherapy compared with waiting list control Psychodynamic psychotherapy may be more effective at reducing PTSD symptom severity (intrusion/avoidance) at 4 months (low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Intrusion/avoidance symptoms					
[39] RCT **4-armed trial**	112 people In review [16] The third and fourth arms assessed the effects of trauma desensitisation and hypnotherapy	**Improvement in intrusion/avoidance score from baseline , 4 months** 19.3 with psychodynamic psychotherapy 4.6 with waiting list control	P <0.05	◌◌◌	psychodynamic psychotherapy

Incidence of PTSD

No data from the following reference on this outcome. [16] [39]

Adverse effects

No data from the following reference on this outcome. [16] [39]

Further information on studies

Comment: **Clinical guide:**
There is no good evidence from RCTs to support the use of psychodynamic psychotherapy at present.

OPTION RISPERIDONE TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .

- We don't know whether risperidone is beneficial in people with PTSD.

Benefits and harms

Risperidone versus placebo:

We found one systematic review (search date 2004, 1 RCT, 37 people) [16] and two subsequent RCTs. [44] [45]

Symptom severity

Risperidone compared with placebo We don't know whether adjunctive risperidone is more effective at reducing the severity of symptoms of PTSD at 5 weeks to 4 months in people also taking other medication (very low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
PTSD symptoms					
[16] Systematic review	37 people Data from 1 RCT	**Reduction in severity of clinician-rated PTSD symptoms , 5 weeks** with adjunctive risperidone with placebo Absolute results not reported All people continued with their existing antipsychotic, antidepressant, benzodiazepine, or sleep medications	SMD +0.10 95% CI –0.55 to +0.74 The results from this RCT should be interpreted with caution because of the variability in the other medications being taken	⟷	Not significant
[44] RCT	65 men with PTSD after military service	**Mean change in Clinician Administered PTSD Scale score** –14.3 with adjunctive risperidone 3 mg daily for 4 months –4.6 with placebo	P <0.05	○○○	risperidone
[45] RCT	21 women with PTSD	**Mean change in Clinician Administered PTSD Scale score** –29.6 with risperidone 0.5–8 mg (mean 1.41 mg) daily for 8 weeks –18.6 with placebo	P = 0.015	○○○	risperidone

Incidence of PTSD

No data from the following reference on this outcome. [16] [44] [45]

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects					
[16] Systematic review	40 people Data from 1 RCT	**Proportion of people withdrawing from RCT** 1/20 (5%) with adjunctive risperidone 2/20 (10%) with placebo	RR 0.50 95% CI 0.05 to 5.08	⟷	Not significant
[44] RCT	65 men with PTSD after military service	**Proportion of people withdrawing from RCT**	P >0.18	⟷	Not significant

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
		11/22 (50%) with adjunctive risperidone 3 mg daily for 4 months 6/25 (24%) with placebo			

No data from the following reference on this outcome. [45]

Further information on studies

Comment: **Clinical guide:**
There is some limited evidence for the use of risperidone.

OPTION SERTRALINE (SELECTIVE SEROTONIN REUPTAKE INHIBITOR) TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We found insufficient good evidence to assess the effects of sertraline.
- We found limited evidence that sertraline and nefazodone may be equally effective at improving symptoms of PTSD, but we don't know how other antidepressants compare with each other in the treatment of PTSD.
- SSRIs cause adverse effects including nausea and headache, and have been associated with an increased risk of self-harm in adults.

Benefits and harms

Sertraline versus placebo:

We found one systematic review (search date 2004, 8 RCTs, 1505 people) [16] and one subsequent RCT. [46]

Symptom severity

Sertraline compared with placebo We don't know whether sertraline is more effective than placebo at reducing symptom severity of PTSD at 12 weeks (low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
PTSD symptoms					
[16] Systematic review	1123 people 6 RCTs in this analysis	**Severity of clinician-rated symptoms of PTSD** with sertraline with placebo Absolute results not reported	SMD –0.26 95% CI –0.51 to 0 Result is of borderline significance	⟷	Not significant
[46] RCT	169 people with combat-related PTSD	**Mean change in Clinician Administered PTSD Scale , 12 weeks** –13.1 with sertraline (25–200 mg/day, flexible dose) –15.4 with placebo	Reported as not significant P value not reported	⟷	Not significant

Incidence of PTSD

Sertraline compared with placebo Sertraline is more effective at reducing the proportion of people with PTSD (high-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[16] Systematic review	747 people 2 RCTs in this analysis	**Proportion of people fulfilling diagnostic criteria for PTSD** 281/367 (77%) with sertraline 318/380 (84%) with placebo	RR 0.91 95% CI 0.85 to 0.98	●○○	sertraline

No data from the following reference on this outcome. [46]

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects (any)					
[16] Systematic review	1148 people 6 RCTs in this analysis	**Proportion of people withdrawing from RCT** 151/571 (26%) with sertraline 138/577 (24%) with placebo	RR 1.10 95% CI 0.90 to 1.33	⟷	Not significant
[47] RCT	208 people In review [16]	**Proportion of people with insomnia** 35% with sertraline 22% with placebo Absolute numbers not reported	P = 0.04	○○○	placebo
[47] RCT	208 people In review [16]	**Proportion of people with diarrhoea** 28% with sertraline 11% with placebo Absolute numbers not reported	P = 0.003	○○○	placebo
[47] RCT	208 people In review [16]	**Proportion of people with nausea** 23% with sertraline 11% with placebo Absolute numbers not reported	P = 0.03	○○○	placebo
[47] RCT	208 people In review [16]	**Proportion of people with decreased appetite** 12% with sertraline 1% with placebo Absolute numbers not reported	P = 0.001	○○○	placebo
[46] RCT	169 people with combat-related PTSD	**Proportion of people with fatigue , 12 weeks** 9/86 (11%) with sertraline (25–200 mg/day, flexible dose) 1/83 (1%) with placebo	P = 0.018	○○○	placebo

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
[46] RCT	169 people with combat-related PTSD	**Proportion of people discontinuing treatment , 12 weeks** 26/86 (30%) with sertraline (25–200 mg/day, flexible dose) 14/83 (17%) with placebo	P = 0.041	○○○	placebo
[46] RCT	169 people with combat-related PTSD	**Proportion of people with diarrhoea , 12 weeks** 27/86 (31%) with sertraline (25–200 mg/day, flexible dose) 15/83 (18%) with placebo	Reported as not significant P value not reported	⟷	Not significant
[46] RCT	169 people with combat-related PTSD	**Proportion of people with headache , 12 weeks** 23/86 (27%) with sertraline (25–200 mg/day, flexible dose) 20/83 (24%) with placebo	Reported as not significant P value not reported	⟷	Not significant
[46] RCT	169 people with combat-related PTSD	**Proportion of people with insomnia , 12 weeks** 12/86 (14%) with sertraline (25–200 mg/day, flexible dose) 8/83 (10%) with placebo	Reported as not significant P value not reported	⟷	Not significant

Sertraline versus nefazodone:

See option on SSRIs versus other antidepressants, p 50 .

Further information on studies

Comment: All antidepressants have been associated with increased risk of suicidal thinking and behaviour in young adults aged 18 to 24 years (see harms of prescription antidepressant drugs in review on depression in adults [drug and other physical treatments]). There is limited robust evidence available to examine the link between SSRIs and increased risk of self-harm or suicide in adults and, in light of this, practitioners should be guided by the recommendations and warnings issued by their national drug regulatory authorities with respect to the prescribing of antidepressants, particularly in children and adolescents (see review on depression in children and adolescents).

Clinical guide:
There is some limited evidence for the use of paroxetine, but less for other SSRIs.

OPTION SSRIS VERSUS OTHER ANTIDEPRESSANTS TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We found limited evidence that sertraline and nefazodone may be equally effective at improving symptoms of PTSD, but we don't know how other antidepressants compare with each other in the treatment of PTSD.
- SSRIs cause adverse effects including nausea and headache, and have been associated with an increased risk of self-harm in adults.

Benefits and harms

Sertraline versus nefazodone:

We found two RCTs comparing sertraline versus nefazodone. [48] [49]

Symptom severity

Sertraline compared with nefazodone We don't know whether sertraline is more effective than nefazodone at reducing the severity of symptoms of PTSD at 5 months (very low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
PTSD symptoms					
[48] RCT	60 people with PTSD	**Mean total 8-item PTSD scale (TOP-8) score , 5 months** 5.23 with sertraline 50–100 mg daily 4.35 with nefazodone 200–400 mg daily	P = 0.36 The results of this RCT should be interpreted with caution because, despite randomisation, people taking sertraline had significantly higher baseline TOP-8 scores than people taking nefazodone	⟷	Not significant
[49] RCT	37 people with PTSD	**Change in Clinician Administered PTSD Scale (change from baseline)** from 73.8 to 29.1 with sertraline (mean dose 153 mg/day) from 68.9 to 28.8 with nefazodone (mean dose 463 mg/day)	Reported as not significant P value not reported	⟷	Not significant

Incidence of PTSD

No data from the following reference on this outcome. [48] [49]

Adverse effects

No data from the following reference on this outcome. [48] [49]

Further information on studies

Comment: All antidepressants have been associated with increased risk of suicidal thinking and behaviour in young adults aged 18 to 24 years (see harms of prescription antidepressant drugs in review on depression in adults [drug and other physical treatments]). There is limited robust evidence available to examine the link between SSRIs and increased risk of self-harm or suicide in adults and, in light of this, practitioners should be guided by the recommendations and warnings issued by their national drug regulatory authorities with respect to the prescribing of antidepressants, particularly in children and adolescents (see review on depression in children and adolescents).

Clinical guide:
There is some limited evidence for the use of paroxetine, but less for other SSRIs.

OPTION SUPPORTIVE PSYCHOTHERAPY TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We don't know whether supportive psychotherapy is beneficial in people with PTSD.

Benefits and harms

Supportive psychotherapy versus waiting list control:

We found one systematic review (search date 2004), [16] which identified one RCT.

Incidence of PTSD

Supportive psychotherapy compared with waiting list control Supportive psychotherapy seems no more effective than waiting list control at reducing the rate of PTSD (moderate-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[16] Systematic review	51 people Data from 1 RCT	**Proportion of people with PTSD** 21/36 (58%) with supportive psychotherapy 18/25 (72%) with waiting list control	RR 0.81 95% CI 0.56 to 1.17	⟷	Not significant

Symptom severity

No data from the following reference on this outcome. [16]

Adverse effects

No data from the following reference on this outcome. [16]

Supportive psychotherapy versus CBT:

We found one systematic review (search date 2004). [16]

Incidence of PTSD

Supportive psychotherapy compared with trauma-focused CBT Supportive psychotherapy and trauma-focused CBT seem equally effective at reducing the rate of PTSD (moderate-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Proportion of people with PTSD					
[16] Systematic review	73 people Data from 1 RCT	**Proportion of people with PTSD** 16/37 (43%) with trauma-focused CBT 21/36 (58%) with supportive psychotherapy	RR 0.74 95% CI 0.47 to 1.18	⟷	Not significant

Symptom severity

No data from the following reference on this outcome. [16]

Adverse effects

No data from the following reference on this outcome. [16]

Further information on studies

Comment: **Clinical guide:**
There is no evidence from RCTs to support the use of supportive psychotherapy at present.

OPTION TRICYCLIC ANTIDEPRESSANTS TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- We found insufficient good evidence to assess the effects of tricyclic antidepressants.
- Tricyclic antidepressants are associated with anticholinergic adverse effects.

Benefits and harms

Tricyclic antidepressants versus placebo:

We found one systematic review (search date 2004, 2 RCTs, 81 people) comparing tricyclic antidepressants versus placebo. [16]

Symptom severity

Amitriptyline compared with placebo Amitriptyline may be more effective at reducing the severity of self-reported symptoms of PTSD at 8 weeks, but we don't know whether imipramine is more effective than placebo at reducing self-reported symptom severity at 8 weeks (low-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
PTSD symptoms					
[16] Systematic review	33 people Data from 1 RCT	**Severity of self-reported PTSD symptoms , 8 weeks** with amitriptyline with placebo Absolute results not reported	SMD –0.90 95% CI –1.62 to –0.18	○○○	amitriptyline
[16] Systematic review	41 people Data from 1 RCT	**Severity of self-reported PTSD symptoms , 8 weeks** with imipramine with placebo Absolute results not reported	SMD –0.24 95% CI –0.86 to +0.38	⟷	Not significant

Incidence of PTSD

No data from the following reference on this outcome. [16]

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects					
[16] Systematic review	46 people Data from 1 RCT	**Proportion of people withdrawing from an RCT , 8 weeks** 8/25 (32%) with amitriptyline 5/21 (25%) with placebo	RR 1.34 95% CI 0.52 to 3.49 Known adverse effects of tricyclic antidepressants include anticholinergic effects (see harms of prescription antidepressant drugs in review on depression in adults [drug and other physical treatments])	⟷	Not significant
[16] Systematic review	41 people Data from 1 RCT	**Proportion of people withdrawing from an RCT , 8 weeks** 12/23 (52%) with imipramine 12/18 (67%) with placebo	RR 0.78 95% CI 0.47 to 1.3 Known adverse effects of tricyclic antidepressants include anticholinergic effects (see harms of prescription antidepressant drugs in review on depression in adults [drug and other physical treatments])	⟷	Not significant

Further information on studies

Comment: **Clinical guide:**
There is limited evidence from one small RCT for the use of amitriptyline.

OPTION VENLAFAXINE TO TREAT PTSD

- For GRADE evaluation of interventions for Post-traumatic stress disorder, see table, p 59 .
- Venlafaxine does not seem effective at improving symptoms.
- SSRIs cause adverse effects including nausea and headache, and have been associated with an increased risk of self-harm in adults.

Benefits and harms

Venlafaxine versus placebo:
We found one systematic review (search date 2004, 1 RCT, 358 people). [16]

Symptom severity

Venlafaxine compared with placebo Venlafaxine seems no more effective than placebo at reducing the severity of symptoms of PTSD at 12 weeks (moderate-quality evidence).

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
PTSD symptoms					
[16] Systematic review	358 people Data from 1 RCT	**Severity of clinician-rated PTSD symptoms , 12 weeks** with venlafaxine with placebo Absolute results not reported	SMD –0.14 95% CI –0.35 to +0.06	⟷	Not significant

Incidence of PTSD

No data from the following reference on this outcome. [16]

Adverse effects

Ref (type)	Population	Outcome, Interventions	Results and statistical analysis	Effect size	Favours
Adverse effects					
[16] Systematic review	358 people Data from 1 RCT	**Proportion of people withdrawing from RCT , 12 weeks** 54/179 (32%) with venlafaxine 65/179 (36%) with placebo	RR 0.83 95% CI 0.62 to 1.12	⟷	Not significant

Further information on studies

Comment: All antidepressants have been associated with increased risk of suicidal thinking and behaviour in young adults ages 18 to 24 years (see harms of prescription antidepressant drugs in review on depression in adults [drug and other physical treatments]).

Clinical guide:
There is some limited evidence for the use of paroxetine, but less for other SSRIs.

GLOSSARY

Affect management A group treatment focusing on regulation of mood.

Anxiety management Involves teaching techniques to reduce anxiety levels. Examples include muscular relaxation, in which individuals are taught to alternately tense and relax specific muscle groups and breathing retraining to avoid overbreathing.

Avoidance A characteristic symptom of post-traumatic stress disorder, whereby reminders, thoughts, or situations that remind the individual of the trauma are avoided.

Cognitive behavioural therapy Covers a variety of techniques. *Imaginal exposure* entails exposure to a detailed account or image of what happened. *Real life exposure* involves confronting real life situations that have become associated with the trauma and cause fear and distress. *Cognitive therapy* entails challenging distorted thoughts about the trauma, the self, and the world. Eclectic psychotherapy is a combination of trauma-focused cognitive behavioural therapy and psychodynamic psychotherapy. *Imaginal flooding* involves the intense reliving of the traumatic experience. *Memory structuring* involves listening to and clarifying the individual's narrative and structuring it for them to repeat to friends and family. *Prolonged exposure* entails repeated exposure to memories of the trauma, and to non-dangerous real life situations that are avoided because of trauma related fear. *Stress inoculation* entails in-

struction in coping skills and some cognitive techniques such as restructuring. *Supportive listening* involves actively listening to the individual's narrative and clarifying factual, sensory, and affective details.

Dissociative symptoms Involves a disruption to memory or perception of the environment; for example, an inability to recall details of a traumatic event that cannot be accounted for by ordinary forgetfulness or an organic cause such as head injury.

Drama therapy Uses drama as a form of expression and communication.

Eye movement desensitisation and reprocessing (EMDR) Involves asking the person to focus on the traumatic event, a negative cognition associated with it, and the associated emotions. The person is then asked to follow the therapist's finger as it moves from side to side.

Hyperarousal A characteristic group of symptoms in post-traumatic stress disorder, including increased irritability, sleeping difficulties, hypervigilance, increased startle, and reduced concentration.

Hypnotherapy Involves hypnosis to allow people to work through the traumatic event.

Inpatient treatment programmes Individuals receive a planned package of care, usually as a group, as inpatients. The programmes can include various techniques, including cognitive behavioural therapy, group therapy, and medication.

Present focused group therapy A group intervention that involves identifying and modifying patterns of behaviour that have arisen from their past traumatic experience.

Psychological debriefing Detailed consideration of the traumatic event and the normalisation of psychological reactions.

Subsyndromal post-traumatic stress disorder This term is sometimes used to describe individuals with traumatic stress symptoms who would not fulfil the full Diagnostic and Statistical Manual (DSM)-IV or International classification of mental and behavioural disorders (ICD-10) criteria for a diagnosis of post-traumatic stress disorder.

Supportive counselling A non-directive intervention dealing with current issues rather than the trauma itself.

Supportive psychotherapy A non-directive intervention that involves helping an individual to explore their thoughts, feelings, and behaviour with the aim of achieving a clearer understanding of self and the ability to cope with situations more effectively.

Trauma focused group therapy A group intervention that involves reconstructing a past traumatic event, identifying and modifying negative self images associated with it, and integrating memories of the event into the individual's conscious awareness of self and others.

Clinical Global Impression Scale A one-item, observer-rated scale for measuring the severity of a condition. It has been investigated for validity and reliability. The scale is scored from 0 (not ill at all) to 7 (severely ill).

High-quality evidence Further research is very unlikely to change our confidence in the estimate of effect.

Internet-based psychotherapy A protocol-driven treatment delivered through the internet, which includes psychoeducation and cognitive reappraisal.

Low-quality evidence Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Moderate-quality evidence Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Very low-quality evidence Any estimate of effect is very uncertain.

SUBSTANTIVE CHANGES

Antiepileptic drugs to prevent PTSD One small RCT added found that a similar proportion of people with a severe injury was diagnosed with PTSD at 4 months' follow-up after initial treatment with gabapentin for 14 days compared with those given placebo. [4] The RCT was underpowered to detect a clinically meaningful difference. Categorisation unchanged (Unknown effectiveness).

Antiepileptic drugs to treat PTSD Two RCTs added assessing the effects of topiramate [19] and tiagabine [20] found no significant difference between the antiepileptic drugs assessed and placebo in PTSD symptoms at the end of treatment. [19] [20] Categorisation unchanged (Unknown effectiveness).

Antihypertensive drugs to prevent PTSD One small RCT added found that the proportion of people with severe injury diagnosed with PTSD at 4 months' follow-up after initial treatment with propranolol for 14 days was the same as that for those given placebo. [4] The RCT was underpowered to detect a clinically meaningful difference. Categorisation unchanged (Unknown effectiveness).

CBT to treat PTSD Three RCTs added, which found that CBT improved PTSD symptoms compared with no treatment. [28] [29] [30] One RCT added comparing CBT (prolonged exposure) versus present-centred therapy found greater improvements in PTSD symptoms immediately after treatment and at 3 months' follow-up with CBT. [31] However,

there was no significant difference between groups in PTSD symptoms at 6 months. The proportion of women no longer meeting diagnostic criteria for PTSD was larger immediately after treatment with CBT than with present-centred therapy. Categorisation unchanged (Beneficial).

Eye movement desensitisation and reprocessing to treat PTSD One small RCT added found that eye movement desensitisation and reprocessing (EMDR) improved symptoms of PTSD and reduced the proportion of people fulfilling criteria for PTSD compared with no treatment. [33] One RCT comparing EMDR versus fluoxetine found no significant difference between treatments in PTSD symptoms at the end of treatment. [34] However, EMDR was found to be more effective at sustaining improvement in symptoms at 6 months compared with fluoxetine. Categorisation unchanged (Beneficial).

Sertraline to treat PTSD One RCT added found no significant difference between sertraline and placebo in PTSD symptoms at 12 weeks. [46] Categorisation unchanged (Unknown effectiveness).

Fluoxetine to treat PTSD Two RCTs added found no significant difference between fluoxetine and placebo in PTSD symptoms at the end of treatment (8–12 weeks). [34] [35] One of the RCTs also found no significant difference between fluoxetine and placebo in the proportion of people no longer meeting diagnostic criteria for PTSD at the end of treatment. [34] One RCT compared fluoxetine versus eye movement desensitisation and reprocessing (EMDR). [34] It found no significant difference between treatments in PTSD symptoms at the end of treatment. However, EMDR was found to be more effective at sustaining improvement in symptoms at 6 months compared with fluoxetine. Evidence added at update suggests effects of fluoxetine in treating PTSD are unclear. Categorisation changed (from Likely to be beneficial to Unknown effectiveness).

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Disclaimer

GRADE **Evaluation of interventions for Post-traumatic stress disorder.**

Important outcomes			Incidence of PTSD, Symptom severity						
Studies (Participants)	Outcome	Comparison	Type of evidence	Quality	Consistency	Directness	Effect size	GRADE	Comment
What are the effects of interventions to prevent post-traumatic stress disorder?									
1 (26) [4]	Incidence of PTSD	Antiepileptics versus placebo	4	–2	0	–1	0	Very low	Quality points deducted for sparse data and for methodological issues (not carrying out a statistical assessment, and being underpowered to detect a clinically meaningful difference). Directness point deducted for inclusion of people without risk factors for PTSD after exposure to a traumatic event
2 (59) [5] [4]	Incidence of PTSD	Antihypertensive drugs versus placebo	4	–2	0	–1	0	Very low	Quality points deducted for sparse data, methodological issues (poor follow-up, not carrying out a statistical assessment, and being underpowered to detect a clinically meaningful difference). Directness point deducted for inclusion of people without risk factors of PTSD after traumatic event
1 (20) [6]	Incidence of PTSD	Hydrocortisone versus saline	4	–1	0	–1	0	Low	Quality point deducted for sparse data. Directness point deducted for generalisability of results (narrowness of population)
3 (156) [7] [8] [9]	Incidence of PTSD	Multiple-session CBT versus supportive counselling (people with acute stress disorder)	4	–2	0	0	0	Low	Quality points deducted for sparse data and incomplete reporting of results
2 (248) [10] [11]	Incidence of PTSD	Multiple-session CBT versus no treatment or standard care (all people exposed to a traumatic event)	4	–1	0	–1	0	Low	Quality point deducted for no statistical assessment in one RCT. Directness point deducted for variation in measures used
1 (151) [12]	Incidence of PTSD	CBT plus education versus no treatment	4	–2	0	–1	0	Very low	Quality points deducted for sparse data and for incomplete reporting of results. Directness point deducted for statistically significant difference between groups in baseline risk of PTSD
3 (224) [13] [14] [15]	Incidence of PTSD	Multiple-session collaborative trauma support versus no treatment/usual care/immediate review	4	–2	0	–1	0	Very low	Quality points deducted for incomplete reporting of results and lack of power to detect clinically important result in one RCT. Directness point deducted for unclear outcome assessment and for variation in measures used
1 (77) [16]	Symptom severity	Early versus delayed group debriefing	4	–1	0	–1	0	Low	Quality point deducted for sparse data. Directness point deducted for non-specification of population
2 (238) [16]	Incidence of PTSD	Individual debriefing versus no debriefing	4	–1	0	0	0	Moderate	Quality point deducted incomplete reporting of results
1 (22) [17]	Incidence of PTSD	Temazepam versus placebo	4	–2	0	0	0	Low	Quality points deducted for sparse data and for methodological issues (not carrying out a statistical assessment, and being underpowered to detect a clinically meaningful result)
What are the effects of interventions to treat post-traumatic stress disorder?									

Important outcomes			Incidence of PTSD, Symptom severity						
Studies (Participants)	Outcome	Comparison	Type of evidence	Quality	Consistency	Directness	Effect size	GRADE	Comment
1 (48) [18]	Symptom severity	Affect management versus waiting list control	4	–1	0	–1	0	Low	Quality point deducted for sparse data. Directness point deducted for inclusion of a co-intervention (drug treatment in affect management arm)
2 (270) [19] [20]	Symptom severity	Antiepileptic drugs versus placebo	4	0	0	–1	0	Moderate	Directness point deducted for low number of comparators
1 (45) [16]	Symptom severity	Brofaromine versus placebo	4	–2	0	0	0	Low	Quality points deducted for sparse data and incomplete reporting of results
9 (541) [22] [23] [24] [25] [26] [27] [28] [29] [30]	Symptom severity	CBT versus no treatment or usual care	4	–1	0	0	0	Moderate	Quality point deducted for methodological issues across RCTs (e.g., no statistical assessment, incomplete reporting, and baseline difference in population)
15 (744) [16] [30]	Incidence of PTSD	CBT versus no treatment or usual care	4	0	0	0	0	High	
2 (335) [23] [31]	Symptom severity	CBT versus present-centred therapy	4	–1	–1	0	0	Low	Quality point deducted for not carrying out a statistical assessment. Consistency point deducted for conflicting results (different direction of effect between RCTs)
1 (284) [31]	Incidence of PTSD	CBT versus present-centred therapy	4	0	0	0	0	High	
6 (284) [16]	Incidence of PTSD	CBT versus stress management	4	0	0	0	0	High	
5 (286) [16]	Incidence of PTSD	CBT versus supportive psychotherapy, psychodynamic psychotherapy, or hypnotherapy	4	0	0	–1	0	Moderate	Directness point deducted for combined analysis of multiple interventions in comparison group
6 (193) [16] [33]	Incidence of PTSD	Eye movement desensitisation and reprocessing (EMDR) versus no treatment or usual care	4	–1	0	–1	0	Low	Quality point deducted for sparse data. Directness point deducted for inclusion of active treatments in no treatment/usual care group in review
3 (84) [16]	Incidence of PTSD	EMDR versus stress management	4	–1	0	0	0	Moderate	Quality point deducted for sparse data
6 (220) [16]	Incidence of PTSD	EMDR versus CBT	4	0	0	0	0	High	
1 (59) [34]	Symptom severity	EMDR versus fluoxetine	4	–2	0	–1	0	Very low	Quality points deducted for sparse data and incomplete reporting of results. Directness point deducted for inclusion of co-intervention (exposure therapy)
1 (59) [34]	Incidence of PTSD	EMDR versus fluoxetine	4	–2	0	–1	0	Very low	Quality points deducted for sparse data and incomplete reporting of results. Directness point deducted for inclusion of co-intervention (exposure therapy)
3 (771) [16] [34] [35]	Symptom severity	Fluoxetine versus placebo	4	–1	0	–2	0	Very low	Quality point deducted for methodological issues (incomplete reporting of results, unclear rate of follow-up, no statistical assessment between groups). Directness points deducted for inclusion of co-intervention (exposure therapy in one RCT) and uncertainty of beneficial effect (high placebo response)
1 (59) [34]	Incidence of PTSD	Fluoxetine versus placebo	4	–2	0	–1	0	Very low	Quality point deducted for sparse data and incomplete reporting of results. Directness point deducted for inclusion of co-intervention (exposure therapy)
1 (48) [16]	Incidence of PTSD	Group CBT versus no treatment or usual care	4	–1	0	–1	0	Low	Quality point deducted for sparse data. Directness point deducted for combined analysis of multiple interventions in comparison group

Important outcomes	Incidence of PTSD, Symptom severity								
Studies (Participants)	Outcome	Comparison	Type of evidence	Quality	Consistency	Directness	Effect size	GRADE	Comment
1 (360) [16]	Incidence of PTSD	Group CBT versus present-centred therapy	4	0	0	0	0	High	
1 (71) [38]	Symptom severity	Group CBT plus individual CBT versus no treatment	4	–1	0	0	0	Moderate	Quality point deducted for sparse data
1 (112) [39]	Symptom severity	Hypnotherapy versus waiting list control	4	–1	0	–1	0	Low	Quality point deducted for sparse data. Directness point deducted for narrowness of symptoms assessed (only intrusion/avoidance)
1 (25) [40]	Symptom severity	Internet-based psychotherapy versus waiting list control	4	–1	0	–1	0	Low	Quality point deducted for sparse data. Directness point deducted for narrowness of symptoms assessed (only intrusion/avoidance)
1 (21) [16]	Symptom severity	Mirtazapine versus placebo	4	–2	0	–1	0	Very low	Quality points deducted for sparse data and methodological issues (poor follow-up). Directness point deducted for differences in severity of symptoms at baseline
1 (19) [16]	Symptom severity	Olanzapine versus placebo	4	–1	0	–1	0	Low	Quality point deducted for sparse data. Directness point deducted for narrow inclusion criteria (people not responding to SSRI)
3 (1070) [16]	Symptom severity	Paroxetine versus placebo	4	0	0	0	0	High	
1 (37) [16]	Symptom severity	Phenelzine versus placebo	4	–1	0	0	0	Moderate	Quality point deducted for sparse data
1 (112) [39]	Symptom severity	Psychodynamic psychotherapy versus waiting list control	4	–1	0	–1	0	Low	Quality point deducted for sparse data. Directness point deducted for narrowness of symptoms assessed (only intrusion/avoidance)
3 (123) [16] [44] [45]	Symptom severity	Risperidone versus placebo	4	–1	–1	–1	0	Very low	Quality point deducted for sparse data. Consistency point deducted for conflicting results. Directness point deducted for range of additional medication being taken
7 (1289) [16] [46]	Symptom severity	Sertraline versus placebo	4	–1	–1	0	0	Low	Quality point deducted for methodological issues (no statistical assessment in 1 RCT). Consistency point deducted for conflicting results (different direction of effect for sertraline)
2 (747) [16]	Incidence of PTSD	Sertraline versus placebo	4	0	0	0	0	High	
2 (97) [48] [49]	Symptom severity	Sertraline versus nefazodone	4	–2	0	–1	0	Very low	Quality points deducted for sparse data and methodological issues (no statistical data for between group comparison reported). Directness point deducted for significant difference between groups in baseline scores
1 (51) [16]	Incidence of PTSD	Supportive psychotherapy versus waiting list control	4	–1	0	0	0	Moderate	Quality point deducted for sparse data
1 (73) [16]	Incidence of PTSD	Supportive psychotherapy versus CBT	4	–1	0	0	0	Moderate	Quality point deducted for sparse data
2 (81) [16]	Symptom severity	Tricyclic antidepressants versus placebo	4	–1	–1	0	0	Low	Quality point deducted for sparse data. Consistency point deducted for conflicting results with different TCA
1 (358) [16]	Symptom severity	Venlafaxine versus placebo	4	–1	0	0	0	Moderate	Quality point deducted for incomplete reporting of results (absolute symptom scores not reported)

Important outcomes			Incidence of PTSD, Symptom severity						
Studies (Participants)	Outcome	Comparison	Type of evidence	Quality	Consistency	Directness	Effect size	GRADE	Comment
We initially allocate 4 points to evidence from RCTs, and 2 points to evidence from observational studies. To attain the final GRADE score for a given comparison, points are deducted or added from this initial score based on preset criteria relating to the categories of quality, directness, consistency, and effect size. Quality: based on issues affecting methodological rigour (e.g., incomplete reporting of results, quasi-randomisation, sparse data [<200 people in the analysis]). Consistency: based on similarity of results across studies. Directness: based on generalisability of population or outcomes. Effect size: based on magnitude of effect as measured by statistics such as relative risk, odds ratio, or hazard ratio.									