Authors' objectives
To assess the efficacy of single-session debriefing in preventing chronic symptoms of post-traumatic stress disorder (PTSD) and other disorders after trauma.

Searching
MEDLINE Advanced (from 1973 to 2000), PsycINFO (from 1967 to 2000), and PubMed (from 1970 to 2000) were searched using the keywords 'posttraumatic', 'stress', 'debriefing', 'prevention' and 'intervention', and the names of authors working in debriefing. All volumes of the 'Journal of Traumatic Stress' were manually searched and the references lists of identified articles and book chapters were examined.

Study selection
Study designs of evaluations included in the review
The inclusion criteria were not defined in terms of the study design. Randomised controlled trials (RCTs), non-randomised controlled trials and studies without control groups were included.

Specific interventions included in the review
Studies of single-session group and individual debriefing interventions, which were administered within one month of a traumatic event, were eligible. The actual interventions in the review included: critical incident stress debriefing (CISD) sessions conducted according to Mitchell's seven-stage model (see Other Publications of Related Interest no.1), or closely corresponding to this model; 30-minute counselling; education; and historical group debriefing. In most of the studies there was a no-intervention control. The sessions lasted from approximately 30 minutes to a mean of 2.5 hours, and the interventions were conducted within 24 hours to a mean of 21 days after the trauma.

Participants included in the review
Studies of participants who had experienced a traumatic event were eligible. The actual participants had experienced burns, miscellaneous trauma (police officers), a road traffic accident, early miscarriage, violent crime and combat exposure. Where reported, the mean age of the participants ranged from 19.4 to 37.9 years and the proportion of male ranged from 0 to 76%.

Outcomes assessed in the review
Studies that assessed valid and reliable psychological symptoms using widely accepted clinical outcome measures, and that reported pre- and post-test data for at least one outcome, were eligible. The psychological symptoms assessed could include symptoms of PTSD or symptoms other than PTSD. The actual outcomes were assessed using the following measures: impact of event scale; clinician-administered PTSD scale (CAPS); hospital anxiety and depression scale; brief symptom inventory; and state-trait anxiety inventory (STAI-S). The final post-test assessments were conducted from immediately after the debriefing session to 36 months after trauma.

How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the reviewers performed the selection.

Assessment of study quality
No formal assessment of validity was undertaken.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the reviewers performed the data extraction.
The information tabulated in the review included: author; intervention details (type, duration, timing in relation to trauma); the number of people who completed the assessment; mean age; percentage of males; drop-out rates; the measures used to assess the outcomes; and the timing of the outcome assessment. Data were extracted for participants who completed the assessments, and data from the last reported post-test assessment were used in the analyses. The mean effect sizes and standard deviations were estimated for all the outcomes assessed in each study using Cohen's 'd' (see Other Publications of Related Interest no.2). If the participants completed more than one measure in a symptom group, the effect sizes for these measures were averaged to obtain an aggregated effect size.

Methods of synthesis
How were the studies combined?
The mean weighted effect sizes and 95% confidence intervals (CIs) were calculated for the difference between the pre- and post-intervention assessments across intervention types (CISD and non-CISD) and no-intervention control groups, for both symptom groups (PTSD symptoms and no PTSD symptoms). The effect sizes were weighted by the number of participants who completed assessments in each study. Overlapping 95% CIs were considered to indicate statistical significance (p<0.05) of the difference between effect sizes for different interventions.

Publication bias was assessed by calculating the fail-safe N.

How were differences between studies investigated?
The results were reanalysed using the 90% CIs and a p-value of less than 0.10 to indicate statistical significance for effect sizes. The analyses were conducted first using post-intervention assessments, and second, after excluding one study involving women who had experienced early miscarriage. It was not reported whether these analyses were planned a priori or post hoc.

Results of the review
Seven controlled trials were included (542 people completed assessments): 5 RCTs (335 completed assessments), one non-randomised controlled trial (168 completed assessments) and one study without a control group (39 completed assessments).

The drop-out rates, where reported, ranged from 0 to 46% across the intervention arms. The CISD interventions did not significantly reduce PTSD symptoms or other symptoms. The mean weighted effect size (5 studies) was 0.13 (95% CI: -0.29, 0.55) for PTSD and 0.12 (95% CI: -0.22, 0.47) for other symptoms. The non-CISD interventions resulted in a medium-to-large reduction in the severity of symptoms of PTSD, and a small-to-medium reduction in other symptoms. The mean weighted effect size (3 studies) was 0.65 (95% CI: 0.14, 1.16) for PTSD and 0.36 (95% CI not calculated as only one effect size was available) for other symptoms. Non-intervention resulted in a medium reduction in the severity of PTSD symptoms and a small reduction in other symptoms. The mean weighted effect size (6 studies) was 0.47 (95% CI: 0.28, 0.66) for PTSD and 0.13 (95% CI: -0.02, 0.28) for other symptoms. There were no significant differences between the effect sizes for CISD, non-CISD and no intervention for either PTSD symptoms or other symptoms. Fail-safe N statistics gave no evidence for publication bias (no values reported). The results were reanalysed using 90% CIs and a p-value of less than 0.10 to indicate statistical significance for effect sizes. Similar results were obtained using first post-intervention assessments, and after excluding one study involving people who had experienced early miscarriage.

Authors' conclusions
CISD and non-CISD interventions do not improve natural recovery from psychological stress.

CRD commentary
The aims of the review were stated, and the inclusion criteria were defined in terms of the participants, intervention and outcome. The inclusion criteria were not defined in terms of the study design. Several relevant sources were searched.
and publication bias was assessed, but it was not stated whether any language restrictions were applied. In addition, the methods used to select the studies were not described. The lack of attempts to locate unpublished material may have resulted in publication bias. Validity was neither formally assessed nor discussed in the text of the review, and the included studies were not restricted by study design.

Relevant data were extracted and tabulated, but there were no details of the methods used to extract the data. The methodology of the two meta-analyses is questionable: studies in which the final assessment was almost immediately after the intervention were included; and the meta-analyses were performed without first testing for statistical heterogeneity. The data were not extracted on an intention to treat basis, and the influence of the large reported drop-out rates on the results was neither explored nor mentioned. It was unclear whether the analyses used to test the robustness of the results were determined a priori or post hoc. The number of participants may have been too small to detect a clinically important difference between the interventions.

Any conclusions from the review must be interpreted with caution in view of the above comments.

**Implications of the review for practice and research**

Practice: The authors state that CISD and non-CISD interventions do not improve natural recovery from psychological stress.

Research: The authors state that studies are needed to assess whether targeting the CISD intervention to at-risk individuals is warranted.

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.