

## Evidence Service

### Art Therapy

#### Plain language summary

After a traumatic event (such as a car accident), a person may feel shock, anxiety, numbness, or a feeling that their life is out of control. Some people develop Post-Traumatic Stress Disorder (PTSD). This makes the person think about the trauma, or avoid thinking about it. They may avoid people associated with the trauma. They may not feel any emotion, or feel jumpy or too alert to things around them. PTSD is a serious condition. It can worsen a person's health and well-being.

Sometimes art therapy is used with people who have been through trauma. This is because some believe that memories are stored as pictures in the mind. An art therapist will help a person to make art related to their memories of the trauma. This is meant to get the images out of their head and try to help them to work out their feelings and thoughts related to the trauma.

Very little high-quality research has been done to test if art therapy works to help people with PTSD. Overall there is not enough information to say if art therapy is a useful treatment for people who have been through trauma.

# Evidence Service

## Art Therapy

### Evidence summary

#### Overview

We were unable to identify any synthesised studies or randomised controlled trials (RCTs) evaluating the effect of art therapy in adult trauma patients within an outpatient setting.

#### General Comments

The only available studies evaluating art therapy have been conducted within inpatient settings in children and adolescents. In this report we have summarized this body of evidence in an attempt to extrapolate their results to adult trauma patients in the outpatient setting. We identified four synthesized studies and three RCT's that have investigated the effectiveness of art therapy to reduce psychological harm from traumatic events among children and adolescents. Based on the results of these studies there is insufficient evidence to determine the effectiveness of art therapy.

#### Is art therapy an effective therapy for individuals following trauma?

There is insufficient evidence to determine the effectiveness of art therapy for individuals following trauma

#### Can it enable patients to address psychological issues related to their trauma?

There is insufficient evidence to determine the effectiveness of art therapy in preventing or reducing psychological harm among individuals who have developed symptoms of PTSD following traumatic exposure.

#### What are the indications for art therapy, i.e. in which conditions post-trauma is it effective?

We did not identify any official indications for use of art therapy post trauma.

#### What measures can be used to assess the outcomes of art therapy?

Not specifically stated, however, all the studies and reviews summarized in this report used the UCLA PTSD Reaction Index. This is a self-report tool that measures the frequency of three types of PTSD symptoms: re-experiencing symptoms, avoidance symptoms, and hyperarousal symptoms. A posttraumatic severity score is calculated from the sum of the responses.<sup>(1)</sup>

#### Does art therapy improve functional outcomes (improves activities of daily living, return to work, leisure etc.) for individuals following trauma?

These outcomes were not examined

#### Does art therapy reduce medication use or use of other healthcare services such as therapy or medical services?

These outcomes were not examined

**What criteria exist to define an art therapist?**

No criteria provided

**If art therapy is effective, what is the correct amount of art therapy to achieve outcomes?**

There is insufficient information to answer this question

Transport Accident Commission & WorkSafe Victoria

## Evidence Service

### Art Therapy

### Evidence Review

February 2012

Emma Donoghue, Loretta Piccenna

## CONTENTS

ACKNOWLEDGEMENTS .....	5
BACKGROUND .....	6
QUESTIONS .....	7
METHODS .....	8
RESULTS .....	9
DISCUSSION & CONCLUSION .....	11
DISCLAIMER .....	12
CONFLICT OF INTEREST .....	12
REFERENCES .....	13

## ACKNOWLEDGEMENTS

The authors would like to thank several colleagues for their assistance in preparation of this document:

Lisa Sherry from TAC/WSV for editing of the Plain Language Summary

Anne Parkhill for her literature searching services

Ornella Clavisi from the National Trauma Research Institute for proofreading and document editing

## BACKGROUND

When a patient experiences a traumatic event, a range of emotions, thoughts and sensations can follow, including shock, anxiety, numbness, regression and loss of self-control.<sup>(2)</sup> In some cases, exposure to trauma can lead to a serious psychological condition known as Posttraumatic Stress Disorder (PTSD). PTSD is characterized by symptoms such as “reliving the traumatic event or frightening elements of it; avoiding thoughts, memories, people, and places associated with the event; emotional numbing; and elevated arousal”.<sup>(3)</sup> PTSD is a complex condition that is often accompanied by other psychological disorders. PTSD can be associated with significant morbidity, impairment of function and reduced quality of life.<sup>(3)</sup>

Art therapy is a form of treatment that is sometimes used for patients that have experienced traumatic events. Art therapy is sometimes used based on a theory that traumatic events are stored in the brain visually, as disrupted images. Art therapy is used to try to help patients to explore these images in order to externalize, process and resolve the emotions, thoughts and sensations related to the traumatic event.<sup>(4)</sup> This involves the patient exploring different art materials including paints, inks, clay, photographs and other media with the guidance of an art therapist. The patient can consider their trauma experience in a safe and non-intrusive manner. In working with the therapist the patient can understand the meaning behind their artwork and with further treatment sessions regain control of their life.<sup>(2, 5)</sup>

Depending on the individual’s personality, their pre-trauma experiences, quality of supportive relationships and coping style, they can undergo art therapy alone or in a group. Group art therapy can be used to try to help patients build their self-confidence and improve their social reintegration.<sup>(5, 6)</sup> In this capacity individuals are able to relate to one another’s shared experiences which they otherwise may have felt was unique only to them.

In order to develop policies for the use of art therapy in patients who have undergone a traumatic event, the Transport Accident Commission and WorkSafe Victoria (TAC/WSV) Health Services Group requested a review of the evidence supporting the effectiveness of art therapy for individuals following trauma, and functional outcomes including quality of life and return to work.

## QUESTIONS

This Evidence Review sought to find the most up-to-date, high quality source of evidence to answer the following questions regarding the use of art therapy following trauma

- Is art therapy an effective therapy for individuals following trauma?
- Can it enable patients to address psychological issues related to their trauma?
- What are the indications for art therapy, i.e. in which conditions post-trauma is it effective?
- What measures can be used to assess the outcomes of art therapy?
- Does art therapy improve functional outcomes (improves activities of daily living, return to work, leisure etc.) for individuals following trauma?
- Does art therapy reduce medication use or use of other healthcare services such as therapy or medical services?
- What criteria exist to define an art therapist?
- If art therapy is effective, what is the correct amount of art therapy to achieve outcomes?

## METHODS

Methods are outlined briefly below. More detailed information about the methodology used to produce this report is available in Appendices 1 and 2. All appendices are located in the Technical Report accompanying this document.

A comprehensive search of Medline, Embase, the Cochrane Library, CINAHL, PsycInfo and Web of Science was undertaken in November 2011 to identify relevant synthesised research (i.e. evidence-based guidelines (EBGs), systematic reviews (SRs), health technology assessments (HTAs)), and any relevant randomised controlled trials (RCTs). A comprehensive search of the internet, relevant websites and electronic health databases was also undertaken (see Appendix 2, Tables A2.2-A2.4 for search details). Reference lists of included studies were also scanned to identify relevant references.

Studies identified by the searches were screened for inclusion using specific selection criteria (see Appendix 2, Table A2.1). Synthesised evidence (EBGs, SRs and HTAs) that met the selection criteria were reviewed to identify the most up-to-date and comprehensive source of evidence, which was then critically appraised to determine whether it was of high quality. This process was repeated for additional sources of evidence, if necessary, until the most recent, comprehensive and high quality source of evidence was identified. Findings from the best available source of evidence were compared to other evidence sources for consistency of included references and findings. The algorithm in Table 1 was followed to determine the next steps necessary to answer the clinical questions.

**Table 1. Further action required to answer clinical questions**

Is there any synthesised research available? (e.g. EBGs, HTAs, SRs)				
Yes			No	
Is this good quality research?			Are RCTs available?	
Yes		No	Yes	No
Is it current (within 2 years)?				
Yes	No	Undertake new SR	Undertake new SR	Consider looking for lower levels of evidence
No further action	Update existing SR			

Data on characteristics of all included studies were extracted and summarised (see Appendix 4). The most recent, relevant, high quality systematic review was used to address the questions posed above.



## RESULTS

The electronic database searches yielded 3,341 potentially relevant references.

Among these articles we were unable to identify any RCTs examining the effectiveness of art therapy for adults following trauma in the outpatient setting.

The only available studies evaluating art therapy have been conducted within inpatient settings in children and adolescents. In this report we have summarized this body of evidence in an attempt to extrapolate their results to adult trauma patients in the outpatient setting. We identified four synthesised studies; two EBGs<sup>(3, 7)</sup> and two SRs.<sup>(4, 8)</sup> The EBGs were for the management of posttraumatic stress disorder (PTSD), and the SRs focused on reducing symptoms of trauma. All four studies were quality assessed and it was found that three of the studies<sup>(3, 7, 8)</sup> did not provide sufficient information to determine their quality and overall risk of bias (see Appendix 5 Tables A5.1-A5.3). The other study, a SR by Wethington et al.,<sup>(4)</sup> was quality appraised and was found to have a low risk of bias (see Appendix 5 Table A5.4), therefore, this study was used as the basis for this report. This study identified one RCT evaluating art therapy, Schreier et al. 2005.<sup>(9)</sup>

In addition to the RCT identified by Wethington et al.,<sup>(4, 9)</sup> we identified two additional RCTs of art therapy for PTSD in children and/or adolescents: Lyshak-Stelzer et al. 2007,<sup>(1)</sup> and Chapman et al. 2001.<sup>(10)</sup> Two of the RCTs<sup>(9, 10)</sup> evaluated the effect of a one-off treatment with the Chapman Art Therapy Treatment Intervention (CATTI) that took place between 12 and 48 hours after admission to hospital for traumatic injury. These studies found no difference in effect when compared to standard hospital treatment,<sup>(10)</sup> and no sustained effects in the reduction of PTSD symptoms.<sup>(9)</sup> The other RCT<sup>(1)</sup> was a study of adjunctive art therapy for chronic PTSD in an inpatient psychiatric facility for youth. This study found a positive effect for art therapy.

**Table 3. Key information from most recent, comprehensive, high quality systematic review (inpatient setting)**

<i>Wethington HR, Hahn RA, Fuqua-Whitley DS, Sipe TA, Crosby AE, Johnson RL, et al. The effectiveness of interventions to reduce psychological harm from traumatic events among children and adolescents: a systematic review. American Journal of Preventive Medicine. 2008 Sep;35(3):287-313.</i>	
<b>Study design</b>	Systematic review of controlled studies  This study included 30 trials of which only one evaluated art therapy
<b>Scope</b>	<b>Patient/population:</b> people < 21 years of age, living in countries with high-income economies  <b>Conditions indicated for use:</b> children and adolescents exposed to traumatic events (individual/mass, intentional/unintentional, or manmade/natural).  <b>Interventions:</b> Cognitive behaviour therapy (CBT), Play therapy, Art therapy, Psychodynamic therapy, Pharmacologic therapy, Psychological debriefing.  <b>Comparators:</b> any (placebo, standard care, other intervention)  <b>Outcomes assessed:</b> indices of depressive disorders, anxiety and posttraumatic stress disorder, internalizing and externalizing disorders, and suicidal behaviour
<b>Is art therapy an effective therapy for individuals following trauma?</b>	There is insufficient evidence to determine the effectiveness of art therapy in preventing or reducing psychological harm among children and adolescents who have developed symptoms of PTSD following traumatic exposure
<b>Can it enable patients to address psychological issues related to their trauma?</b>	There is insufficient evidence to determine the effectiveness of art therapy in preventing or reducing psychological harm among children and adolescents who have developed symptoms of PTSD following traumatic exposure
<b>What are the indications for art therapy, i.e. in which conditions post-trauma is it effective?</b>	We did not identify any official indications for use of art therapy post trauma
<b>What measures can be used to assess the outcomes of art therapy?</b>	Not specifically stated in this SR
<b>Does art therapy improve functional outcomes (improves activities of daily living, return to work, leisure etc.) for individuals following trauma?</b>	These outcomes were not examined in this SR
<b>Does art therapy reduce medication use or use of other healthcare services such as therapy or medical services?</b>	These outcomes were not examined in this SR
<b>What criteria exist to define an art therapist?</b>	No criteria provided in this SR
<b>If art therapy is effective, what is the correct amount of art therapy to achieve outcomes?</b>	There is insufficient information to answer this question

<b>Conclusion/Recommendation of the study</b>	"There is insufficient evidence to determine the effectiveness of art therapy in preventing or reducing psychological harm among children and adolescents who have developed symptoms of PTSD following traumatic exposure."
<b>Recommendation category</b>	Insufficient evidence to determine effectiveness
<b>Quality assessment results</b>	High quality/low risk of bias
<b>Our comments/summary</b>	This systematic review was well conducted with a low risk of bias. This review only identified one RCT related to art therapy, and the authors concluded that the evidence for art therapy was insufficient.

### Findings

Due to the findings of the systematic review above, we conclude that there is insufficient evidence to determine the effectiveness of art therapy adults, children or adolescents following trauma.

## DISCUSSION & CONCLUSION

No synthesised studies or RCTs examining the effectiveness of art therapy for adults following trauma in the outpatient setting have been published. The majority of research conducted is in the form of case studies, or other uncontrolled types of research.

Three RCTs of art therapy for PTSD in the inpatient setting were identified, <sup>(1, 9, 10)</sup> and even though these studies have not been quality appraised to determine the validity of their findings, they do offer information on the question of which measures can be used to assess the outcomes of art therapy. All three RCTs looked at reducing PTSD symptoms, and all used the UCLA PTSD Reaction Index to measure outcomes, which is designed for measuring symptoms in children and adolescents. Only one paper provided criteria to define an art therapist: "treatment was provided by a Registered Art Therapist with an art therapy master's degree and at least 2 years of art therapy practice in the setting".<sup>(1)</sup>

The only available higher level studies that looked at the effects of art therapy for children and adolescents were all conducted in inpatient settings. Overall the results of these studies were inconclusive. Furthermore these studies did not report on outcomes related to function, quality of life, medication use or healthcare utilisation.

Given the uncertainty of these results there is insufficient evidence to determine the effectiveness of art therapy following trauma in adults in the outpatient setting.

## DISCLAIMER

The information in this report is a summary of that available and is primarily designed to give readers a starting point to consider currently available research evidence. Whilst appreciable care has been taken in the preparation of the materials included in this publication, the authors and the National Trauma Research Institute do not warrant the accuracy of this document and deny any representation, implied or expressed, concerning the efficacy, appropriateness or suitability of any treatment or product. In view of the possibility of human error or advances of medical knowledge the authors and the National Trauma Research Institute cannot and do not warrant that the information contained in these pages is in every aspect accurate or complete. Accordingly, they are not and will not be held responsible or liable for any errors or omissions that may be found in this publication. You are therefore encouraged to consult other sources in order to confirm the information contained in this publication and, in the event that medical treatment is required, to take professional expert advice from a legally qualified and appropriately experienced medical practitioner.

## CONFLICT OF INTEREST

The TAC/WSV Evidence Service is provided by the National Trauma Research Institute. The NTRI does not accept funding from pharmaceutical or biotechnology companies or other commercial entities with potential vested interest in the outcomes of systematic reviews.

The TAC/WSV Health Services Group has engaged ISCRR, who in turn engaged the NTRI for their objectivity and independence and recognise that any materials developed must be free of influence from parties with vested interests. The Evidence Service has full editorial control.

## REFERENCES

1. Lyshak-Stelzer F, Singer P, St, Chemtob CM. Art therapy for adolescents with posttraumatic stress disorder symptoms: A pilot study. *Art Therapy*. 2007;24(4):163-9.
2. Appleton V. Avenues of hope: art therapy and the resolution of trauma. *Art Therapy: Journal of the American Art Therapy Association*. 2001;18(1):6-13.
3. Foa EB, International Society for Traumatic Stress Studies. *Effective treatments for PTSD : practice guidelines from the International Society for Traumatic Stress Studies*. 2nd ed. New York: Guilford Press; 2009.
4. Wethington HR, Hahn RA, Fuqua-Whitley DS, Sipe TA, Crosby AE, Johnson RL, et al. The effectiveness of interventions to reduce psychological harm from traumatic events among children and adolescents: a systematic review. *American Journal of Preventive Medicine*. 2008 Sep;35(3):287-313.
5. Lobban J. Art therapy in neurorehabilitation. *Nursing & Residential Care*. 1999;1(8):438.
6. Rankin AB, Taucher LC. A task-oriented approach to art therapy in trauma treatment. *Art Therapy: Journal of the American Art Therapy Association*. 2003;20(3):138-47.
7. National Collaborating Centre for Mental Health (Great Britain), National Institute for Clinical Excellence (Great Britain). *Post-traumatic stress disorder : the management of PTSD in adults and children in primary and secondary care*. London: Published by Gaskell and the British Psychological Society; 2005.
8. Campbell ER. *The effectiveness of art therapy in reducing symptoms of trauma, anxiety, and stress: A meta-analysis*: Campbell, Emma R : Wheaton Coll , US; 2011.
9. Schreier H, Ladakakos C, Morabito D, Chapman L, Knudson MM. Posttraumatic stress symptoms in children after mild to moderate pediatric trauma: a longitudinal examination of symptom prevalence, correlates, and parent-child symptom reporting. *Journal of Trauma*. 2005;58(2):353-63.
10. Chapman L, Morabito D, Ladakakos C, Schreier H, Knudson M. The effectiveness of art therapy interventions in reducing post traumatic stress disorder (PTSD) symptoms in pediatric trauma patients. *Art Therapy*. 2001;18(2):100-4.

Transport Accident Commission & WorkSafe Victoria

## Evidence Service

### Art Therapy

#### Technical Report: Appendices 1-5

February 2012

Emma Donoghue, Loretta Piccenna

A joint initiative of



TRANSPORT  
ACCIDENT  
COMMISSION



**MONASH**  
University

## INTRODUCTION

This technical report is a companion document to “Art Therapy: Evidence Review”. It contains detailed information about the methods used in the development of the Evidence Review, summaries of the studies included in the review, and quality appraisal results for the most recent and/or most relevant included studies.

## CONTENTS

APPENDIX 1: REVIEW PROCESS .....	3
APPENDIX 2: METHODS .....	4
APPENDIX 3: LIST OF INCLUDED STUDIES.....	10
APPENDIX 4: SUMMARY OF INCLUDED STUDIES .....	11
APPENDIX 5: APPRAISAL TABLES .....	14

## APPENDIX 1: REVIEW PROCESS

A two-staged approach was undertaken.

### STAGE 1

#### Identify evidence available for each intervention

- Run search in health databases, websites and on the internet; limit to EBGs, HTAs, SRs, and RCTs
- Apply inclusion and exclusion criteria

#### Critically appraise synthesised research

- Start with most recent review, apply standard appraisal criteria
- If found to be of high quality, cross check to ensure references from all other synthesised research are included and check for consistency of findings
- If not high quality, appraise next most recent and repeat process
- If there are inconsistent findings across the existing reviews, investigate the possibility of synthesis of this information or whether a new systematic review is required

#### Decide on actions for Stage 2

- Map available evidence (as per Table A1.1)
- Identify whether sufficient high level evidence exists to answer questions or identify what further action needs to be taken (see algorithm in Table A1.2).

### STAGE 2

Address further actions identified.

**Table A1.1. Map of available evidence**

Synthesised Studies		Primary studies	TOTAL
EBGs	SRs & HTAs		

**Table A1.2. Further action required to answer clinical questions**

Is there any synthesised research available? (e.g. EBGs, HTAs, SRs)				
Yes			No	
Is this good quality research?			Are RCTs available?	
Yes		No	Yes	No
Is it current (within 2 years)?		Undertake new SR	Undertake new SR	Consider looking for lower levels of evidence
Yes	No			
No further action	Update existing SR			



## APPENDIX 2: METHODS

TAC/WSV staff assisted in the development of search terms and inclusion and exclusion.

### Inclusion and exclusion criteria

Inclusion and exclusion criteria were established *a priori* (Table A2.1). References for primary screening were conducted by two reviewers. Ten percent of the references were screened by both reviewers independently to check for consistency of inclusion/exclusion decisions, and results were found to be 98% in agreement.

**Table A2.1 Inclusion and Exclusion criteria**

<b>Patient/ population</b>	<b>Inclusion:</b> <ul style="list-style-type: none"> <li>All ages</li> <li>All sexes</li> <li>Any condition arising directly from trauma, orthopaedic, neurological or psychological (e.g. PTSD)</li> </ul>
	<b>Exclusion:</b> <ul style="list-style-type: none"> <li>Non-traumatic conditions, e.g. cancer, pregnancy, psychiatric illness.</li> </ul>
<b>Intervention/ indicator</b>	<b>Inclusion:</b> Art therapy
	<b>Exclusion:</b> Writing, dance and music therapy
<b>Comparison/ control</b>	<b>Inclusion:</b> Placebo or standard care
	<b>Exclusion:</b> Nil
<b>Outcomes</b>	<b>Inclusion:</b> Quality of life, Function, Return to work, Medication use, Healthcare use and Therapy services.
	<b>Exclusion:</b> Nil
<b>Setting</b>	<b>Inclusion:</b> Outpatient
	<b>Exclusion:</b> Inpatient*
<b>Study Design</b>	<b>Inclusion:</b> Evidence-based guidelines (EBGs), systematic reviews (SRs), health technology assessments (HTAs), and randomised controlled trials (RCTs).
	<b>Exclusion:</b> Non-evidence based guidelines, non-systematic reviews, cohort studies, case-control studies, case series, editorials, letters, commentaries.
<b>Publication details</b>	<b>Inclusion:</b> Studies in English and conducted on humans.
	<b>Exclusion:</b> Studies in languages other than in English and/or conducted on animals.
<b>Time period</b>	<b>Inclusion:</b> No time limits specified.
	<b>Exclusion:</b> Nil

\* Although the inclusion/exclusion criteria state that studies in the inpatient setting should be excluded, the only available studies evaluating art therapy have been conducted within inpatient settings in children and adolescents. In the accompanying report we have summarized this body of evidence in an attempt to extrapolate their results to adult trauma patients in the outpatient setting.

## Searches undertaken

### Search methods

Evidence Based Guidelines (EBGs) are generally published as electronic ‘stand alone’ documents on the internet rather than papers in peer reviewed journals. We searched first in standard health databases, then in websites which are known to publish high-quality research and guidelines, and finally in a general search engine (see Table A2.4).

### Search strategies in electronic databases

“Art Therapy” as a subject is covered in a relatively small percentage of articles in any of the chosen databases, so the search strategy did not need to be elaborate or long. Broad subject headings only were used and the review stage allowed for further refinement by setting and outcome. The search was not limited to the trauma setting because the intervention outcomes may have been relevant in other settings as well. No time limits were specified. In PsycInfo the text word “art” could be truncated whereas this would have retrieved too many irrelevant articles in the medical databases. The search was only further limited in the PsycInfo database (see below, Table A2.3) where further terms were related to neuropsychological assessment and the effectiveness of the therapy. The two main journals for this area: "The Arts in Psychotherapy" and "Art Therapy: Journal of the American Art Therapy Association" are both indexed in PsycInfo so no further hand-searching was undertaken. Key articles were also searched for their indexing terms and for other citing articles (in the Web of Knowledge database) as an aid to ensuring that coverage was as comprehensive as possible.

### Internet searches to identify relevant websites

The reviewers were aware of websites of guideline clearinghouses, guideline developers, centres of evidence-based practice, Australian government health services and websites of specific relevance (e.g. accident compensation groups) known to contain evidence-based resources.

### Website searches to identify relevant EBGs

The 26 websites listed below were searched for relevant EBGs (see Table A2.4).

Where an internal search engine was available, websites were searched using the search strings detailed in the table below. If no search engine was available, lists of EBGs, publications or other resources identified on the site were scanned for relevant documents.

### Internet searches to identify relevant references

An internet search strategy was conducted using the Google ‘Advanced Search’ function. The search string was limited to documents in English.

The first 100 Google search results were screened and yielded no new studies. As Google search results are presented in order of relevance, we did not screen further.

### Databases accessed

A highly sensitive search in Cochrane library, Medline, Embase, CINAHL, PsycInfo and Web of Science as detailed below was undertaken for the review terms.

**Table A2.2 Databases accessed**

Database name	Dates covered	Date searched	References
<b>Medline (Ovid)</b>	1948 to November Week 2 2011	20 <sup>th</sup> November 2011	<b>310</b>
<b>PreMedline (Ovid)</b>	November 16, 2011	20 <sup>th</sup> November 2011	<b>28</b>
<b>All EBM (Ovid) *</b>	All EBM Review databases	20 <sup>th</sup> November 2011	<b>29</b>
<b>CINAHL (Ovid)</b>		20 <sup>th</sup> November 2011	<b>112</b>
<b>EMBASE</b>	1974 to 2011 November 18	20 <sup>th</sup> November 2011	<b>541</b>
<b>PsycInfo</b>	1806 to November Week 3 2011	20 <sup>th</sup> November 2011	<b>2320</b>
<b>Web of Science</b>	Complete database to date	20 <sup>th</sup> November 2011	<b>1</b>
			<b>3,341 deduplicated references</b>

The following searches were conducted and adapted for use in other databases.

**Table A2.3 Major medical database search strategies**

Database name	Strategy
PsycInfo	<ol style="list-style-type: none"> <li>1 The Effectiveness of Art Therapy: Does it Work?.m_titl.</li> <li>2 (the efficacy of art and writing therapy).m_titl.</li> <li>3 (review of research and methods used to establish art therapy).m_titl.</li> <li>4 Effect of Art Production on Negative Mood: A.m_titl.</li> <li>5 or/1-4</li> <li>6 (art* adj2 (therap* or treatment*)).ti,ab.</li> <li>7 or/5-7</li> <li>8 (random* or meta* or trial* or blind* or crossover* or eviden* or effectiv* or placebo* or research* or compar*).ti,ab.</li> <li>9 7 and 8</li> </ol>

**Table A2.4 Website searches to identify relevant EBGs**

Search 1: Identification of relevant guidelines for Art Therapy using specific guideline-related websites		
Guideline Services	Results	Search
TRIP Database: searched 05/12/2011 – 77 results total	<a href="http://www.tripdatabase.com">www.tripdatabase.com</a> 10 publications downloaded to Endnote	Searched by: “Art therapy”
Australian Government Websites containing Guidelines		
Australian Government Department of Health & Ageing	<a href="http://www.health.gov.au">www.health.gov.au</a> N/A	Scanned list of Topics for ‘Art therapy’
Australian Institute of Health and Welfare	<a href="http://www.aihw.gov.au">www.aihw.gov.au</a> N/A	Web page reviewed by: “Art therapy”
Health Insite	<a href="http://www.healthinsite.gov.au">www.healthinsite.gov.au</a> N/A	Search option “Art therapy”
ACT Health	<a href="http://www.health.act.gov.au">www.health.act.gov.au</a> N/A	Search option “Art therapy”
NSW Health	<a href="http://www.health.nsw.gov.au">www.health.nsw.gov.au</a> N/A	Search option “Art therapy”
NT Department of Health and Community Services	<a href="http://www.nt.gov.au/health">www.nt.gov.au/health</a> N/A	Search option “Art therapy”
Queensland Health	<a href="http://www.health.qld.gov.au">www.health.qld.gov.au</a> N/A	Search option “Art therapy”
SA Department of Health and Human Services	<a href="http://www.health.sa.gov.au">www.health.sa.gov.au</a> N/A	Search option “Art therapy”
Tasmanian Department of Health and Human Services	<a href="http://www.dhhs.tas.gov.au">www.dhhs.tas.gov.au</a> N/A	Search option “Art therapy”
Victorian Department of Human Services	<a href="http://www.dhs.vic.gov.au">www.dhs.vic.gov.au</a> N/A	Search option “Art therapy”
Victorian Government Health Information	<a href="http://www.health.vic.gov.au">www.health.vic.gov.au</a> N/A	Search option “Art therapy”
WA Department of Health	<a href="http://www.health.wa.gov.au">www.health.wa.gov.au</a> N/A	Search option “Art therapy”
Centres of Evidence Based Practice Websites		
WA Centre for Evidence-based Nursing and Midwifery	<a href="http://wacebnm.curtin.edu.au">http://wacebnm.curtin.edu.au</a> N/A	Search option “Art therapy”

Other Accident Commissions		
Transport Accident Commission	<a href="http://www.tac.vic.gov.au/">www.tac.vic.gov.au/</a> <a href="#">Road trauma stories shared through art</a> <a href="#">TAC Calls For Road Trauma Artists to Picture This</a> <a href="#">Transport accident trauma expressed through art</a> <a href="#">Media Releases</a>	Search option "Art therapy"
Australian Transport Safety Bureau	<a href="http://www.atsb.gov.au/">http://www.atsb.gov.au/</a> N/A	Search option "Art therapy"
WorkSafe Victoria	<a href="http://www.workcover.vic.gov.au/">http://www.workcover.vic.gov.au/</a> N/A	Search option "Art therapy"
Traffic Injury Research Foundation	<a href="http://www.trafficinjuryresearch.com/index.cfm">http://www.trafficinjuryresearch.com/index.cfm</a> N/A	Search option "Art therapy"
Motor Accidents Authority NSW	<a href="http://www.maa.nsw.gov.au/">http://www.maa.nsw.gov.au/</a> N/A	Search option "Art therapy"
WorkSafe British Columbia	<a href="http://www.worksafebc.com/">http://www.worksafebc.com/</a> N/A	Search option "Art therapy"
Accident Compensation Corporation	<a href="http://www.acc.co.nz/index.htm">http://www.acc.co.nz/index.htm</a> N/A	Search option "Art therapy"
Injury Research and Prevention Unit	<a href="http://www.injuryresearch.bc.ca/">http://www.injuryresearch.bc.ca/</a> N/A	Search option "Art therapy"
The Brain Trauma Foundation	<a href="http://tbguidelines.org/gIHome.aspx">http://tbguidelines.org/gIHome.aspx</a> N/A	Search option "Art therapy"
Oslo Sports Trauma Research Centre	<a href="http://www.klokeavskade.no/en/">http://www.klokeavskade.no/en/</a> N/A	Search option "Art therapy"
Oregon Evidence-Based Practice Centre	<a href="http://www.ohsu.edu/epc/pastProjects/index.htm">http://www.ohsu.edu/epc/pastProjects/index.htm</a> N/A	Search option "Art therapy"

#### Search 2: Identification of relevant studies for Art Therapy using Google

Search	Find web pages that have all these words	evidence
	Find web pages that have this exact wording or phrase	"art therapy"
	Find web pages that have one or more of these words	"accident OR injury OR trauma"
	Don't show pages that have any of these unwanted words	.pdf
Language	English	
Results	1,330,000 results	

## Results

We were unable to identify any RCTs examining the effectiveness of art therapy for adults following trauma in the outpatient setting.

The only available studies evaluating art therapy have been conducted within inpatient settings in children and adolescents. In this report we have summarized this body of evidence in an attempt to extrapolate their results to adult trauma patients in the outpatient setting. In this technical report we have identified and appraised four synthesised studies; two EBGs(3, 7) and two SRs.(4, 8)

## Appraisal

Due to the small number of studies identified and the lack of methodological information provided in most, all included studies were quality appraised using standard appraisal criteria.

## Quality

Evidence-based guidelines and systematic reviews were appraised using standard criteria by a single reviewer in consultation with colleagues as required. Details of quality appraisals are included in Appendix 5.

## Data Extraction

Data on characteristics of the studies were extracted and summarised.

## Consistency of findings

The findings were compared across all of the included studies to identify any inconsistencies.

## APPENDIX 3: LIST OF INCLUDED STUDIES

### Synthesised studies

1. Campbell, ER. The effectiveness of art therapy in reducing symptoms of trauma, anxiety, and stress: A meta-analysis, Campbell, Emma R: Wheaton College, US, 2011.
2. Foa, EB, International Society for Traumatic Stress Studies. Effective treatments for PTSD: practice guidelines from the International Society for Traumatic Stress Studies. 2<sup>nd</sup> Edition, New York: Guilford Press, 2009.
3. National Collaborating Centre for Mental Health (Great Britain) and National Institute for Clinical Excellence (Great Britain). Post-traumatic stress disorder: the management of PTSD in adults and children in primary and secondary care. London: Published by Gaskell and the British Psychological Society, Clinical Guideline 26, 2005.
4. Wethington HR, Hahn RA, Fuqua-Whitley DS, Sipe TA, Crosby AE, Johnson RL, et al. The effectiveness of interventions to reduce psychological harm from traumatic events among children and adolescents: a systematic review. American Journal of Preventive Medicine. 2008 Sep;35(3):287-313.

### Randomised Controlled Trials (inpatient setting)

5. Lyshak-Stelzer F, Singer P, St, Chemtob CM. Art therapy for adolescents with posttraumatic stress disorder symptoms: A pilot study. Art Therapy. 2007;24(4):163-9.
6. Schreier H, Ladakakos C, Morabito D, Chapman L, Knudson MM. Posttraumatic stress symptoms in children after mild to moderate pediatric trauma: a longitudinal examination of symptom prevalence, correlates, and parent-child symptom reporting. Journal of Trauma. 2005;58(2):353-63.
7. Chapman L, Morabito D, Ladakakos C, Schreier H, Knudson M. The effectiveness of art therapy interventions in reducing post traumatic stress disorder (PTSD) symptoms in pediatric trauma patients. Art Therapy. 2001;18(2):100-4.

## APPENDIX 4: SUMMARY OF INCLUDED STUDIES

Table A4.1 summary of included studies

1 <sup>st</sup> author, year, title	Inclusion, Exclusion criteria (for P.I.C.O)	Study design	Conclusion/Recommendation	Recommendation category	Other comments
<b>EVIDENCE-BASED GUIDELINES</b>					
<b>Foa 2009</b> Effective treatments for PTSD: practice guidelines from the International Society for Traumatic Stress Studies.	<b>POPULATION/CLINICAL INDICATION</b> <u>Included:</u> People with posttraumatic stress disorder (PTSD) and its symptoms as defined in DSM-IV-TR <u>Excluded:</u> Not specified <b>INTERVENTION</b> <u>Included:</u> Creative art therapies (art therapy, music therapy) <u>Excluded:</u> Not specified <b>COMPARATOR</b> <u>Included:</u> Usual hospital care <u>Excluded:</u> Not specified <b>OUTCOMES:</b> <u>Included:</u> Not specified <u>Excluded:</u> Not specified	EBG	<b>‘Creative therapies for adults’:</b> “despite relatively widespread use and application over a substantial time period, the efficacy of the creative arts therapies has not yet been established through empirical research (p602)...Specific creative arts therapy treatments for trauma have not yet been empirically tested. Evidence for the effectiveness of the creative arts therapies is based on numerous clinical case studies by a wide range of practitioners over several decades (AHCPR; Level D – Evidence is based on long-standing and widespread clinical practice that has not been subjected to empirical tests in PTSD) (p601)...Despite relatively wide use and application, the efficacy of the creative arts therapies has not yet been established through empirical research (p486)...There is currently insufficient evidence to differentiate the impact of the creative arts therapies on PTSD, comorbid disorders, or associated symptoms. (p486)” Recommendations are around the need for empirical, controlled research into effectiveness, and translation of techniques across cultures and languages. <b>‘Creative arts therapies for children’:</b> “Historically, CAT research has been based on assessments and clinical experience. Although there is no empirical evidence supporting the efficacy of CATs, an abundance of CAT case studies describe treatment success, the majority published in academic CAT journals, and a preponderance using art therapy. To date, there is one small Level A randomized controlled art therapy study (Chapman et al., 2001) and other attempts at using objective measures to assess change (pp603-604)”. Recommendations for further research were also reported (p501).	Insufficient evidence to draw conclusions	It was difficult to determine whether this is truly an evidence-based guideline as there were not strong links between recommendations and references throughout the document. In terms of art therapy, no references were found that could be linked to recommendations.



<p><b>NCCMH and NICE 2005</b></p> <p>Post-traumatic stress disorder: the management of PTSD in adults and children in primary and secondary care.</p>	<p><b>POPULATION/CLINICAL INDICATION</b>  <u>Included:</u> Adults and children of all ages who suffer from PTSD  <u>Excluded:</u> Not specified</p> <p><b>INTERVENTION</b>  <u>Included:</u> Art therapy  <u>Excluded:</u> Not specified</p> <p><b>COMPARATOR</b>  <u>Included:</u> Not specified  <u>Excluded:</u> Not specified</p> <p><b>OUTCOMES:</b>  <u>Included:</u> Treatment effectiveness using assessor-rated PTSD symptoms with the Clinician-Administered PTSD Scale for DSM-IV (CAPS), the PTSD Symptom Scale – Interview Version (PSS-I), or the number of symptoms on the Structured Clinical Interview for DSM-IV (SCID) and self-report instruments such as the Davidson Trauma Scale (DTS), or the Posttraumatic Diagnostic Scale (PDS), or the PTSD Checklist (PCL), or the Impact of Event Scale (IES) or Impact of Event Scale – Revised (IES-R).  <u>Excluded:</u> Not specified</p>	<p>EBG</p>	<p>“When considering treatments for PTSD, parents and, where appropriate, children and young people should be informed that, apart from trauma-focused psychological interventions, there is at present no good evidence for the efficacy of widely used forms of treatment of PTSD such as play therapy, art therapy or family therapy.”</p>	<p>Insufficient evidence to draw conclusions</p>	<p>A C recommendation was given for art therapy which signifies “Expert committee reports or opinions and/or clinical experiences of respected authorities (evidence level IV) or extrapolated from level I or II evidence. This grading indicates that directly applicable clinical studies of good quality are absent or not readily available.”</p> <p>The reviewers were not blind to authors, institutions and affiliations of assessed studies, which might contribute to selection bias. The reviewers also did not provide a summary of individual results for each study so it cannot be established if any data is missing or incomplete indicating attrition bias. The quality of included studies was only partially reported on, hence it is difficult to ascertain if the conclusions and recommendations are justified or not.</p>
<b>SYSTEMATIC REVIEWS</b>					
<p><b>Campbell 2011</b></p> <p>The effectiveness of art therapy in reducing</p>	<p><b>POPULATION/CLINICAL INDICATION</b>  <u>Included:</u> People with symptoms of trauma, anxiety and stress  <u>Excluded:</u> Not specified</p>	<p>SR</p>	<p>“This meta-analysis included 24 studies and found art therapy to have a moderate overall ES of 0.53 (with a 95% confidence interval (CI) of 0.36 to 0.71) for reducing anxiety symptoms...This study also</p>	<p>Insufficient evidence to draw conclusions</p>	<p>There is insufficient information to determine this study’s overall risk of bias. The</p>

<p>symptoms of trauma, anxiety, and stress: A meta-analysis</p>	<p><b>INTERVENTION</b> <u>Included:</u> Art therapy <u>Excluded:</u> Dance/movement, drama, music or poetry therapies</p> <p><b>COMPARATOR</b> <u>Included:</u> Not specified <u>Excluded:</u> Not specified</p> <p><b>OUTCOMES:</b> <u>Included:</u> Mood, anxiety, psychological wellbeing, PTSD symptom severity <u>Excluded:</u> Not specified</p>		<p>examined, in its third hypothesis, whether art therapy would be more effective with those who were experiencing posttraumatic stress symptoms as opposed to those with other anxiety-related symptoms. This hypothesis was tested by examining the difference between those studies for which the anxiety was due to PTSD (n = 8) versus the remaining studies which dealt with participants who had other anxiety-related symptoms (n = 16). It was predicted that participants who presented with posttraumatic stress symptoms would experience a greater treatment effect with art therapy than those who presented with other anxiety-related symptoms; however, an analysis of the between-group variance demonstrated that there were no significant differences (QB = 3.58, p = 0.058) between these two groups.”</p>		<p>paper failed to provide information on many important methodological aspects of this study. There was no mention of the study selection process, and the quality of included studies did not appear to be examined or discussed. Characteristics of included studies were not provided, making it impossible to determine whether it was appropriate to combine the results through meta-analysis. This means that the results cannot be generalised.</p>
<p><b>Wethington 2008</b> The effectiveness of interventions to reduce psychological harm from traumatic events among children and adolescents: a systematic review.</p>	<p><b>POPULATION/CLINICAL INDICATION</b> <u>Included:</u> Children and adolescents exposed to traumatic events <u>Excluded:</u> Not specified</p> <p><b>INTERVENTION</b> <u>Included:</u> Art therapy <u>Excluded:</u> Not specified</p> <p><b>COMPARATOR</b> <u>Included:</u> No intervention or delayed or lesser doses of the intervention; or, “in a single cohort, included a period without exposure, followed by exposure, followed by removal of the exposure”. <u>Excluded:</u> Not specified</p> <p><b>OUTCOMES:</b> <u>Included:</u> PTSD symptom severity <u>Excluded:</u> Not specified</p>	<p>SR</p>	<p>“According to Community Guide rules,<sup>16</sup> the evidence from this single study is insufficient to determine the effectiveness of art therapy in preventing or reducing psychological harm among children and adolescents who have developed symptoms of PTSD following traumatic exposures.”</p>	<p>Insufficient evidence to draw conclusions</p>	<p>This SR was well conducted and the overall risk of bias was low.</p>

## APPENDIX 5: APPRAISAL TABLES

**Table A5.1 Critical appraisal table (Foa International Society for Traumatic Stress Studies 2009)**

**Study:** Foa EB, International Society for Traumatic Stress Studies. *Effective treatments for PTSD: practice guidelines from the International Society for Traumatic Stress Studies. 2nd ed.* New York: Guilford Press; 2009.

### Evidence-based guideline

<b>Patient/population</b>	People with posttraumatic stress disorder (PTSD) and its symptoms as defined in DSM-IV-TR	
<b>N</b>	<b>Creative arts therapies for children chapter</b> , n=4 studies (3 art therapy (1 RCT, 2 uncontrolled), 1 music therapy (1 CCT)) <b>Creative therapies for adults chapter</b> , not specified	
<b>Setting</b>	Not specified	
<b>Intervention/indicator</b>	<b>Reference</b>	<b>Intervention</b>
	Creative arts therapies for children chapter	
	Chapman 2001 (RCT)	Art therapy (not further specified) – traumatic injury
	Pifalo 2002	Art therapy (not further specified) – sexual abuse
	Steele & Raider 2001	Art therapy, Structured Sensory Intervention for Traumatized Children, Adolescents and Parents (SITCAP) – various traumas
	Creative arts therapies for adults chapter	
	Cohen & Mills 1999	Specific art therapy method that guides client through increasing levels of exposure to traumatic imagery
	Cohen et al 1995	Specific art therapy method that guides client through increasing levels of exposure to traumatic imagery
	Cox & Cohen 2005	Specific art therapy method that guides client through increasing levels of exposure to traumatic imagery
	Johnson, et al 1997	Art therapy (not further specified)
	Morgan & Johnson 1995	Art therapy (not further specified)
	Ragsdale, et al 1996	Art therapy (not further specified)
	<b>Reference</b>	<b>Comparison</b>
	Chapman 2001 (RCT)	Usual hospital care
<b>Comparison/control</b>	<i>No other comparators specified</i>	
<b>Outcomes</b>	Not specified	
<b>Inclusion Criteria</b>	Not specified	

Exclusion Criteria	Not specified	
Study Validity.		
Is it clear that there were no conflicts of interest in the writing or funding of this review?	Not reported	
Does the review have a clearly-focused question?	Partial	“These guidelines are intended to assist clinicians who provide treatment for adults, adolescents, and children with PTSD”
Is a systematic review the appropriate method to answer the question?	Yes	
Does the review have specified inclusion/exclusion criteria?	No	Not specified in guideline document
If there were specified inclusion/ exclusion criteria, were these appropriate?	N/A	
Does the review document a comprehensive search strategy?	No	<b>Creative arts therapies for children chapter</b> “We collected literature on the use of CATs for children with PRSD by searching the PsycINFO and the Published International Literature on Traumatic Stress (PILOTS) databases, inputting the terms ‘art’, ‘dance’, ‘drama’, and ‘music therapy’, as well as ‘children, adolescents and trauma.’ Additional literature was obtained based on bibliographic references within selected abstracts, articles, and chapters” (only 2 databases searched) <b>Creative therapies for adults chapter</b> No details provided on search strategy.
Were reviewers blind to authors, institutions and affiliations?	Not reported	
Were 2 or more independent reviewers used for:	Not reported	
1. application of inclusion criteria to assess eligibility of studies?		
2. extraction of data from study reports?	Not reported	
3. appraisal of study quality?	Not reported	
Were the strengths and limitations of included studies and potential impact on the results discussed?	Not reported	
Was the validity of included trials appraised using appropriate criteria?	Not reported	
Is there a summary of the results of individual studies?	No	Only for the chapter <b>creative arts therapies for children</b> , not for the <b>creative therapies for adults</b> chapter.
If meta-analyses were conducted, was it reasonable to do so?	N/A	
If meta-analyses were conducted, was it done appropriately?	N/A	

<b>What is the overall risk of bias?</b>	Insufficient information	Not enough information is provided on methodological quality to be able to determine risk of bias.
--	--------------------------	--

#### Results.

No results were reported, only summary paragraphs of the literature.

#### Author's Conclusions.

**‘Creative therapies for adults’:** “despite relatively widespread use and application over a substantial time period, the efficacy of the creative arts therapies has not yet been established through empirical research (p602)...Specific creative arts therapy treatments for trauma have not yet been empirically tested. Evidence for the effectiveness of the creative arts therapies is based on numerous clinical case studies by a wide range of practitioners over several decades (AHCPR; Level D – Evidence is based on long-standing and widespread clinical practice that has not been subjected to empirical tests in PTSD) (p601)...Despite relatively wide use and application, the efficacy of the creative arts therapies has not yet been established through empirical research (p486)...There is currently insufficient evidence to differentiate the impact of the creative arts therapies on PTSD, comorbid disorders, or associated symptoms. (p486)” Recommendations are around the need for empirical, controlled research into effectiveness, and translation of techniques across cultures and languages.

**‘Creative arts therapies for children’:** “Historically, CAT research has been based on assessments and clinical experience. Although there is no empirical evidence supporting the efficacy of CATs, an abundance of CAT case studies describe treatment success, the majority published in academic CAT journals, and a preponderance using art therapy. To date, there is one small Level A randomized controlled art therapy study (Chapman et al., 2001) and other attempts at using objective measures to assess change (pp603-604)”. Recommendations for further research were also reported (p501)

#### Our Comments/Summary.

This is a large guideline on treatments for PTSD, only a couple of chapters were relevant to Art Therapy (one relating to adults and the other to children). It was difficult to determine whether this is truly an evidence-based guideline as there were not strong links between recommendations and references throughout the document. In terms of Art therapy, no references were found that could be linked to recommendations.

Two chapters of this guideline were relevant to our question, ‘creative therapies for adults’ and ‘creative arts therapies for children’. Both conclude that there is insufficient evidence and that more research is needed on the effectiveness of creative arts therapies (which includes art therapy). Each chapter in this guideline document was developed by a different set of authors, resulting in differing methods and reporting between sections (no overarching methods), the chapter for children provided some methodological information, but the adults chapter provided none. Overall, there is not enough information to allow examination quality and determine the risk of bias for this guideline.

**Table A5.2 Critical appraisal table (NCCMH and NICE Clinical Guideline 26 2005)**

**Study:** National Collaborating Centre for Mental Health (Great Britain) and National Institute for Clinical Excellence (Great Britain) (2005). *Post-traumatic stress disorder: the management of PTSD in adults and children in primary and secondary care*. London, Published by Gaskell and the British Psychological Society, Clinical Guideline 26.

**Evidence-based guideline:**

<b>Patient/population</b>	Adults and children of all ages who suffer from PTSD
<b>N</b>	Psychological interventions, n=25; Pharmacological interventions, n=33; Early psychological interventions, n= 20; Early pharmacological interventions, n=2; Interventions for children, n=2. <b>Please note all these studies may not have assessed our outcomes of interest.</b>
<b>Setting</b>	“The guideline will cover the care provided by primary, secondary and other healthcare professionals who have direct contact with, and make decisions concerning the care of, people with PTSD. The guideline will also be relevant to the work, but will not cover the practice, of those in: <ul style="list-style-type: none"> <li>• occupational health services</li> <li>• social services</li> <li>• the independent sector.”</li> </ul>
<b>Intervention/indicator</b>	Art therapy
<b>Comparison/control</b>	Not reported
<b>Outcomes</b>	<p>“The main criterion for treatment effectiveness was its effect on PTSD symptoms. These were assessed either by independent assessors or by self-report. The instruments included in the analysis were as follows:</p> <ul style="list-style-type: none"> <li>• assessor-rated PTSD symptoms: the Clinician-Administered PTSD Scale for DSM–IV (CAPS), the PTSD Symptom Scale – Interview Version (PSS–I), or the number of symptoms on the Structured Clinical Interview for DSM–IV (SCID)</li> <li>• self-report instruments of PTSD symptoms: the Davidson Trauma Scale (DTS), or the Posttraumatic Diagnostic Scale (PDS), or the PTSD Checklist (PCL), or the Impact of Event Scale (IES) or Impact of Event Scale – Revised (IES–R).</li> </ul> <p>If more than one self-report scale (for example, PCL and IES) was used, the instrument that mapped onto the DSM–IV criteria was included (in the example, PCL). Both continuous data (outcome measures scores and changes) and dichotomous data (PTSD remission) based on these scores were considered. A number of scales have been developed for the measurement of PTSD and other outcomes for children and young people and these are discussed in Chapter 9.”</p>
<b>Inclusion Criteria</b>	<p>The review used the following inclusion criteria:</p> <ul style="list-style-type: none"> <li>• the study used a randomised controlled design</li> <li>• at least 70% of participants needed to have a diagnosis of PTSD, other participants must have PTSD symptoms following a traumatic event</li> <li>• the main target of treatment was PTSD</li> <li>• PTSD symptoms were measured</li> <li>• pre- and post-treatment data were reported</li> <li>• for continuous data at least 50% of the intent-to-treat sample were assessed at the relevant time point</li> <li>• double-blind administration of treatment (for pharmacological treatments only).</li> </ul>
<b>Exclusion Criteria</b>	Not reported

### Study Validity.

<b>Is it clear that there were no conflicts of interest in the writing or funding of this review?</b>	Yes	“The Guideline Development Group was convened by the NCCMH and supported by funding from NICE. The Group consisted of PTSD sufferers and professionals from psychiatry, clinical psychology, nursing and social work services. Staff from the NCCMH provided leadership and support throughout the process of guideline development, undertaking systematic searches, information retrieval, appraisal and systematic review of the evidence. Members of the Group received training in the process of guideline development. The National Guidelines Support and Research Unit, also established by NICE, provided advice and assistance regarding aspects of the guideline development process.”
<b>Does the review have a clearly- focused question?</b>	Yes	<p>“Specifically, it aims to:</p> <ul style="list-style-type: none"> <li>• evaluate the role of specific psychological interventions in the treatment and management of PTSD</li> <li>• evaluate the role of specific pharmacological interventions in the treatment and management of PTSD</li> <li>• evaluate the role of early psychological and pharmacological interventions shortly after traumatic event</li> <li>• address the issues of diagnosis, detection and the use of screening techniques in high-risk situations</li> <li>• provide key review criteria for audit, which will enable objective measurements to be made of the extent and nature of local implementation of this guidance, particularly its impact upon practice and outcomes for people with PTSD.”</li> </ul>
<b>Is a systematic review the appropriate method to answer the question?</b>	Yes	
<b>Does the review have specified inclusion/exclusion criteria?</b>	Yes	Not defined a priori.
<b>If there were specified inclusion/ exclusion criteria, were these appropriate?</b>	Yes	
<b>Does the review document a comprehensive search strategy?</b>	Yes	<p>See Appendix 6 of full guideline.</p> <p>“Additional searches were made of the reference lists of all eligible systematic reviews and RCTs, and the list of evidence submitted by stakeholders. Known experts in the field (see Appendix 2), based both on the references identified in early steps and on advice from Group members, were sent letters requesting systematic reviews or RCTs that were in the process of being published (unpublished full trial reports were also accepted where sufficient information was available to judge eligibility and quality). In addition, the standard mental health bibliographic databases were periodically checked for relevant studies.”</p>
<b>Were reviewers blind to authors, institutions and affiliations?</b>	Not reported	“Masked assessment (i.e. masked to the journal from which the paper came, the authors, the institution and the magnitude of the effect) was not used, since it is unclear that doing so reduces bias (Jadad et al, 1996; Berlin, 1997).”

<b>Were 2 or more independent reviewers used for: 1. application of inclusion criteria to assess eligibility of studies?</b>	Partial	“All eligible papers were then critically appraised for methodological quality (see Appendix 8). The eligibility of each study was confirmed by at least one member of the Group.”
<b>2. extraction of data from study reports?</b>	Yes	“Two independent reviewers extracted data from new studies, and disagreements were resolved with discussion. Where consensus could not be reached, a third reviewer resolved the disagreement.”
<b>3. appraisal of study quality?</b>	No	
<b>Were the strengths and limitations of included studies and potential impact on the results discussed?</b>	Yes	
<b>Was the validity of included trials appraised using appropriate criteria?</b>	Yes	See Appendices 7 and 8 of full guideline
<b>Is there a summary of the results of individual studies?</b>	No	
<b>If meta-analyses were conducted, was it reasonable to do so?</b>	Yes	
<b>If meta-analyses were conducted, was it done appropriately?</b>	Yes	<p>“Where possible, meta-analysis was used to synthesise data. If necessary, sub-analyses were used to answer clinical questions not addressed in the original studies or reviews. The Group was given a graphical presentation of the results using forest plots generated with the Review Manager software. Each forest plot displayed the effect size and confidence interval (CI) for each study as well as the overall summary statistic.”</p> <p>...</p> <p>“To check for heterogeneity between studies, both the I<sup>2</sup> and <math>\chi^2</math> tests of heterogeneity (<math>P &lt; 0.10</math>), as well as visual inspection of the forest plots, were used. The I<sup>2</sup> statistic describes the proportion of total variation in study estimates that is due to heterogeneity (Higgins &amp; Thompson, 2002). An I<sup>2</sup> of less than 30% was taken to indicate mild heterogeneity and a fixed effects model was used to synthesise the results. An I<sup>2</sup> of more than 50% was taken as notable heterogeneity. In this case, an attempt was made to explain the variation. If studies with heterogeneous results were found to be comparable, a random effects model was used to summarise the results (DerSimonian &amp; Laird, 1986). In the random effects analysis, heterogeneity is accounted for both in the width of CIs and in the estimate of the treatment effect. With decreasing heterogeneity the random effects approach moves asymptotically towards a fixed effects model. An I<sup>2</sup> of 30–50% was taken to indicate moderate heterogeneity. In this case, both the <math>\chi^2</math> test of heterogeneity and a visual inspection of the forest plot were used to decide between a fixed and random effects model.”</p>
<b>What is the overall risk of bias?</b>	Insufficient information	



## Results.

“The evidence base from which to draw conclusions about the treatment of children under 7 years old suffering from PTSD is sparse. The lack of agreement on and use of a common set of measures is particularly of concern for studies of PTSD in very young children, and adds to the difficulties of interpreting an extremely limited data-set. All treatments need to be adapted to accommodate young children’s less mature ways of thinking about their world, and often clinicians will use play materials and drawings to help children focus on what happened to them and how they feel. However, there is a lack of high-quality (randomised controlled trial) evidence that specific types of play therapy or art therapy have therapeutic value in treating PTSD in young children. The evidence does not support the use of single-session debriefing for children of any age.”

The review also reported on pharmacological and psychological interventions other than art therapy for children and adults which was not part of our question.

## Author’s Conclusions.

“When considering treatments for PTSD, parents and, where appropriate, children and young people should be informed that, apart from trauma-focused psychological interventions, there is at present no good evidence for the efficacy of widely used forms of treatment of PTSD such as play therapy, art therapy or family therapy.”

A C recommendation was given for art therapy which signifies “Expert committee reports or opinions and/or clinical experiences of respected authorities (evidence level IV) or extrapolated from level I or II evidence. This grading indicates that directly applicable clinical studies of good quality are absent or not readily available.”

## Our Comments/Summary.

The reviewers were not blind to authors, institutions and affiliations of assessed studies, which might contribute to selection bias. The reviewers also did not provide a summary of individual results for each study so it cannot be established if any data is missing or incomplete indicating attrition bias. The quality of included studies was only partially reported on, hence it is difficult to ascertain if the conclusions and recommendations are justified or not.

**Table A5.3 Critical appraisal table (*Campbell Meta-Analysis 2011*)**

**Study:** Campbell ER. *The effectiveness of art therapy in reducing symptoms of trauma, anxiety, and stress: A meta-analysis: Campbell, Emma R : Wheaton Coll , US; 2011.*

**Meta-analysis of studies that employ either a control group or a single group pretest/posttest research design**

<b>Patient/population</b>	People with symptoms of trauma, anxiety and stress	
<b>N</b>	19 papers (counted by author as 24 studies) with either a control group or a single group pretest/posttest research design <b>Please note all these studies may not have assessed our outcomes of interest.</b>	
<b>Setting</b>	Not specified	
<b>Intervention/indicator</b>	<b>Reference</b>	<b>Intervention</b>
	Bar-Sela, Atid, Danos, Gabay, & Epelbaum, 2007 – <i>mood &amp; anxiety, medical diagnosis</i>	Art therapy (not further specified)
	Bell & Robbins, 2007 - <i>induced mood and anxiety</i>	Art therapy (not further specified)
	Chapman et al., 2001 - <i>PTSD</i>	Art therapy (not further specified)
	Curry & Kasser, 2005 - <i>induced Anxiety</i>	Mandala vs plaid vs control
	Doric-Henry, 1997 – <i>psych wellbeing</i>	Art therapy (not further specified)
	Foret, 1997 – <i>anxiety, psych diagnosis</i>	Art therapy (not further specified)
	Grodner, 1982 - <i>mood</i>	Art therapy (not further specified)
	Henderson et al., 2007 - <i>psych wellbeing related to PTSD</i>	Mandala vs free draw
	Lyshak-Stelzer et al., 2007 - <i>PTSD</i>	Art making (trauma focused)
	Miller, 1993 – <i>anxiety, psych diagnosis</i>	Art Making (history enriched)
	Pifalo, 2002 – <i>PTSD</i>	Art therapy (not further specified)
	Pifalo, 2006 – <i>PTSD</i>	Art therapy (not further specified)
	Puig et al., 2006 – <i>psych wellbeing after medical diagnosis</i>	Art therapy (not further specified)
	Rao, Nainis, Williams, Langner, Eisin, & Paice, 2009 – <i>psych wellbeing, medical diagnosis</i>	Art therapy (not further specified)
	Schreier, Ladakakos, Morabito, Chapman, & Knudson, 2005 - <i>PTSD</i>	Art therapy (not further specified)
	Walsh, Chang, Schmidt, & Yoepp, 2005 – <i>mood &amp; anxiety from another's diagnosis</i>	Art therapy (not further specified)
	Walsh, Martin, & Schmidt, 2004 – <i>mood and anxiety from another's diagnosis</i>	Art therapy (not further specified)
	Walsh, Radcliffe, Castillo, Kumar, & Broschard, 2007 – <i>anxiety from another's diagnosis</i>	Art therapy (not further specified)
	Webb-Ferebee, 2003 - <i>psych wellbeing, another's diagnosis</i>	Art therapy (not further specified)

<b>Comparison/control</b>	Curry & Kasser 2005 – mandala vs. plaid vs. control  Comparison/control was not specified for any other included studies.
<b>Outcomes</b>	Outcomes measured in included studies include: Mood, anxiety, psychological wellbeing, PTSD symptom severity
<b>Inclusion Criteria</b>	“In order to be included in the meta-analytic review articles had to be written in English and meet the following criteria: (a) employment of either a control group or a single group pretest/posttest research design, (b) adequate data for calculating effect size and inverse variance weight (see explanation below), (c) use of art therapy as the primary intervention (studies which included additional therapeutic interventions, viewed as confounding variables, were excluded), and (d) administration of a valid, reliable, and objective measure of anxiety.”
<b>Exclusion Criteria</b>	“Studies were excluded when they used a case study methodology, and only journal articles and unpublished dissertations were considered. For this study, an art therapy intervention was assigned when either the participants were simply asked to create a tangible form of visual art (painting, drawing, pottery, etc.) or the intervention integrated a form of visual art with a model of counseling or psychotherapy. This meta analysis did not include other versions of arts in psychotherapy, such as dance/movement, drama, music, or poetry therapies.”

#### Study Validity.

<b>Is it clear that there were no conflicts of interest in the writing or funding of this review?</b>	Not reported	
<b>Does the review have a clearly- focused question?</b>	Yes	This is a meta-analysis looking at 5 questions (all measured through effect size): 1. Is art therapy an effective treatment for anxiety-related symptoms? 2. Do children benefit more from art therapy than those in other age groups? 3. Is art therapy more effective with those who suffer from posttraumatic stress symptoms (as opposed to other anxiety-related conditions)? 4. Will those participants who suffered a mass trauma (e.g., combat, natural disaster, etc.) benefit more from a group format for art therapy than an individual format? 5. Does the length of treatment influence the effectiveness of the art therapy intervention?
<b>Is a systematic review the appropriate method to answer the question?</b>	Yes	
<b>Does the review have specified inclusion/exclusion criteria?</b>	Yes	Selection criteria: “In order to be included in the meta-analytic review articles had to be written in English and meet the following criteria: (a) employment of either a control group or a single group pretest/posttest research design, (b) adequate data for calculating effect size and inverse variance weight (see explanation below), (c) use of art therapy as the primary intervention (studies which included additional therapeutic interventions, viewed as confounding variables, were excluded), and (d) administration of a valid, reliable, and objective measure of anxiety... Studies were excluded when they used a case study

		methodology, and only journal articles and unpublished dissertations were considered. For this study, an art therapy intervention was assigned when either the participants were simply asked to create a tangible form of visual art (painting, drawing, pottery, etc.) or the intervention integrated a form of visual art with a model of counseling or psychotherapy. This meta-analysis did not include other versions of arts in psychotherapy, such as dance/movement, drama, music, or poetry therapies.”
<b>If there were specified inclusion/ exclusion criteria, were these appropriate?</b>	Yes	
<b>Does the review document a comprehensive search strategy?</b>	Yes	
<b>Were reviewers blind to authors, institutions and affiliations?</b>	Not reported	
<b>Were 2 or more independent reviewers used for:</b> <b>1. application of inclusion criteria to assess eligibility of studies?</b>	Not reported	
<b>2. extraction of data from study reports?</b>	Yes	“Each study was coded for moderating variables by two raters (this author and an advanced doctoral student), with an initial agreement of 96%. Discrepancies were discussed among the raters, re-evaluated, and a final decision was made by this author. The various study characteristics coded are listed below (see Appendix C for coding sheet):”
<b>3. appraisal of study quality?</b>	Not reported	No mention of quality appraisal.
<b>Were the strengths and limitations of included studies and potential impact on the results discussed?</b>	No	
<b>Was the validity of included trials appraised using appropriate criteria?</b>	Not reported	No mention of quality appraisal
<b>Is there a summary of the results of individual studies?</b>	No	Only summary of effect sizes
<b>If meta-analyses were conducted, was it reasonable to do so?</b>	Insufficient information	Not enough detail provided on individual studies to determine if meta-analysis was appropriate (characteristics of included studies not provided)
<b>If meta-analyses were conducted, was it done appropriately?</b>	Not reported	No mention of weighting studies due to quality (no mention of quality appraisal of studies), no mention of sensitivity analysis
<b>Other</b>		
<b>What is the overall risk of bias?</b>	Insufficient information	

## Results.

**Table 1**  
*Descriptive Summary of Effect Size Results*

Defining Parameter	No. of studies	Effect size	95% CI	p-value (2-tail)
All Studies	24	0.53	0.36 – 0.71	< 0.001
Overall Stated Goal for Intervention <sup>a</sup>				
Anxiety ( <i>Reduce Anxiety</i> )	6	0.81	0.52 – 1.10	< 0.001
PTSD ( <i>Reduce Symptoms</i> )	6	0.52	0.19 – 0.85	0.002
Mood ( <i>Elevate Mood &amp; Reduce Anx</i> ) <sup>b</sup>	5	0.61	0.14 – 1.08	0.010
Psych. Wellbeing ( <i>Improve</i> ) <sup>b</sup>	7	0.23	0.03 – 0.43	0.023
Reason for Anxiety <sup>c</sup>				
Induced for Study	3	1.30	0.96 – 1.64	< 0.001
Medical Diagnosis	3	-0.01	-0.38 – 0.37	0.983*
Psychological Diagnosis (not PTSD)	3	0.46	0.14 – 0.79	0.005
PTSD	8	0.42	0.19 – 0.66	< 0.001
Another's Medical Dx or Death	5	0.57	0.27 – 0.86	< 0.001
Other	2	0.74	0.26 – 1.21	0.002
PTSD versus Other Anxiety-Related Conditions				
Anxiety	16	0.59	0.35 – 0.82	< 0.001
PTSD	8	0.42	0.19 – 0.66	< 0.001
Theoretical Stance				
Art as Therapy	13	0.63	0.39 – 0.88	< 0.001
Art Psychotherapy	11	0.40	0.17 – 0.63	0.001
Design				
Experimental	8	0.64	0.20 – 1.09	0.005
Quasi-Experimental	2	0.74	0.26 – 1.21	0.002
Single Group Pre/Posttest	14	0.47	0.27 – 0.66	< 0.001

Type of Control Used <sup>d</sup>				
No Treatment	2	0.74	0.26 – 1.21	0.002
Placebo	4	0.92	0.05 – 1.78	0.038
Treatment as Usual	3	0.31	-0.01 – 0.63	0.055*
Wait-list	1	0.50	-0.13 – 1.12	0.119*
Treatment Setting				
Hospital	12	0.45	0.18 – 0.73	0.001
University	6	0.74	0.32 – 1.16	< 0.001
Other/Misc.	4	0.51	0.27 – 0.75	< 0.001
Unknown	2	0.59	0.17 – 1.02	0.006
Treatment Format				
Group	17	0.59	0.37 – 0.80	< 0.001
Individual	6	0.36	0.02 – 0.71	0.040
Unclear	1	0.66	0.02 – 1.31	0.045
Age Group				
Adults (ages 18+)	16	0.55	0.32 – 0.77	< 0.001
Children (up to age 17)	7	0.49	0.20 – 0.78	0.001
Mixed	1	0.66	0.02 – 1.31	0.045
Study Type				
Published Journal Article	21	0.55	0.36 – 0.75	< 0.001
Unpublished Dissertation	3	0.35	0.01 – 0.70	0.042

Note. CI = confidence interval. Anx = anxiety. Dx = diagnosis.

<sup>a</sup>The effectiveness of art therapy between characteristics in this parameter was significantly different. ( $Q_B = 11.19, p = 0.011$ , using the mixed effects model.)

<sup>b</sup>The effect sizes shown are still those that demonstrate art therapy's effect on reducing anxiety-related symptoms, and not its effectiveness in either elevating mood or improving psychological wellbeing.

<sup>c</sup>The effectiveness of art therapy between characteristics in this parameter was significantly different. ( $Q_B = 24.60, p < 0.001$ , using a fixed effects model.) Medical Diagnosis was removed due to insignificance, though, when added to the analysis, this parameter remained significantly different.

<sup>d</sup>Studies with a single group pretest/posttest design were not included under this parameter.

\*Italicized ES values indicate insignificant ( $p > .05$ ) results.

## Author's Conclusions.

"This meta-analysis included 24 studies and found art therapy to have a moderate overall ES of 0.53 (with a 95% confidence interval (CI) of 0.36 to 0.71) for reducing anxiety symptoms...This study also examined, in its third hypothesis, whether art therapy would be more effective with those who were experiencing posttraumatic stress symptoms as opposed to those with other anxiety-related symptoms. This hypothesis was tested by examining the difference between those studies for which the anxiety was due to PTSD ( $n = 8$ ) versus the remaining studies which dealt with participants who had other anxiety-related symptoms ( $n = 16$ ). It was predicted that participants who presented with posttraumatic stress symptoms would experience a greater treatment effect with art therapy than those who presented with other anxiety-related symptoms; however, an analysis of the between-group variance demonstrated that there were no significant differences ( $Q_B = 3.58, p = 0.058$ ) between these two groups."

## Our Comments/Summary.

There is insufficient information to determine this study's overall risk of bias. The paper failed to provide information on many important methodological aspects of this study. There was no mention of the study selection process, and the quality of included studies did not appear to be examined or discussed. Characteristics of included studies were not provided, making it impossible to determine whether it was appropriate to combine the results through meta-analysis.

This means that the results cannot be generalized.

**Table A5.4 Critical appraisal table (Wethington American Journal of Preventive Medicine 2008)**

**Study:** Wethington, H., Hahn, R, Fuqua-Whitley, D, Sipe, T, Crosby, A, Johnson, R, Liberman, A, Moscicki, E, Price, L, Tuma, F, Kalra, G, Chattopadhyay, S, and the Task Force on Community Preventive Services. The effectiveness of interventions to reduce psychological harm from traumatic events among children and adolescents: a systematic review. American Journal of Preventive Medicine. 2008. 35 (3): 287-313.

**Systematic review**

Patient/population	Children and adolescents exposed to traumatic events	
N	Cognitive behavioural therapies – individual n=11, group n=10; Play therapy n=4; <b>Art Therapy n=1</b> ; Psychodynamic therapy n= 1; Pharmacological therapy n=2 and Psychological debriefing n=1.	
Setting	Not reported	
Intervention/indicator	<i><b>This review paper also included other studies in cognitive-behavioural therapy, play therapy, psychodynamic therapy, pharmacological therapy, and psychological debriefing not relevant to our review which was focused on art therapy.</b></i>	
	Reference	Intervention
	Schreier, 2005	One 1 hour art therapy session with follow-up assessments (pre, 1, 6, and 18 months) Pre-intervention group n=27, Post-intervention and control groups n=34
Comparison/control	Reference	Comparison
	Schreier, 2005	Standard hospital services Pre-control group n=30, Post-intervention and control groups n=34
Outcomes	For art therapy, the outcome was a reduction in PTSD symptoms as well as “indices of depressive disorders, anxiety and posttraumatic stress disorder (PTSD), internalising disorders, and suicidal behavior.”	
Inclusion Criteria	“An article was considered for inclusion in the systematic review if it had the following characteristics: - evaluated one of the specified interventions on children or adolescents (i.e., median age ≤21 years); - was conducted in countries with high-income economies as defined by the World Bank (i.e., with a Gross National Income per capita of \$11,116 or more) <sup>a</sup> ; the focus of most Community Guide reviews is the U.S. setting, so it is generally appropriate to limit studies to those conducted in high-income countries; - was published before March 2007; - assessed at least one of the following common psychological consequences of exposures to trauma <sup>18–20</sup> : - PTSD symptoms and PTSD (forms of anxiety related to traumatic exposures) - other anxiety disorders and symptoms - depressive disorders and symptoms	

	<ul style="list-style-type: none"> <li>- externalizing disorders and symptoms (disruptive behavioral problems directed toward the environment and others,<sup>21</sup> such as acting out, being persistently aggressive, impulsive)</li> <li>- internalizing disorders and symptoms (emotional problems directed toward inner experience,<sup>21</sup> such as being withdrawn, depressed, fearful)"</li> <li>- suicidal ideation and behaviour</li> <li>- substance abuse</li> </ul> <p>- was a primary study rather than a guideline or review;</p> <p>- included a comparison group without intervention or with delayed or lesser doses of the intervention; or, in a single cohort, included a period without exposure, followed by exposure, followed by removal of the exposure.<sup>22</sup></p>
<b>Exclusion Criteria</b>	<p>"Studies without a control population (i.e., with either no treatment or a different form of treatment) were excluded from consideration because the untreated response to traumatic exposures is variable and may change rapidly over time; thus, without a control, effect or lack of effect cannot be validly attributed to an intervention." ...</p> <p>"Studies published in languages other than English and unpublished studies were not included in this review."</p>

#### Study Validity.

<b>Is it clear that there were no conflicts of interest in the writing or funding of this review?</b>	No	"The work of Kalra, Fuqua-Whitley, and Wethington was supported by funding from the Oak Ridge Institute for Scientific Education (ORISE). No financial disclosures were reported by the authors of this paper."
<b>Does the review have a clearly- focused question?</b>	Yes	<p>"This systematic review evaluated interventions commonly used to reduce psychological harm among children and adolescents exposed to traumatic events." ...</p> <p>"Evaluated interventions were conducted in high-income economies, published up to March 2007. Subjects in studies were ≤21 years of age, exposed to individual/mass, intentional/unintentional, or manmade/natural traumatic events."</p>
<b>Is a systematic review the appropriate method to answer the question?</b>	Yes	
<b>Does the review have specified inclusion/exclusion criteria?</b>	Yes	However, it was not reported if the criteria were established a priori or not.
<b>If there were specified inclusion/ exclusion criteria, were these appropriate?</b>	Yes	

<b>Does the review document a comprehensive search strategy?</b>	Yes	“Electronic searches for literature were conducted in the MEDLINE; EMBASE; ERIC; NTIS (National Technical Information Service); PsycINFO; Social Sciences Abstracts; and NCJRS (National Criminal Justice Reference Service) databases for all dates up to March 2007. Search terms included the generic and specific terms for treatments, different forms of trauma, and terms such as evaluate, effective, and outcome. Also reviewed were the references listed in all retrieved articles; researchers also consulted with experts on the systematic review development team and elsewhere for additional studies. Studies published as journal articles, government reports, books, and book chapters were considered.”
<b>Were reviewers blind to authors, institutions and affiliations?</b>	Not reported	
<b>Were 2 or more independent reviewers used for:</b> <b>1. application of inclusion criteria to assess eligibility of studies?</b>	Not reported	
<b>2. extraction of data from study reports?</b>	Yes	“Each study that met the inclusion criteria was read by two reviewers who used standardized criteria to record information from the study and to assess the suitability of the study design and threats to validity for purposes of the review. <sup>16,17</sup> Disagreements between the reviewers were reconciled by consensus among the team members.”
<b>3. appraisal of study quality?</b>	Yes	As above
<b>Were the strengths and limitations of included studies and potential impact on the results discussed?</b>	Yes	However, not specific to art therapy.
<b>Was the validity of included trials appraised using appropriate criteria?</b>	Yes	“Each study that met the inclusion criteria was read by two reviewers who used standardized criteria to record information from the study and to assess the suitability of the study design and threats to validity for purposes of the review. <sup>16,17</sup> Disagreements between the reviewers were reconciled by consensus among the team members.”
<b>Is there a summary of the results of individual studies?</b>	Yes	
<b>If meta-analyses were conducted, was it reasonable to do so?</b>	Yes	“In meta-analyses, weighted summary effect sizes, 95% confidence intervals (CIs), and p-values were obtained for both fixed-effects and random-effects models. When data were available, results were stratified by index trauma, that is, the trauma thought to have caused the symptoms for which the child or adolescent is being treated. The homogeneity of effect sizes was assessed with the Q statistic, <sup>24</sup> and quantified with the I <sup>2</sup> statistic. <sup>25</sup> ”
<b>If meta-analyses were conducted, was it done appropriately?</b>	Yes	See above
<b>What is the overall risk of bias?</b>	Low	



## Results.

### Appendix. Summary tables of studies included in the reviews (*continued*)

Author & year Design suitability Quality of execution	Location Study period Population	Intervention		Other components (study arms, if any) Comparison	Sample selection Assignment to treatment conditions Sample size (at pre/post assessments)		
		Frequency and duration Personnel administering	Follow-up		Effect measure calculated from study findings	Adjusted g	
Study measuring effect of Art Therapy in children/adolescents Type of trauma: non-abusive physical trauma Schreier (2005) <sup>66</sup> Greatest Fair	Oakland CA 1998–2002 Potential participants were identified using the hospital's trauma registry. Children were hospitalized for a minimum of 24 hours after (non-abusive) physical trauma Mean age 10.6 years, SD 2.6 years, range 7 to 17 years; Race/Ethnicity: White 47%, African-American 31%, Hispanic 13%, Asian Pacific Islander 6%, Native American 1%, Other 1%	One 1-hour session Deliverer not described	Pre, 1 month, 6 months, and 18 months assessments occurred	Control group received standard hospital services	Convenience Randomized Ipre: n=27 Cpre: n=30 Ipost + Cpost: n=34	UCLA PTSD-RI: Child PTSD Reaction Index Ipre/1 mo.: 28.0 /19.7 Cpre/1 mo.: 24.6 /21.9	(Relative change) 0.21

“Compared with the control group, who received standard hospital services that did not include psychotherapy, the intervention group demonstrated a relative reduction in PTSD symptoms of 21%, but this finding was not significant.”

### Author's Conclusions.

“According to Community Guide rules,<sup>16</sup> the evidence from this single study is insufficient to determine the effectiveness of art therapy in preventing or reducing psychological harm among children and adolescents who have developed symptoms of PTSD following traumatic exposures.”

### Our Comments/Summary.

One study using art therapy was identified in the current systematic review. The appraisal of the included study was of a high standard, therefore we agree with the conclusion reported by the authors that the evidence for art therapy was insufficient to determine its effectiveness in children or adolescents following trauma. Overall, the risk of bias was low, resulting in a high quality SR which will be used for our report.