Art Therapy

Technical Report: Appendices 1-5

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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

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

<table>
<tr><th colspan="5">Is there any synthesised research available? (e.g. EBGs, HTAs, SRs)</th></tr>
<tr><th colspan="3">Yes</th><th colspan="2">No</th></tr>
<tr><th colspan="3">Is this good quality research?</th><th colspan="2">Are RCTs available?</th></tr>
<tr><th colspan="2">Yes</th><th>No</th><th>Yes</th><th>No</th></tr>
<tr><th colspan="2">Is it current (within 2 years)?</th><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td></tr>
<tr><th>Yes</th><th>No</th></tr>
<tr><td>No further action</td><td>Update existing SR</td><td>Undertake new SR</td><td>Undertake new SR</td><td>Consider looking for lower levels of evidence</td></tr>
</table>

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

Patient/ population	**Inclusion:** • All ages • All sexes • Any condition arising directly from trauma, orthopaedic, neurological or psychological (e.g. PTSD)
	Exclusion: • Non-traumatic conditions, e.g. cancer, pregnancy, psychiatric illness.
Intervention/ indicator	**Inclusion:** Art therapy
	Exclusion: Writing, dance and music therapy
Comparison/ control	**Inclusion:** Placebo or standard care
	Exclusion: Nil
Outcomes	**Inclusion:** Quality of life, Function, Return to work, Medication use, Healthcare use and Therapy services.
	Exclusion: Nil
Setting	**Inclusion:** Outpatient
	Exclusion: Inpatient*
Study Design	**Inclusion:** Evidence-based guidelines (EBGs), systematic reviews (SRs), health technology assessments (HTAs), and randomised controlled trials (RCTs).
	Exclusion: Non-evidence based guideliness, non-systematic reviews, cohort studies, case-control studies, case series, editorials, letters, commentaries.
Publication details	**Inclusion:** Studies in English and conducted on humans.
	Exclusion: Studies in languages other than in English and/or conducted on animals.
Time period	**Inclusion:** No time limits specified.
	Exclusion: 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
Medline (Ovid)	1948 to November Week 2 2011	20th November 2011	**310**
PreMedline (Ovid)	November 16, 2011	20th November 2011	**28**
All EBM (Ovid) *	All EBM Review databases	20th November 2011	**29**
CINAHL (Ovid)		20th November 2011	**112**
EMBASE	1974 to 2011 November 18	20th November 2011	**541**
PsycInfo	1806 to November Week 3 2011	20th November 2011	**2320**
Web of Science	Complete database to date	20th November 2011	**1**
			3,341 deduplicated references

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

Table A2.3 Major medical database search strategies

Database name	Strategy	
PsycInfo	1	The Effectiveness of Art Therapy: Does it Work?.m_titl.
	2	(the efficacy of art and writing therapy).m_titl.
	3	(review of research and methods used to establish art therapy).m_titl.
	4	Effect of Art Production on Negative Mood: A.m_titl.
	5	or/1-4
	6	(art* adj2 (therap* or treatment*)).ti,ab.
	7	or/5-7
	8	(random* or meta* or trial* or blind* or crossover* or eviden* or effectiv* or placebo* or research* or compar*).ti,ab.
	9	7 and 8

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	www.tripdatabase.com 10 publications downloaded to Endnote	Searched by: "Art therapy"
Australian Government Websites containing Guidelines		
Australian Government Department of Health & Ageing	www.health.gov.au N/A	Scanned list of Topics for 'Art therapy'
Australian Institute of Health and Welfare	www.aihw.gov.au N/A	Web page reviewed by: "Art therapy"
Health Insite	www.healthinsite.gov.au N/A	Search option "Art therapy"
ACT Health	www.health.act.gov.au N/A	Search option "Art therapy"
NSW Health	www.health.nsw.gov.au N/A	Search option "Art therapy"
NT Department of Health and Community Services	www.nt.gov.au/health N/A	Search option "Art therapy"
Queensland Health	www.health.qld.gov.au N/A	Search option "Art therapy"
SA Department of Health and Human Services	www.health.sa.gov.au N/A	Search option "Art therapy"
Tasmanian Department of Health and Human Services	www.dhhs.tas.gov.au N/A	Search option "Art therapy"
Victorian Department of Human Services	www.dhs.vic.gov.au N/A	Search option "Art therapy"
Victorian Government Health Information	www.health.vic.gov.au N/A	Search option "Art therapy"
WA Department of Health	www.health.wa.gov.au N/A	Search option "Art therapy"
Centres of Evidence Based Practice Websites		
WA Centre for Evidence-based Nursing and Midwifery	http://wacebnm.curtin.edu.au N/A	Search option "Art therapy

Other Accident Commissions		
Transport Accident Commission	www.tac.vic.gov.au/ Road trauma stories shared through art TAC Calls For Road Trauma Artists to Picture This Transport accident trauma expressed through art Media Releases	Search option "Art therapy"
Australian Transport Safety Bureau	http://www.atsb.gov.au/ N/A	Search option "Art therapy"
WorkSafe Victoria	http://www.workcover.vic.gov.au/ N/A	Search option "Art therapy"
Traffic Injury Research Foundation	http://www.trafficinjuryresearch.com/index.cfm N/A	Search option "Art therapy"
Motor Accidents Authority NSW	http://www.maa.nsw.gov.au/ N/A	Search option "Art therapy"
WorkSafe British Columbia	http://www.worksafebc.com/ N/A	Search option "Art therapy"
Accident Compensation Corporation	http://www.acc.co.nz/index.htm N/A	Search option "Art therapy"
Injury Research and Prevention Unit	http://www.injuryresearch.bc.ca/ N/A	Search option "Art therapy"
The Brain Trauma Foundation	http://tbiguidelines.org/glHome.aspx N/A	Search option "Art therapy"
Oslo Sports Trauma Research Centre	http://www.klokeavskade.no/en/ N/A	Search option "Art therapy"
Oregon Evidence-Based Practice Centre	http://www.ohsu.edu/epc/pastProjects/index.htm 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. 2nd 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

1st author, year, title	Inclusion, Exclusion criteria (for P.I.C.O)	Study design	Conclusion/Recommendation	Recommendation category	Other comments
EVIDENCE-BASED GUIDELINES					
Foa 2009 Effective treatments for PTSD: practice guidelines from the International Society for Traumatic Stress Studies.	**POPULATION/CLINICAL INDICATION** **Included:** People with posttraumatic stress disorder (PTSD) and its symptoms as defined in DSM-IV-TR **Excluded:** Not specified **INTERVENTION** **Included:** Creative art therapies (art therapy, music therapy) **Excluded:** Not specified **COMPARATOR** **Included:** Usual hospital care **Excluded:** Not specified **OUTCOMES:** **Included:** Not specified **Excluded:** Not specified	EBG	**'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).	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.

NCCMH and NICE 2005 Post-traumatic stress disorder: the management of PTSD in adults and children in primary and secondary care.	**POPULATION/CLINICAL INDICATION** **Included:** Adults and children of all ages who suffer from PTSD **Excluded:** Not specified **INTERVENTION** **Included:** Art therapy **Excluded:** Not specified **COMPARATOR** **Included:** Not specified **Excluded:** Not specified **OUTCOMES:** **Included:** 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). **Excluded:** Not specified	EBG	"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. "	Insufficient evidence to draw conclusions	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." 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.
SYSTEMATIC REVIEWS					
Campbell 2011 The effectiveness of art therapy in reducing	**POPULATION/CLINICAL INDICATION** **Included:** People with symptoms of trauma, anxiety and stress **Excluded:** Not specified	SR	"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	Insufficient evidence to draw conclusions	There is insufficient information to determine this study's overall risk of bias. The

symptoms of trauma, anxiety, and stress: A meta-analysis	**INTERVENTION** **Included:** Art therapy **Excluded:** Dance/movement, drama, music or poetry therapies **COMPARATOR** **Included:** Not specified **Excluded:** Not specified **OUTCOMES:** **Included:** Mood, anxiety, psychological wellbeing, PTSD symptom severity **Excluded:** Not specified		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."		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.
Wethington 2008 The effectiveness of interventions to reduce psychological harm from traumatic events among children and adolescents: a systematic review.	**POPULATION/CLINICAL INDICATION** **Included:** Children and adolescents exposed to traumatic events **Excluded:** Not specified **INTERVENTION** **Included:** Art therapy **Excluded:** Not specified **COMPARATOR** **Included:** 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". **Excluded:** Not specified **OUTCOMES:** **Included:** PTSD symptom severity **Excluded:** Not specified	SR	"According to Community Guide rules,[16] 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."	Insufficient evidence to draw conclusions	This SR was well conducted and the overall risk of bias was low.

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	
Patient/population	People with posttraumatic stress disorder (PTSD) and its symptoms as defined in DSM-IV-TR
N	**Creative arts therapies for children chapter**, n=4 studies (3 art therapy (1 RCT, 2 uncontrolled), 1 music therapy (1 CCT)) **Creative therapies for adults chapter**, not specified
Setting	Not specified
Intervention/indicator	

Reference	**Intervention**
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)

Comparison/control

Reference	**Comparison**
Chapman 2001 (RCT)	Usual hospital care

No other comparators specified

Outcomes	Not specified
Inclusion Criteria	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	**Creative arts therapies for children chapter** "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) **Creative therapies for adults chapter** No details provided on search strategy.
Were reviewers blind to authors, institutions and affiliations?	Not reported	
Were 2 or more independent reviewers used for: **1. application of inclusion criteria to assess eligibility of studies?**	Not reported	
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 **creative arts therapies for children,** not for the **creative therapies for adults** 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	

What is the overall risk of bias?	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:	
Patient/population	Adults and children of all ages who suffer from PTSD
N	Psychological interventions, n=25; Pharmacological interventions, n=33; Early psychological interventions, n= 20; Early pharmacological interventions, n=2; Interventions for children, n=2. **Please note all these studies may not have assessed our outcomes of interest.**
Setting	"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: • occupational health services • social services • the independent sector."
Intervention/indicator	Art therapy
Comparison/control	Not reported
Outcomes	"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: • 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) • 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). 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."
Inclusion Criteria	The review used the following inclusion criteria: • the study used a randomised controlled design • at least 70% of participants needed to have a diagnosis of PTSD, other participants must have PTSD symptoms following a traumatic event • the main target of treatment was PTSD • PTSD symptoms were measured • pre- and post-treatment data were reported • for continuous data at least 50% of the intent-to-treat sample were assessed at the relevant time point • double-blind administration of treatment (for pharmacological treatments only).
Exclusion Criteria	Not reported

Study Validity.		
Is it clear that there were no conflicts of interest in the writing or funding of this review?	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."
Does the review have a clearly- focused question?	Yes	"Specifically, it aims to: • evaluate the role of specific psychological interventions in the treatment and management of PTSD • evaluate the role of specific pharmacological interventions in the treatment and management of PTSD • evaluate the role of early psychological and pharmacological interventions shortly after traumatic event • address the issues of diagnosis, detection and the use of screening techniques in high-risk situations • 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."
Is a systematic review the appropriate method to answer the question?	Yes	
Does the review have specified inclusion/exclusion criteria?	Yes	Not defined a priori.
If there were specified inclusion/ exclusion criteria, were these appropriate?	Yes	
Does the review document a comprehensive search strategy?	Yes	See Appendix 6 of full guideline. "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."
Were reviewers blind to authors, institutions and affiliations?	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)."

Were 2 or more independent reviewers used for: **1. application of inclusion criteria to assess eligibility of studies?**	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."
2. extraction of data from study reports?	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."
3. appraisal of study quality?	No	
Were the strengths and limitations of included studies and potential impact on the results discussed?	Yes	
Was the validity of included trials appraised using appropriate criteria?	Yes	See Appendices 7 and 8 of full guideline
Is there a summary of the results of individual studies?	No	
If meta-analyses were conducted, was it reasonable to do so?	Yes	
If meta-analyses were conducted, was it done appropriately?	Yes	"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." … "To check for heterogeneity between studies, both the I2 and χ2 tests of heterogeneity (P<0.10), as well as visual inspection of the forest plots, were used. The I2 statistic describes the proportion of total variation in study estimates that is due to heterogeneity (Higgins & Thompson, 2002). An I^2 of less than 30% was taken to indicate mild heterogeneity and a fixed effects model was used to synthesise the results. An I2 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 & 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 I2 of 30–50% was taken to indicate moderate heterogeneity. In this case, both the χ2 test of heterogeneity and a visual inspection of the forest plot were used to decide between a fixed and random effects model."
What is the overall risk of bias?	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	
Patient/population	People with symptoms of trauma, anxiety and stress
N	19 papers (counted by author as 24 studies) with either a control group or a single group pretest/posttest research design **Please note all these studies may not have assessed our outcomes of interest.**
Setting	Not specified
Intervention/indicator	

Reference	Intervention
Bar-Sela, Atid, Danos, Gabay, & Epelbaum, 2007 – *mood & anxiety, medical diagnosis*	Art therapy (not further specified)
Bell & Robbins, 2007 - *induced mood and anxiety*	Art therapy (not further specified)
Chapman et al., 2001 - *PTSD*	Art therapy (not further specified)
Curry & Kasser, 2005 - *induced Anxiety*	Mandala vs plaid vs control
Doric-Henry, 1997 – *psych wellbeing*	Art therapy (not further specified)
Foret, 1997 – *anxiety, psych diagnosis*	Art therapy (not further specified)
Grodner, 1982 - *mood*	Art therapy (not further specified)
Henderson et al., 2007 - *psych wellbeing related to PTSD*	Mandala vs free draw
Lyshak-Stelzer et al., 2007 - *PTSD*	Art making (trauma focused)
Miller, 1993 – *anxiety, psych diagnosis*	Art Making (history enriched)
Pifalo, 2002 – *PTSD*	Art therapy (not further specified)
Pifalo, 2006 – *PTSD*	Art therapy (not further specified)
Puig et al., 2006 – *psych wellbeing after medical diagnosis*	Art therapy (not further specified)
Rao, Nainis, Williams, Langner, Eisin, & Paice, 2009 – *psych wellbeing, medical diagnosis*	Art therapy (not further specified)
Schreier, Ladakakos, Morabito, Chapman, & Knudson, 2005 - *PTSD*	Art therapy (not further specified)
Walsh, Chang, Schmidt, & Yoepp, 2005 – *mood & anxiety from another's diagnosis*	Art therapy (not further specified)
Walsh, Martin, & Schmidt, 2004 – *mood and anxiety from another's diagnosis*	Art therapy (not further specified)
Walsh, Radcliffe, Castillo, Kumar, & Broschard, 2007 – *anxiety from another's diagnosis*	Art therapy (not further specified)
Webb-Ferebee, 2003 - *psych wellbeing, another's diagnosis*	Art therapy (not further specified)

Comparison/control	Curry & Kasser 2005 – mandala vs. plaid vs. control Comparison/control was not specified for any other included studies.
Outcomes	Outcomes measured in included studies include: Mood, anxiety, psychological wellbeing, PTSD symptom severity
Inclusion 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."
Exclusion Criteria	"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.

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?	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?
Is a systematic review the appropriate method to answer the question?	Yes	
Does the review have specified inclusion/exclusion criteria?	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."
If there were specified inclusion/ exclusion criteria, were these appropriate?	Yes	
Does the review document a comprehensive search strategy?	Yes	
Were reviewers blind to authors, institutions and affiliations?	Not reported	
Were 2 or more independent reviewers used for: **1. application of inclusion criteria to assess eligibility of studies?**	Not reported	
2. extraction of data from study reports?	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):"
3. appraisal of study quality?	Not reported	No mention of quality appraisal.
Were the strengths and limitations of included studies and potential impact on the results discussed?	No	
Was the validity of included trials appraised using appropriate criteria?	Not reported	No mention of quality appraisal
Is there a summary of the results of individual studies?	No	Only summary of effect sizes
If meta-analyses were conducted, was it reasonable to do so?	Insufficient information	Not enough detail provided on individual studies to determine if meta-analysis was appropriate (characteristics of included studies not provided)
If meta-analyses were conducted, was it done appropriately?	Not reported	No mention of weighting studies due to quality (no mention of quality appraisal of studies), no mention of sensitivity analysis
Other		
What is the overall risk of bias?	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 [a]				
Anxiety (*Reduce Anxiety*)	6	0.81	0.52 – 1.10	< 0.001
PTSD (*Reduce Symptoms*)	6	0.52	0.19 – 0.85	0.002
Mood (*Elevate Mood & Reduce Anx*)[b]	5	0.61	0.14 – 1.08	0.010
Psych. Wellbeing (*Improve*)[b]	7	0.23	0.03 – 0.43	0.023
Reason for Anxiety [c]				
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[d]				
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.
[a]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.)
[b]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.
[c]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.
[d]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 (QB = 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; **Art Therapy n=1**; Psychodynamic therapy n= 1; Pharmacological therapy n=2 and Psychological debriefing n=1.
Setting	Not reported
Intervention/indicator	***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.***

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)[a]; 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[18–20]: - PTSD symptoms and PTSD (forms of anxiety related to traumatic exposures) - other anxiety disorders and symptoms - depressive disorders and symptoms

	- externalizing disorders and symptoms (disruptive behavioral problems directed toward the environment and others,[21] such as acting out, being persistently aggressive, impulsive) - internalizing disorders and symptoms (emotional problems directed toward inner experience,[21] such as being withdrawn, depressed, fearful)" - suicidal ideation and behaviour - substance abuse - was a primary study rather than a guideline or review; - 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.[22]
Exclusion Criteria	"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." … "Studies published in languages other than English and unpublished studies were not included in this review."

Study Validity.		
Is it clear that there were no conflicts of interest in the writing or funding of this review?	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."
Does the review have a clearly- focused question?	Yes	"This systematic review evaluated interventions commonly used to reduce psychological harm among children and adolescents exposed to traumatic events." … "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."
Is a systematic review the appropriate method to answer the question?	Yes	
Does the review have specified inclusion/exclusion criteria?	Yes	However, it was not reported if the criteria were established a priori or not.
If there were specified inclusion/ exclusion criteria, were these appropriate?	Yes	

Does the review document a comprehensive search strategy?	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."
Were reviewers blind to authors, institutions and affiliations?	Not reported	
Were 2 or more independent reviewers used for: **1. application of inclusion criteria to assess eligibility of studies?**	Not reported	
2. extraction of data from study reports?	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.[16,17] Disagreements between the reviewers were reconciled by consensus among the team members."
3. appraisal of study quality?	Yes	As above
Were the strengths and limitations of included studies and potential impact on the results discussed?	Yes	However, not specific to art therapy.
Was the validity of included trials appraised using appropriate criteria?	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.[16,17] Disagreements between the reviewers were reconciled by consensus among the team members."
Is there a summary of the results of individual studies?	Yes	
If meta-analyses were conducted, was it reasonable to do so?	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,[24] and quantified with the I^2 statistic.[25]"
If meta-analyses were conducted, was it done appropriately?	Yes	See above
What is the overall risk of bias?	Low	

Results.

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

Author & year Design suitability Quality of execution	Location Study period Population	Intervention Frequency and duration Personnel administering	Follow-up	Other components (study arms, if any) Comparison	Sample selection Assignment to treatment conditions Sample size (at pre/post assessments)	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)[66] 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,[16] 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.