**Mini-CAT Final Name: Sierra Teegarden**

**Clinical Question:**

A 28 y/o female was admitted to the psychiatric emergency room for suicidal ideation. She has a past psychiatric history of post-traumatic stress disorder (PTSD) secondary to sexual assault. Upon interview, she expresses frustration that there was no early intervention provided to help reduce her PTSD symptoms “before they got bad.” Subsequent discussion between the psychiatrist and myself was had. The psychiatrist stated that there is limited effective pharmacologic and even psychologic therapy for PTSD and research should focus on prevention and mitigation immediately after the traumatic incident occurs.

**PICO Question:** In people who experience a traumatic event, does early psychological intervention prevent the development of PTSD?

**PICO search terms:**

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| **P** | **I** | **C** | **O** |
| Traumatic event | Early Psychological Intervention | None | Prevention of PTSD |
| Trauma | Early Intervention | Routine care | PTSD |
| Trauma Stressor | Initial Intervention |  | Post Traumatic Stress Disorder |

**Search tools and strategy used:**

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| Database | Terms | Filter | Articles |
| Cochrane Library | PTSD Early Intervention | Search Terms in Title Abstract Keywords | 6 |
| Scopus | PTSD Early Intervention | Article/Title/Keywords2013-2022Article Type: open-access article | 432 |
| Wiley Online Library | Early PTSD intervention | English/Anywhere/Published 2012-2022/Journals/Open access content/Sorted by Relevance/ | 492 |
| PubMed | Early intervention PTSD prevention \_\_\_\_\_\_\_\_\_\_\_\_\_\_Early PTSD prevention | Full text/English/Meta-analysis/Systematic Review/Randomized control trial/Randomized control study/Sort by relevance | 6670 |
| UpToDate | “Post-traumatic stress disorder early intervention” | Search All | 3 |
| JAMA | PTSD Early Intervention | Search All | 237 |
| ScienceDirect | Early PTSD intervention prevention | English/2012-2022/Research Articles/Medicine & Dentistry + psychology + neuroscience/Sort by relevance | 2,137 |
| Google Scholar | Early PTSD prevention | 2012-2022/Include citations/All in title | 15 |

**Results found:** 3,458

**Explain how you narrow your choices to the few selected articles.**

All of my terms searched included “early PTSD” but I switched between “intervention”, “prevention” and “intervention + prevention” depending upon how many journal articles were originally returned in each database. PubMed and Google Scholar each had a small but relevant number of articles returned (<100) but Science Direct yielded over 2000 articles and Wiley Online Library yielded almost 500 articles. In the latter two databases I was unable to further narrow down the search without risking losing relevant entries, so I then sorted by relevance and selected articles from the first three pages. Articles after the first three pages seemed to be of little to no relevance. While the event triggering PTSD was specific for some articles, ex: military combat or sexual assault, I chose to include these types of articles because the outcome of PTSD prevention was the same in each despite the different event of acquisition.

**Articles Chosen:**

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| **ARTICLE TYPE** | Systematic Review & Meta-analysis |
| **CITATION** | Taylor Miller PG, Sinclair M, Gillen P, et al. Early psychological interventions for prevention and treatment of post-traumatic stress disorder (PTSD) and post-traumatic stress symptoms in post-partum women: A systematic review and meta-analysis. *PLoS One*. 2021;16(11):e0258170. Published 2021 Nov 24. doi:10.1371/journal.pone.0258170 |
| **ABSTRACT** | **Background:**Pre-term or full-term childbirth can be experienced as physically or psychologically traumatic. Cumulative and trans-generational effects of traumatic stress on both psychological and physical health indicate the ethical requirement to investigate appropriate preventative treatment for stress symptoms in women following a routine traumatic experience such as childbirth.**Objective:**The objective of this review was to investigate the effectiveness of early psychological interventions in reducing or preventing post-traumatic stress symptoms and post-traumatic stress disorder in post-partum women within twelve weeks of a traumatic birth.**Methods:**Randomised controlled trials and pilot studies of psychological interventions preventing or reducing post-traumatic stress symptoms or PTSD, that included women who had experienced a traumatic birth, were identified in a search of Cochrane Central Register of Randomised Controlled Trials, MEDLINE, Embase, Psychinfo, PILOTS, CINAHL and Proquest Dissertations databases. One author performed database searches, verified results with a subject librarian, extracted study details and data. Five authors appraised extracted data and agreed upon risk of bias. Analysis was completed with Rev Man 5 software and quality of findings were rated according to Grading of Recommendation, Assessment, Development, and Evaluation.**Results:**Eleven studies were identified that evaluated the effectiveness of a range of early psychological interventions. There was firm evidence to suggest that midwifery or clinician led early psychological interventions administered within 72 hours following traumatic childbirth are more effective than usual care in reducing traumatic stress symptoms in women at 4-6 weeks. Further studies of high methodological quality that include longer follow up of 6-12 months are required in order to substantiate the evidence of the effectiveness of specific face to face and online early psychological intervention modalities in preventing the effects of stress symptoms and PTSD in women following a traumatic birth before introduction to routine care and practice. |
| **LINK/PDF** | https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8612536/pdf/pone.0258170.pdf |

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| **ARTICLE TYPE** | Systematic Review & Meta-analysis |
| **CITATION** | Oosterbaan V, Covers MLV, Bicanic IAE, Huntjens RJC, de Jongh A. Do early interventions prevent PTSD? A systematic review and meta-analysis of the safety and efficacy of early interventions after sexual assault. Eur J Psychotraumatol. 2019 Nov 8;10(1):1682932. doi: 10.1080/20008198.2019.1682932. PMID: 31762949; PMCID: PMC6853210. |
| **ABSTRACT** | **Objective**: To review the safety and efficacy of early interventions after sexual assault in reducing or preventing posttraumatic stress disorder (PTSD).**Method**: Systematic searches were performed on studies (1980–2018) that examined the efficacy of interventions for PTSD within 3 months after sexual assault.**Results**: The review identified 7 studies (n = 350) with high risk of bias that investigated 5 interventions. Only two studies reported on safety. Contact with the authors of six studies provided no indications for the occurrence of adverse events. Two studies reported the efficacy using PTSD diagnosis as dependent variable but found no difference between groups. All studies reported on efficacy using PTSD severity as dependent variable. For the meta-analysis, 4 studies (n = 293) were included yielding significantly greater reductions of PTSD severity than standard care at 2 to 12 months follow-up (*g* = −0.23, 95% CI [−0.46, 0.00]), but not at 1 to 6 weeks post-intervention (*g* = −0.28, 95% CI [−0.57, 0.02]). The heterogeneity of the interventions precluded further analyses.**Discussion**: Findings suggest that early interventions can lead to durable effects on PTSD severity after sexual assault. However, due to limited availability of data, it is impossible to draw definite conclusions about safety and efficacy of early interventions, and their potential to prevent PTSD. |
| **LINK/PDF** | https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6853210/ |

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| **ARTICLE TYPE** | Systematic Review and meta-analysis |
| **CITATION** | Roberts NP, Kitchiner NJ, Kenardy J, Robertson L, Lewis C, Bisson JI. Multiple session early psychological interventions for the prevention of post-traumatic stress disorder. *Cochrane Database Syst Rev*. 2019;8(8):CD006869. Published 2019 Aug 8. doi:10.1002/14651858.CD006869.pub3 |
| **ABSTRACT** | **Background:**The prevention of long-term psychological distress following traumatic events is a major concern. Systematic reviews have suggested that individual psychological debriefing is not an effective intervention at preventing post-traumatic stress disorder (PTSD). Over the past 20 years, other forms of intervention have been developed with the aim of preventing PTSD.**Objectives:**To examine the efficacy of psychological interventions aimed at preventing PTSD in individuals exposed to a traumatic event but not identified as experiencing any specific psychological difficulties, in comparison with control conditions (e.g. usual care, waiting list and no treatment) and other psychological interventions.**Search methods:**We searched the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, Embase, PsycINFO and ProQuest's Published International Literature On Traumatic Stress (PILOTS) database to 3 March 2018. An earlier search of CENTRAL and the Ovid databases was conducted via the Cochrane Common Mental Disorders Controlled Trial Register (CCMD-CTR) (all years to May 2016). We handsearched reference lists of relevant guidelines, systematic reviews and included study reports. Identified studies were shared with key experts in the field.We conducted an update search (15 March 2019) and placed any new trials in the 'awaiting classification' section. These will be incorporated into the next version of this review, as appropriate.**Selection criteria:**We searched for randomised controlled trials of any multiple session (two or more sessions) early psychological intervention or treatment designed to prevent symptoms of PTSD. We excluded single session individual/group psychological interventions. Comparator interventions included waiting list/usual care and active control condition. We included studies of adults who experienced a traumatic event which met the criterion A1 according to the Diagnostic and Statistical Manual (DSM-IV) for PTSD.**Data collection and analysis:**We entered data into Review Manager 5 software. We analysed categorical outcomes as risk ratios (RRs), and continuous outcomes as mean differences (MD) or standardised mean differences (SMDs), with 95% confidence intervals (CI). We pooled data with a fixed-effect meta-analysis, except where there was heterogeneity, in which case we used a random-effects model. Two review authors independently assessed the included studies for risk of bias and discussed any conflicts with a third review author.**Main results:**This is an update of a previous review.We included 27 studies with 3963 participants. The meta-analysis included 21 studies of 2721 participants. Seventeen studies compared multiple session early psychological intervention versus treatment as usual and four studies compared a multiple session early psychological intervention with active control condition.Low-certainty evidence indicated that multiple session early psychological interventions may be more effective than usual care in reducing PTSD diagnosis at three to six months' follow-up (RR 0.62, 95% CI 0.41 to 0.93; I2 = 34%; studies = 5; participants = 758). However, there was no statistically significant difference post-treatment (RR 1.06, 95% CI 0.85 to 1.32; I2 = 0%; studies = 5; participants = 556; very low-certainty evidence) or at seven to 12 months (RR 0.94, 95% CI 0.20 to 4.49; studies = 1; participants = 132; very low-certainty evidence). Meta-analysis indicated that there was no statistical difference in dropouts compared with usual care (RR 1.34, 95% CI 0.91 to 1.95; I2 = 34%; studies = 11; participants = 1154; low-certainty evidence) .At the primary endpoint of three to six months, low-certainty evidence indicated no statistical difference between groups in reducing severity of PTSD (SMD -0.10, 95% CI -0.22 to 0.02; I2 = 34%; studies = 15; participants = 1921), depression (SMD -0.04, 95% CI -0.19 to 0.10; I2 = 6%; studies = 7; participants = 1009) or anxiety symptoms (SMD -0.05, 95% CI -0.19 to 0.10; I2 = 2%; studies = 6; participants = 945).No studies comparing an intervention and active control reported outcomes for PTSD diagnosis. Low-certainty evidence showed that interventions may be associated with a higher dropout rate than active control condition (RR 1.61, 95% CI 1.11 to 2.34; studies = 2; participants = 425). At three to six months, low-certainty evidence indicated no statistical difference between interventions in terms of severity of PTSD symptoms (SMD -0.02, 95% CI -0.31 to 0.26; I2 = 43%; studies = 4; participants = 465), depression (SMD 0.04, 95% CI -0.16 to 0.23; I2 = 0%; studies = 2; participants = 409), anxiety (SMD 0.00, 95% CI -0.19 to 0.19; I2 = 0%; studies = 2; participants = 414) or quality of life (MD -0.03, 95% CI -0.06 to 0.00; studies = 1; participants = 239).None of the included studies reported on adverse events or use of health-related resources.**Authors' conclusions:**While the review found some beneficial effects of multiple session early psychological interventions in the prevention of PTSD, the certainty of the evidence was low due to the high risk of bias in the included trials. The clear practice implication of this is that, at present, multiple session interventions aimed at everyone exposed to traumatic events cannot be recommended. There are a number of ongoing studies, demonstrating that this is a fast moving field of research. Future updates of this review will integrate the results of these new studies. |
| **LINK/PDF** | https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6699654/ |

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| **ARTICLE TYPE** | Randomized pilot civilian study |
| **CITATION** | Rothbaum BO, Kearns MC, Price M, Malcoun E, Davis M, Ressler KJ, Lang D, Houry D. Early intervention may prevent the development of posttraumatic stress disorder: a randomized pilot civilian study with modified prolonged exposure. Biol Psychiatry. 2012 Dec 1;72(11):957-63. doi: 10.1016/j.biopsych.2012.06.002. Epub 2012 Jul 4. PMID: 22766415; PMCID: PMC3467345. |
| **ABSTRACT** | **Background**Posttraumatic stress disorder is a major public health concern with long term sequelae. There are no accepted interventions delivered in the immediate aftermath of trauma. This study tested an early intervention aimed at modifying the memory to prevent the development of PTSD prior to memory consolidation.**Methods**Patients (N=137) were randomly assigned to receive 3 sessions of an early intervention beginning in the emergency department (ED) compared to an assessment only control group. Posttraumatic stress reactions (PTSR) were assessed at 4 and 12 weeks post-injury and depression at baseline and week 4. The intervention consisted of modified prolonged exposure including imaginal exposure to the trauma memory, processing of traumatic material, and in vivo and imaginal exposure homework.**Results**Patients were assessed an average of 11.79 hours post-trauma. Intervention participants reported significantly lower PTSR than the assessment group at 4 weeks post-injury, p < 0.01, and at 12 weeks post-injury, p < 0.05, and significantly lower depressive symptoms at Week 4 than the assessment group, p < 0.05. In a subgroup analysis the intervention was the most effective at reducing PTSD in rape victims at Week 4 (p=.004) and Week 12 (p=.05).**Conclusions**These findings suggest that the modified prolonged exposure intervention initiated within hours of the trauma in the ED is successful at reducing PTSR and depression symptoms one and three months after trauma exposure and is safe and feasible. This is the first behavioral intervention delivered immediately post-trauma that has been shown to be effective at reducing PTSR. |
| **LINK/PDF** | https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3467345/ |

**Summary of the Evidence**:

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| Author (Date) | Level of Evidence | Sample/Setting(# of subjects/ studies, cohort definition etc. ) | Outcome(s) studied | Key Findings | Limitations and Biases |
| Taylor Miller PG, Sinclair M, Gillen P, McCullough JEM, Miller PW, Farrell DP, Slater PF, Shapiro E, Klaus P.Nov. 2021 | Systematic Review & Meta-analysis | **Sample:**-11 studies evaluating the effectiveness of early psychological interventions after traumatic birth-1,875 total participants-9/11 studies delivered interventions to women within 1 week of traumatic birth-2 studies delivered intervention within 1 month of traumatic birth-6/11 studies assessed preventative psychological interventions**Setting:**-Obstetrics hospital settings in multiple countries including Italy, Switzerland, USA, Canada, and Iran | -PTSD symptoms and/or prevelance and/or diagnosis in adult women who had experienced a physically or psychologically traumatic birth-Outcomes were evaluated by grading of recommendation, assessment, development, and evaluation (GRADE) approach | Clinician/midwife led psychological intervention within 3 days of traumatic childbirth is more effective than usual care in reducing traumatic stress symptoms at 4-6 week follow up-There was low certainty in the group that received early EMDR therapy because wide confidence intervals, small sample sizes, and risk of bias.-One study showed that psychologist led trauma focused CBT with parenting education was more effective than psychoeducation alone at reducing post-traumatic stress symptoms-Studies with sufficient data for meta-analysis of PTSD symptoms included low intensity early counselling interventions and psychosensory intervention | -High variability and heterogeneity in studies, therefore, caution should be taken when interpreting the effectiveness of early interventions in meta-analysis results-Individual studies may have cultural differences and variation between measures used to assess PTSD symptoms |
| Oosterbaan V, Covers MLV, Bicanic IAE, Huntjens RJC, de Jongh A.Nov. 2019 | Systematic Review & Meta-analysis  | **Sample:**-7 studies included in 9 records-Exclusively included sexual assault victims with a period of 72 hours – 3 months after incident-Mean age of participants were 22 – 33.8 years old-Total number of participants not disclosed**Setting:**-High-income countries with individuals seeking medical/forensic/psychological care | -PTSD symptom severity was a primary outcome measure of all studies-2 studies reported on categorical outcome measure of a PTSD diagnosis | -The meta-analysis found early interventions significantly reduced PTSD severity than standard care at 2 to 12 month follow up.-Due to limitations in data availability definite conclusions cannot be drawn about safety and efficacy of early interventions to prevent PTSD.-Only two of the 7 studies reported adverse events which concluded there was no apparent harms in the early intervention strategies employed-There was no difference in PTSD diagnosis found between the cognitive restructuring training group and the progressive muscular relaxation training group | -Due to small number of studies (7) it is difficult to draw reliable conclusions-Studies had methodological and statistical heterogeneity including a range of interventions making generalizations on intervention type unreliable-High risk of bias increased the likelihood of a type 1 error-The included studies were based on the DSM-3R and DSM-4 which defines PTSD differently than the current DSM-5 |
| Roberts NP, Kitchiner NJ, Kenardy J, Robertson L, Lewis C, Bisson JI.Aug. 2019 | Systematic Review & Meta-analysis |  **Sample:**-27 studies included-3963 total participants-21 studies with 2721 participants in meta-analysis portion-17 studies comparing multiple session early psychological intervention vs usual treatment-4 studies comparing multiple session early psychological intervention vs active control**Setting:**-Various including participants in emergency rooms, NICU setting, ICU, PICU, community setting, etc | **Primary Outcomes:**-Rates of pTSD among those exposed to trauma as measured by a standard classificatory system, assessed using a standardized measure such as the Clinician-Administered PTSD Scale (CAPS)-Dropout from treatment**Secondary Outcomes:**-Severity of traumatic stress symptoms-Severity of self-reported depressive symptoms-Severity of self-reported anxiety symptoms-Adverse effects-General functioning including quality of life measures-Use of health-related resources | -Based on the provided evidence, multiple session early psychological interventions were more effective at reducing PTSD diagnosis than routine care at 3-6 month follow up.-However, there was no difference in reducing the severity of PTSD symptoms, depression, anxiety, or quality of life amongst groups-The certainty of evidence is low due to high risk of bias in the included trials therefore, recommendations cannot be made for multiple session psychological interventions based on this evidence alone | -Limitations in study design and implementation of available studies-Indirectness of evidence-Unexplained heterogeneity or inconsistency of results-Imprecision of effect estimates-Potential publication bias |
| Rothbaum BO, Kearns MC, Price M, Malcoun E, Davis M, Ressler KJ, Lang D, Houry D.Jul. 2012 | Randomized Pilot Civilian Study | **Sample:**-Participants 18-65 years old who presented to the ED within 72 hours of experiencing a trauma and mnet criteria A of the DSM-4-English speaking, had memory of the event, and were alert and oriented**Setting:**-Level 1 trauma public hospital emergency department in Georgia | **Primary outcome:**-Post traumatic stress reaction symptoms measured 4 and 12 weeks post-injury**Secondary outcomes:**-Anxiety and depressive symptoms measured at 4 and 12 weeks post-injury | -The modified prolonged exposure intervention started shortly after onset of trauma in the ED was successful at reducing post-traumatic stress reactions and depression symptoms 1 & 3 months after trauma exposure.-The prolonged exposure intervention is safe and feasible to initiate in the ED setting-This type of intervention was most effective at reducing PTSD in rape victims but reduced symptoms in all included trauma exposures | -No baseline measure of PTSD symptoms was collected, thus they were unable to calculate symptom improvement from baseline to follow-up-Current findings also identified higher immediate stress reactions among intervention participants, which may have allowed more room for improvement, but these initial differences were controlled for statistically  |

**Conclusion(s):**

Taylor Miller PG, Sinclair M, Gillen P, McCullough JEM, Miller PW, Farrell DP, Slater PF, Shapiro E, Klaus P. Nov. 2021: The evidence suggests that immediately response early psychological interventions given within 72 hours of a traumatic birthing event reduces symptoms of PTSD in women on a case-by-case basis. Additional long-term studies are required to address methodological weaknesses before recommendations can be made in clinical practice. Identifying risk factors associated with the development of PTSD in post-partum women is important when determining appropriate application of early psychological intervention for women in the perinatal period.

Oosterbaan V, Covers MLV, Bicanic IAE, Huntjens RJC, de Jongh A. Nov. 2019: Findings suggest that early interventions can lead to a decrease on PTSD symptom severity reduction after sexual assault. The findings of this study support the development of early interventions. However, due to limited available data, definite conclusions about the safety of early interventions after sexual assault cannot be drawn. Furthermore, this study demonstrates that although psychological debriefing has been found to be ineffective, other interventions can be effective as early intervention, therefore, future research should focus on the development of these effective interventions to prevent PTSD in victims of sexual assault.

Roberts NP, Kitchiner NJ, Kenardy J, Robertson L, Lewis C, Bisson JI. Aug. 2019: This systematic review found that there was some beneficial effects of multiple session early psychological interventions in the prevention of PTSD but the certainty of the evidence is low dud to high risk of bias in the included trials. Therefore, multiple session interventions aimed at everyone exposed to traumatic events cannot be recommended.

Rothbaum BO, Kearns MC, Price M, Malcoun E, Davis M, Ressler KJ, Lang D, Houry D. Jul. 2012: The findings of this trial suggest that the modified prolonged exposure intervention when initiated within hours of the trauma in the emergency department is successful at reducing post-traumatic stress reaction and depression symptoms one and three months after trauma exposure and is safe and feasible.

The overarching conclusion based on these four studies is that early psychological intervention has shown benefit in reducing symptoms, severity of, and onset of PTSD within the first several months after onset of the incident. However, three of the four articles agreed that due to lack of available data, the current evidence is still to weak to make recommendations in clinical practice for the use of early psychological interventions and the safety of its use. The fourth article looked at an individual type of early psychological intervention known as modified prolonged exposure that aims to change the memory before memory consolidation to prevent PTSD. That article concluded that modified prolonged exposure is effective and did not identify any adverse effects. Based on these findings, it can be concluded that early psychological intervention is effective in reducing PTSD symptoms and/or providing PTSD prevention but the specific types of psychological interventions must be further examined for possible benefits and side effects.

Weight of the Evidence:

I give the articles the following ranking from highest weight to lowest weight of evidence: 3 > 1 > 2 > 4

**3)**Roberts NP, Kitchiner NJ, Kenardy J, Robertson L, Lewis C, Bisson JI. Aug. 2019: I chose article 3 as having the highest weight of evidence because has the highest number of studies (27) and participants (3963). Additionally, it is one of the three systematic reviews & meta-analysis included in this mini-CAT. Additionally, it had 21 studies that were able to be included in the meta-analysis to compare multiple session early psychological intervention to usual treatment and/or an active control. In comparison to other studies that had a primary setting, this article included a variety of settings and participants came from a variety of different traumatic incidents increasing the confidence in the prevention and treatment of generalized PTSD rather than only having evidence for a specific trigger-type of PTSD.

**1)**Taylor Miller PG, Sinclair M, Gillen P, McCullough JEM, Miller PW, Farrell DP, Slater PF, Shapiro E, Klaus P. Nov. 2021: I chose article 1 as the second highest level of evidence because it has the second highest number of included studies (11) and participants (1,875) which evaluated the effectiveness of early psychological intervention after traumatic birth. The article included studies in multiple different countries including the USA, Canada, Switzerland, Canada, and Iran which increases the diversity in the participant pool but also means there may be cultural differences that cloud the interpretation of the results. Additionally, this article focuses on one specific type of incident (traumatic birth) which means that the intervention effectiveness may differ in PTSD triggered by other incidents.

**2)**Oosterbaan V, Covers MLV, Bicanic IAE, Huntjens RJC, de Jongh A. Nov. 2019: I selected article 2 as the third highest level of evidence because although it is also a systematic review and meta-analysis, it did not disclose the total number of participants involved which limits the confidence in the results. However, it does state that there were seven studies included. The population setting is like that of my patient populating including only high-income countries with individuals seeking medical care.

**4)**Rothbaum BO, Kearns MC, Price M, Malcoun E, Davis M, Ressler KJ, Lang D, Houry D. Jul. 2012: I deemed this article the lowest level of evidence because it is a clinical trial compared to the other three systematic reviews and meta-analysis. This is the only study that exclusively took place in the United States which makes it the most relatable to my patient population. The participants were provided the early psychological intervention within 11-12 hours on average after the incident which fits my original question criteria of being early initial intervention.

Magnitude of Effects:

Based on the evidence collected, the magnitude of effect appears to be moderate for early psychological intervention providing benefit for PTSD by reducing symptoms or decreasing occurrence within the first several months after a traumatic event. All of the articles had similar conclusions that evidence varied but overall there was trend towards showing benefit but a lack of available data, high risk of bias, and low reporting on adverse events make it difficult to provide a definite conclusion for recommending this in clinical practice. However, of the studies that included adverse events in their results, none found harms from early psychological intervention.

Clinical Bottom Line & Clinical Significance:

The clinical bottom line is that early psychological intervention should be initiated within 72 hours of experiencing a traumatic event based on the evidence provided. Although studies concluded definitive conclusions could not be drawn due to lower quality evidence, that which was provided all reported reductions in PTSD symptoms or decrease in PTSD diagnosis between 2 weeks – 3 months post incident. More focused research needs to be performed to establish the best type of psychological intervention to provide but based on this evidence the following strategies can reduce PTSD: modified prolonged exposure therapy, multiple session psychologist led CBT, cognitive restructuring training, and muscle relaxation training. The choice of which I would recommend for my patient would primarily come down to shared decision making and what was immediately accessible to them. Furthermore, of the studies that evaluated safety, no adverse events or harm was reported in the groups who underwent early interventions. When considering that early intervention is relatively safe, may reduce or prevent PTSD, and usual care does not decrease acquiring PTSD after a traumatic event, I would recommend early psychological intervention to all of my patients who had a recent traumatic exposure.

Other Considerations:

More research needs to be done on specific types of early psychological interventions to determine which are most effective or in-effective and learn more of the possible harms or limitations. Future studies should aim for larger sample sizes in a variety of clinical settings and create study designs that decrease the risk of bias. Additionally, more USA based studies are needed to make the evidence more applicable to my USA based patient population. Finally, all of these studies evaluated outcomes within several weeks to months after a traumatic event and future studies need longer term follow up such as at one year to better determine outcomes of the development of PTSD and post-traumatic stress symptoms.