Eye Movement Desensitization and Reprocessing

Eye Movement Desensitization and Reprocessing (EMDR) is a one-on-one form of psychotherapy that is designed to reduce trauma-related stress, anxiety, and depression symptoms associated with posttraumatic stress disorder (PTSD) and to improve overall mental health functioning. Treatment is provided by an EMDR therapist, who first reviews the client's history and assesses the client's readiness for EMDR. During the preparation phase, the therapist works with the client to identify a positive memory associated with feelings of safety or calm that can be used if psychological distress associated with the traumatic memory is triggered. The target traumatic memory for the treatment session is accessed with attention to image, negative belief, and body sensations. Repetitive 30-second dual-attention exercises are conducted in which the client attends to a motor task while focusing on the target traumatic memory and then on any related negative thoughts, associations, and body sensations. The most common motor task used in EMDR is side-to-side eye movements that follow the therapist's finger; however, alternating hand tapping or auditory tones delivered through headphones can be used. The exercises are repeated until the client reports no emotional distress. The EMDR therapist then asks the client to think of a preferred positive belief regarding the incident and to focus on this positive belief while continuing with the exercises. The exercises end when the client reports with confidence comfortable feelings and a positive sense of self when recalling the target trauma. The therapist and client review the client's progress and discuss scenarios or contexts that might trigger psychological distress. These triggers and positive images for appropriate future action are also targeted and processed. In addition, the therapist asks the client to keep a journal, noting any material related to the traumatic memory, and to focus on the previously identified positive safe or calm memory whenever psychological distress associated with the traumatic memory is triggered.

The underlying mechanism for how this process works to reduce trauma-related stress, anxiety, and depression is unknown. Researchers have theorized that the positive effect is due to adaptive information processing, the theoretical model behind EMDR. Through adaptive information processing, the dual-attention exercises disrupt the client's stored memory of the trauma to allow for an elimination of negative beliefs, emotions, and somatic symptoms associated with the memory as it connects with more adaptive information stored in the memory networks. Once recall of the trauma no longer elicits negative beliefs, emotions, or somatic symptoms and the memory simultaneously shifts to a more adaptive set of beliefs, emotions, and somatic responses, it is stored again, overwriting the original memory of the trauma.

EMDR is typically delivered in 60- to 90-minute sessions, although shorter sessions have been used successfully. The number of sessions varies with the complexity of the trauma being treated. For an isolated, single traumatic event, one to three sessions may be sufficient for treatment. However, when the trauma involves repeated traumatic events, such as combat trauma and physical, sexual, or emotional abuse, many more sessions may be needed for comprehensive treatment. Although all the studies reviewed for this summary involved adults, the intervention was also developed for use with children and adolescents.

Descriptive Information

Areas of Interest	Mental health treatment
Outcomes	**Review Date: October 2010** 1: PTSD symptoms 2: Anxiety symptoms 3: Depression symptoms 4: Global mental health functioning
Outcome Categories	Mental health
Ages	18-25 (Young adult) 26-55 (Adult) 55+ (Older adult)
Genders	Male Female
Races/Ethnicities	American Indian or Alaska Native

	Black or African American Hispanic or Latino White Race/ethnicity unspecified
Settings	Outpatient
Geographic Locations	Urban Suburban
Implementation History	Since EMDR's development in 1989, an estimated 100,000 mental health practitioners in all 50 States have participated in EMDR trainings, and millions of clients (including children, adolescents, and adults) have received EMDR. Outside the United States, EMDR has been implemented in over 70 countries. Evaluations of EMDR have been conducted in the United States and in over 30 other countries. The EMDR International Association (EMDRIA) started a certification process for individual clinical practitioners in 1999. In the United States, approximately 2,517 clinicians have been certified in EMDR, and 621 of these also are approved EMDRIA consultants. Outside the United States, certified clinicians and approved consultants are located in over 40 countries. International EMDR associations have formed--EMDR Canada, EMDR Europe, EMDR Iberoamérica (Latin America), and EMDR Asia--that can certify EMDR clinicians within the regions they serve. EMDRIA also began approving instructors of basic training in 1999, and approximately 36 instructors have been approved.
NIH Funding/CER Studies	Partially/fully funded by National Institutes of Health: Yes Evaluated in comparative effectiveness research studies: Yes
Adaptations	EMDR materials and training content have been translated into Chinese, Danish, Dutch, French, German, Indonesian, Italian, Japanese, Norwegian, Polish, Portuguese, Spanish, Swedish, Thai, and Turkish.
Adverse Effects	No adverse effects, concerns, or unintended consequences were identified by the developer.
IOM Prevention Categories	IOM prevention categories are not applicable.

Quality of Research

Review Date: October 2010

Documents Reviewed

The documents below were reviewed for Quality of Research. The research point of contact can provide information regarding the studies reviewed and the availability of additional materials, including those from more recent studies that may have been conducted.

Study 1

Carlson, J. G., Chemtob, C. M., Rusnak, K., Hedlund, N. L., & Muraoka, M. Y. (1998). Eye Movement Desensitization and Reprocessing (EMDR) treatment for combat-related posttraumatic stress disorder. Journal of Traumatic Stress, 11(1), 3-24.

Study 2

Wilson, S. A., Becker, L. A., & Tinker, R. H. (1995). Eye Movement Desensitization and Reprocessing (EMDR) treatment for psychologically traumatized individuals. Journal of Consulting and Clinical Psychology, 63(6), 928-937.

Wilson, S. A., Becker, L. A., & Tinker, R. H. (1997). Fifteen-month follow-up of Eye Movement Desensitization and Reprocessing (EMDR) treatment for posttraumatic stress disorder and psychological trauma. Journal of Consulting and Clinical Psychology, 65(6), 1047-1056.

Study 3

Marcus, S. V., Marquis, P., & Sakai, C. (1997). Controlled study of treatment of PTSD using EMDR in an HMO setting. Psychotherapy, 34 (3), 307-315.

Marcus, S., Marquis, P., & Sakai, C. (2004). Three- and 6-month follow-up of EMDR treatment of PTSD in an HMO setting. International Journal of Stress Management, 11(3), 195-208.

Supplementary Materials

Falsetti, S. A. (1997, November). A review of the Modified PTSD Symptom Scale. Paper presented at the 13th annual meeting of the International Society for Traumatic Stress Studies, Montreal, Quebec, Canada.

Keane, T. M., Caddell, J. M., & Taylor, K. L. (1988). Mississippi Scale for Combat-Related PTSD: Three studies in reliability and validity. Journal of Consulting and Clinical Psychology, 56(1), 85-90.

Kim, D., Bae, H., & Park, Y. C. (2008). Validity of the Subjective Units of Disturbance Scale in EMDR. Journal of EMDR Practice and Research, 2, 57-62.

Sundin, E. C., & Horowitz, M. J. (2002). Impact of Event Scale: Psychometric properties. British Journal of Psychiatry, 180, 205-209.

Thyer, B. A., Papsdorf, J. D., Davis, R., & Vallecorsa, S. (1984). Autonomic correlates of the Subjective Anxiety Scale. Journal of Behavior Therapy and Experimental Psychiatry, 15(1), 3-7.

Weathers, F. W., Keane, T. M., & Davidson, J. R. T. (2001). Clinician-Administered PTSD Scale: A review of the first ten years of research. Depression and Anxiety, 13(3), 132-156.

Outcomes

Outcome 1: PTSD symptoms	
Description of Measures	PTSD symptoms were measured by at least two of the following instruments in each of three studies: • Mississippi Scale for Combat-Related PTSD (M-PTSD). The M-PTSD is a 35-item self-report instrument derived from DSM-III criteria for PTSD symptoms and includes items for frequently observed features specific to combat veterans (e.g., substance abuse, suicidality, depression). Items are rated on a 5-point Likert scale and summed to provide a continuous measure of PTSD symptom severity. Scores range from 35 to 175, and higher scores indicate more severe symptoms. • Clinician-Administered PTSD Scale (CAPS-1). The CAPS-1 is a 30-item structured interview for measuring current (i.e., over the past month) and lifetime (i.e., for the worst month since the trauma) PTSD diagnostic status and symptom severity. The CAPS-1 has 17 items that correspond to DSM-IV criteria for PTSD symptoms; 8 items that measure associated features, such as guilt, hopelessness, and memory impairment; and 5 items that measure response validity, global severity, global improvement, and social and occupational impairment. Each of the 17 PTSD symptom items is rated on a separate 5-point scale for frequency (ranging from 0 [never] to 4 [daily or almost every day]) and intensity (ranging from 0 [none] to 4 [extreme, incapacitating distress, cannot dismiss memories, unable to continue activities]). The frequency and intensity scores can be combined for an overall symptom severity score; higher scores indicate symptoms that are more frequent, intense, or severe, depending on the scoring focus. • PTSD Symptoms Scale. The PTSD Symptoms Scale, ranging from 0 to 10, was developed by the investigators to permit client self-rating of overall symptom status. Higher scores indicate worse symptoms, with 10 being the worst. • Impact of Event Scale (IES). The IES is a 15-item self-report measure of posttraumatic stress symptoms that occurred recently (in the past 1-2 weeks) in response to an identified traumatic event. The scale generates two symptom frequency subscales--intrusion (intrusive thoughts, feelings, and images) and avoidance (avoidance of thoughts, emotion, and reminders)--which are summed for a total scale score. Higher scores indicate a greater degree of distress. • Somatization dimension of the Symptom Checklist-90-Revised (SCL-90-R). The SCL-90-R is a 90-item self-report checklist that measures current psychiatric symptoms in nine dimensions, including somatization. Clients rate each item for the prior 7 days using a 5-point scale that ranges from 0 (not at all) to 4 (extremely). The SCL-90-R also provides several global indices. Higher scores indicate more symptoms with greater intensity. • Modified PTSD Symptom Scale (MPSS-SR). The MPSS-SR is a 17-item self-report instrument that measures frequency and severity of PTSD symptomatology, according to DSM-III-R criteria, for the prior 2-week period. Frequency is measured on a 4-point scale that ranges from 0 (not at all) to 3 (≥5 times per week/very much/almost always). Scores range from 0 to 51 for frequency, and higher scores are associated with more frequent symptoms.
Key Findings	In a randomized clinical trial (RCT), combat veterans with a DSM-IV diagnosis of PTSD were randomly assigned to one of three conditions: 12 biweekly 60- to 75-minute sessions of EMDR, 12 biweekly 40-minute sessions of biofeedback-assisted relaxation, or a 6-week wait-list control

	condition. Assessments occurred at baseline (pretreatment), at 6 weeks after baseline (posttreatment), and at 3 months after posttreatment assessment (follow-up). Only the EMDR and relaxation conditions were contrasted at follow-up, since veterans in the wait-list control condition were offered treatment after the first 6 weeks of the study. Findings from this study included the following: • Veterans receiving EMDR had less PTSD symptom severity (M-PTSD) relative to veterans in the control group ($p < .05$) and relaxation group ($p < .05$) at posttreatment and relative to veterans in the relaxation group ($p < .05$) at follow-up. These group differences were associated with large effect sizes (Cohen's d = 1.01, 1.07, and 1.01, respectively). • Veterans receiving EMDR had less frequent PTSD symptoms (frequency scale of the CAPS-1; $p < .0004$) with less intensity (intensity scale of the CAPS-1; $p < .002$) relative to veterans in the relaxation group at follow-up. These group differences were associated with large effect sizes (Cohen's d = 2.10 and 1.82, respectively). • Veterans receiving EMDR had greater improvement in overall PTSD symptom status (PTSD Symptoms Scale) relative to veterans in the control group ($p < .01$) from pre- to posttreatment and relative to veterans in the relaxation group ($p < .005$) from pretreatment to follow-up. These group differences were associated with large effect sizes (Cohen's d = 1.26 and 1.55, respectively). In another RCT, adults experiencing traumatic memories were recruited from the community and randomly assigned to one of two conditions: three 90-minute EMDR sessions or a 6-week delayed-treatment control (followed by EMDR). Ninety-four percent of the participants met at least three DSM-IV criteria for PTSD in the 30 days prior to study entry. Assessments occurred at baseline (pretreatment) and at 1, 2, 3, 6, and 18 months after baseline (follow-ups). Between-condition contrasts were limited to relative change at the 1-month follow-up compared with the pretreatment assessment. From pretreatment to the 1-month follow-up, participants receiving EMDR had greater reductions in intrusive thoughts (intrusion subscale of the IES; $p < .006$), avoidance symptoms (avoidance subscale of the IES; $p < .006$), and somatic symptoms (somatization dimension of the SCL-90-R; $p < .006$) relative to participants in the control group. These group differences were associated with medium and large effect sizes (Cohen's d = 0.66, 1.03, and 1.35, respectively). In a third RCT, which continued for 2 years, participants presenting to a health maintenance organization's (HMO's) psychiatry clinic with PTSD (DSM-III-R criteria) were randomly assigned to one of two conditions: 50-minute sessions of EMDR or standard HMO care for PTSD. The number of treatment sessions was not fixed for either condition, and treatment continued until participants no longer met DSM-III-R criteria for PTSD (typically between 6 and 12 months) or until the study ended. Standard HMO care for PTSD consisted of one or more of the following: individual psychotherapy sessions (cognitive, psychodynamic, or behavioral), medication (antidepressants or anxiolytics), group therapy (relaxation training, panic and anxiety reduction, and medication stabilization groups), and brief inpatient hospitalization and/or day treatment. Assessments were carried out at baseline (pretreatment), after three treatment sessions, at posttreatment, and at 3 and 6 months posttreatment (follow-ups). Findings from this study included the following: • Relative to participants receiving standard HMO care, those receiving EMDR had fewer PTSD symptoms after three treatment sessions (IES total score and frequency scale of the MPSS-SR; $p = .001$ and $p = .001$, respectively). • Relative to participants receiving standard HMO care, those receiving EMDR continued to have fewer PTSD symptoms (frequency scale of the MPSS-SR) at posttreatment ($p = .005$) and at the 3- and 6-month follow-ups ($p = .002$ and $p = .004$, respectively). • Relative to participants receiving standard HMO care, those receiving EMDR had fewer PTSD symptoms (IES total score) at the 3- and 6-month follow-ups ($p < .001$ and $p = .010$, respectively). • Relative to participants receiving standard HMO care, those receiving EMDR had a larger decrease in PTSD symptoms (IES total score) from pre- to posttreatment ($p = .009$). • Fewer participants receiving EMDR than those receiving standard HMO care met DSM-III-R criteria for PTSD after three treatment sessions (50% vs. 80%; $p = .034$) and at posttreatment (23% vs. 50%; $p = .025$).
Studies Measuring Outcome	Study 1, Study 2, Study 3
Study Designs	Experimental
Quality of Research Rating	3.2 (0.0-4.0 scale)

Outcome 2: Anxiety symptoms	

Description of Measures	Anxiety symptoms were measured by at least one of the following instruments in each of three studies: • State-Trait Anxiety Inventory (STAI). The STAI is a 40-item self-report instrument with 20 items to measure current (or state) anxiety and 20 items to measure dispositional (or trait) anxiety. Each item is a statement about feelings or general tendencies, which respondents rate in regard to how they are feeling at the moment (state anxiety subscale) and more generally (trait anxiety subscale), using a 4-point scale ranging from 1 (not at all) to 4 (very much so). Scores are calculated separately for the state and trait anxiety subscales, and each subscale score ranges from 20 to 80, with higher scores indicating a higher level of anxiety. • Subjective Units of Disturbance Scale (SUDS). The SUDS, extracted from the Subjective Anxiety Scale, is a single-item self-report measure of the anxiety disturbance experienced while thinking about a specific traumatic event. The rating ranges from 0 (neutral) to 10 (highest level of disturbance imaginable). • Anxiety dimension of the SCL-90-R. The SCL-90-R is a 90-item self-report checklist that measures current psychiatric symptoms in nine dimensions, including anxiety. Clients rate each item for the prior 7 days using a 5-point scale that ranges from 0 (not at all) to 4 (extremely). The SCL-90-R also provides several global indices. Higher scores indicate more symptoms with greater intensity.
Key Findings	In an RCT, combat veterans with a DSM-IV diagnosis of PTSD were randomly assigned to one of three conditions: 12 biweekly 60- to 75-minute sessions of EMDR, 12 biweekly 40-minute sessions of biofeedback-assisted relaxation, or a 6-week wait-list control condition. Assessments occurred at baseline (pretreatment), at 6 weeks after baseline (posttreatment), and at 3 months after posttreatment assessment (follow-up). Only the EMDR and relaxation conditions were contrasted at follow-up, since veterans in the wait-list control condition were offered treatment after the first 6 weeks of the study. Veterans receiving EMDR had less dispositional anxiety (trait anxiety subscale of the STAI) relative to veterans in the control group ($p < .001$) and relaxation group ($p < .001$) at posttreatment and relative to veterans in the relaxation group ($p < .01$) at follow-up. These group differences were associated with large effect sizes (Cohen's $d = 1.62$, 1.15, and 1.38, respectively). In another RCT, adults experiencing traumatic memories were recruited from the community and randomly assigned to one of two conditions: three 90-minute EMDR sessions or a 6-week delayed-treatment control (followed by EMDR). Ninety-four percent of the participants met at least three DSM-IV criteria for PTSD in the 30 days prior to study entry. Assessments occurred at baseline (pretreatment) and at 1, 2, 3, 6, and 18 months after baseline (follow-ups). Between-condition contrasts were limited to relative change at the 1-month follow-up compared with the pretreatment assessment. From pretreatment to 1-month follow-up, participants receiving EMDR had greater reductions in anxiety symptoms (SUDS, state and trait anxiety subscales of the STAI, and anxiety dimension of the SCL-90-R; $p < .006$ for all four scales) relative to participants in the control group. These group differences were associated with effect sizes ranging from small to large (Cohen's $d = 2.07$, 0.63, 0.44, and 0.49, respectively). In a third RCT, which continued for 2 years, participants presenting to an HMO's psychiatry clinic with PTSD (DSM-III-R criteria) were randomly assigned to one of two conditions: 50-minute sessions of EMDR or standard HMO care for PTSD. The number of treatment sessions was not fixed for either condition, and treatment continued until participants no longer met DSM-III-R criteria for PTSD (typically between 6 and 12 months) or until the study ended. Standard HMO care for PTSD consisted of one or more of the following: individual psychotherapy sessions (cognitive, psychodynamic, or behavioral), medication (antidepressants or anxiolytics), group therapy (relaxation training, panic and anxiety reduction, and medication stabilization groups), and brief inpatient hospitalization and/or day treatment. Assessments were carried out at baseline (pretreatment), after three treatment sessions, at posttreatment, and at 3 and 6 months posttreatment (follow-ups). Findings from this study included the following: • Relative to participants receiving standard HMO care, those receiving EMDR had fewer current (state anxiety subscale of the STAI; $p < .05$) and dispositional (trait anxiety subscale of the STAI; $p = .013$) anxiety symptoms and less anxiety disturbance while thinking of the traumatic event (SUDS; $p = .001$) after three treatment sessions. • Relative to participants receiving standard HMO care, those receiving EMDR had a lower current anxiety level (state anxiety subscale of the STAI) at the 6-month follow-up ($p = .017$). • Relative to participants receiving standard HMO care, those receiving EMDR had fewer dispositional anxiety symptoms (trait anxiety subscale of the STAI) at posttreatment ($p = .005$) and at the 3- and 6-month follow-ups ($p = .023$ and $p = .007$, respectively). • Relative to participants receiving standard HMO care, those receiving EMDR had less anxiety disturbance while thinking of the traumatic event (SUDS) at posttreatment ($p = .001$) and at the 3- and 6-month follow-ups ($p = .003$ and $p = .006$, respectively).

Studies Measuring Outcome	Study 1, Study 2, Study 3
Study Designs	Experimental
Quality of Research Rating	3.2 (0.0-4.0 scale)

Outcome 3: Depression symptoms	
Description of Measures	Depression symptoms were measured by one of the following instruments in each of three studies: • Beck Depression Inventory (BDI). The BDI is a 21-item self-report instrument that assesses the severity of depression symptoms over the past week. Scores range from 0 to 63, with higher scores indicating greater severity of depression symptoms. • Depression dimension of the SCL-90-R. The SCL-90-R is a 90-item self-report checklist that measures current psychiatric symptoms in nine dimensions, including depression. Clients rate each item for the prior 7 days using a 5-point scale that ranges from 0 (not at all) to 4 (extremely). The SCL-90-R also provides several global indices. Higher scores indicate more symptoms with greater intensity.
Key Findings	In an RCT, combat veterans with a DSM-IV diagnosis of PTSD were randomly assigned to one of three conditions: 12 biweekly 60- to 75-minute sessions of EMDR, 12 biweekly 40-minute sessions of biofeedback-assisted relaxation, or a 6-week wait-list control condition. Assessments occurred at baseline (pretreatment), at 6 weeks after baseline (posttreatment), and at 3 months after posttreatment assessment (follow-up). Only the EMDR and relaxation conditions were contrasted at follow-up, since veterans in the wait-list control condition were offered treatment after the first 6 weeks of the study. Veterans receiving EMDR had less severe depression symptoms (BDI) relative to veterans in the control group ($p < .01$) at posttreatment. This group difference was associated with a large effect size (Cohen's $d = 1.48$). In another RCT, adults experiencing traumatic memories were recruited from the community and randomly assigned to one of two conditions: three 90-minute EMDR sessions or a 6-week delayed-treatment control (followed by EMDR). Ninety-four percent of the participants met at least three DSM-IV criteria for PTSD in the 30 days prior to study entry. Assessments occurred at baseline (pretreatment) and at 1, 2, 3, 6, and 18 months after baseline (follow-ups). Between-condition contrasts were limited to relative change at the 1-month follow-up compared with the pretreatment assessment. From pretreatment to 1-month follow-up, participants receiving EMDR had greater reductions in depression symptoms (depression dimension of the SCL-90-R; $p < .006$) relative to participants in the control group. This group difference was associated with a medium effect size (Cohen's $d = 0.62$). In a third RCT, which continued for 2 years, participants presenting to an HMO's psychiatry clinic with PTSD (DSM-III-R criteria) were randomly assigned to one of two conditions: 50-minute sessions of EMDR or standard HMO care for PTSD. The number of treatment sessions was not fixed for either condition, and treatment continued until participants no longer met DSM-III-R criteria for PTSD (typically between 6 and 12 months) or until the study ended. Standard HMO care for PTSD consisted of one or more of the following: individual psychotherapy sessions (cognitive, psychodynamic, or behavioral), medication (antidepressants or anxiolytics), group therapy (relaxation training, panic and anxiety reduction, and medication stabilization groups), and brief inpatient hospitalization and/or day treatment. Assessments were carried out at baseline (pretreatment), after three treatment sessions, at posttreatment, and at 3 and 6 months posttreatment (follow-ups). Relative to participants receiving standard HMO care, those receiving EMDR had less severe depression symptoms (BDI) after three treatment sessions ($p = .005$), at posttreatment ($p = .020$), and at the 6-month follow-up ($p = .012$). Also at the 6-month follow-up, relative to participants receiving standard HMO care, more participants receiving EMDR had BDI scores that were no longer in the clinical depression range (defined by investigators as a BDI score of ≥ 12; $p = .012$).
Studies Measuring Outcome	Study 1, Study 2, Study 3
Study Designs	Experimental
Quality of Research Rating	3.2 (0.0-4.0 scale)

Outcome 4: Global mental health functioning	
Description of Measures	Global mental health functioning was measured by the Global Severity Index and the Positive Symptom Distress Index of the SCL-90-R. The SCL-90-R is a 90-item self-report checklist that measures current psychiatric symptoms in nine dimensions: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Clients rate each item for the prior 7 days using a 5-point scale that ranges from 0 (not at all) to 4 (extremely). The SCL-90-R also provides several global indices, including the Global Severity Index, which is a measure of overall psychological distress and can be used as a summary measure for the instrument, and the Positive Symptom Distress Index, which is a measure of symptom intensity. Higher scores indicate more symptoms with greater intensity.
Key Findings	In an RCT that continued for 2 years, participants presenting to an HMO's psychiatry clinic with PTSD (DSM-III-R criteria) were randomly assigned to one of two conditions: 50-minute sessions of EMDR or standard HMO care for PTSD. The number of treatment sessions was not fixed for either condition, and treatment continued until participants no longer met DSM-III-R criteria for PTSD (typically between 6 and 12 months) or until the study ended. Standard HMO care for PTSD consisted of one or more of the following: individual psychotherapy sessions (cognitive, psychodynamic, or behavioral), medication (antidepressants or anxiolytics), group therapy (relaxation training, panic and anxiety reduction, and medication stabilization groups), and brief inpatient hospitalization and/or day treatment. Assessments were carried out at baseline (pretreatment), after three treatment sessions, at posttreatment, and at 3 and 6 months posttreatment (follow-ups). Findings from this study included the following: • Relative to participants receiving standard HMO care, those receiving EMDR had less overall psychological distress (Global Severity Index of the SCL-90-R) after three treatment sessions ($p = .016$), at posttreatment ($p = .022$), and at the 3- and 6-month follow-ups ($p = .002$ and $p = .037$, respectively). • Relative to participants receiving standard HMO care, those receiving EMDR reported less symptom intensity (Positive Symptom Distress Index of the SCL-90-R) after three treatment sessions ($p = .001$), at posttreatment ($p = .017$), and at the 3- and 6-month follow-ups ($p = .005$ and $p = .022$, respectively).
Studies Measuring Outcome	Study 3
Study Designs	Experimental
Quality of Research Rating	3.0 (0.0-4.0 scale)

Study Populations

The following populations were identified in the studies reviewed for Quality of Research.

Study	Age	Gender	Race / Ethnicity
Study 1	26-55 (Adult) 55+ (Older adult)	100% Male	54.3% White 45.7% Race/ethnicity unspecified
Study 2	18-25 (Young adult) 26-55 (Adult) 55+ (Older adult)	50% Female 50% Male	96% White 4% Hispanic or Latino
Study 3	18-25 (Young adult) 26-55 (Adult) 55+ (Older adult)	79.1% Female 20.9% Male	66% White 13% Black or African American 12% Hispanic or Latino 7% Race/ethnicity unspecified 2% American Indian or Alaska Native

Quality of Research Ratings by Criteria (0.0-4.0 scale)

External reviewers independently evaluate the Quality of Research for an intervention's reported results using six criteria:

1. Reliability of measures
2. Validity of measures

3. Intervention fidelity
4. Missing data and attrition
5. Potential confounding variables
6. Appropriateness of analysis

For more information about these criteria and the meaning of the ratings, see Quality of Research.

Outcome	Reliability of Measures	Validity of Measures	Fidelity	Missing Data / Attrition	Confounding Variables	Data Analysis	Overall Rating
1: PTSD symptoms	3.5	3.8	3.3	2.3	3.0	3.3	**3.2**
2: Anxiety symptoms	3.5	4.0	3.0	2.3	3.0	3.3	**3.2**
3: Depression symptoms	3.5	4.0	3.3	2.3	3.0	3.3	**3.2**
4: Global mental health functioning	3.5	4.0	2.5	2.3	2.5	3.0	**3.0**

Study Strengths

The measurement scales for each outcome are well known in the field and have strong psychometric properties. Convergent results across multiple scales for the same outcome suggest strong construct validity. In all three studies reviewed, the intervention was delivered by trained therapists according to a standardized treatment session protocol, isolation of the target population was achieved by extensive individual interviews prior to study enrollment, and randomized control designs were used to minimize potential confounds. The analytic approaches were appropriate for the limited sample size in each of the three studies.

Study Weaknesses

Study sample reliability statistics for the measurement scales were not provided. Fidelity was not assessed using a review of audio- or videotaped treatment sessions or measurement instruments. Participant attrition was not addressed statistically, despite one study having moderate attrition (26% before randomized group assignment) and another study having high attrition at the 3-month (34%) and 6-month (46%) follow-up points. Each of the three studies had a limited sample size that restricted the use of more sophisticated data modeling approaches.

Readiness for Dissemination

Review Date: October 2010

Materials Reviewed

The materials below were reviewed for Readiness for Dissemination. The implementation point of contact can provide information regarding implementation of the intervention and the availability of additional, updated, or new materials.

Adler-Tapia, R., & Settle, C. (2005). EMDR fidelity treatment manual: Children's protocol. Unpublished manuscript.

EMDR Institute, Inc. (n.d.). Facilitator guidelines, policies and training handbook. Watsonville, CA: Author.

Program Web sites, http://www.emdr.com and http://www.emdria.org

Shapiro, F. (2001). Eye Movement Desensitization and Reprocessing: Basic principles, protocols, and procedures (2nd ed.). New York: Guilford Press.

Shapiro, F. (2009). The EMDR approach to psychotherapy. Basic training course: Weekend 1 of the two part basic training. Watsonville, CA: EMDR Institute.

Shapiro, F. (2009). The EMDR approach to psychotherapy. Basic training course: Weekend 2 of the two part basic training. Watsonville, CA: EMDR Institute.

Other program materials:

- EMDR Basic Training Weekend 1 Course Evaluation (2010)
- EMDR Basic Training Weekend 1 Quiz
- EMDR Basic Training Weekend 2 Course Evaluation (2010)
- EMDR Basic Training Weekend 2 Quiz
- EMDR Facilitator Evaluation
- EMDR Fidelity Rating Scale (2007)
- EMDR Institute & EMDR--Humanitarian Assistance Programs Weekend 1 Teaching Videos (2007) [DVD]

- EMDR Institute Basic Training Schedule (2010)
- EMDR Institute Training Information & Participant's Agreement
- EMDR, Jane--Cognitive Interweave [DVD]
- EMDR Part 1: Hour 1-Hour 10 (2004) [DVD]
- EMDR Part 2: Hour 1-Hour 9 (2004) [DVD]
- Requirements for Approval as EMDR Trainer

Readiness for Dissemination Ratings by Criteria (0.0-4.0 scale)

External reviewers independently evaluate the intervention's Readiness for Dissemination using three criteria:

1. Availability of implementation materials
2. Availability of training and support resources
3. Availability of quality assurance procedures

For more information about these criteria and the meaning of the ratings, see Readiness for Dissemination.

Implementation Materials	Training and Support Resources	Quality Assurance Procedures	Overall Rating
4.0	4.0	4.0	**4.0**

Dissemination Strengths

Program materials include a comprehensive textbook that provides background information, an overview of the model, detailed information enabling clinicians to implement each phase of treatment, and detailed protocols for dealing with special situations and populations. The textbook also includes clinical aids, tools, checklists, guidelines, and procedures that can be readily incorporated into clinical practice. The EMDR Institute's Web site offers a variety of clinical aids for purchase. Extensive training is provided throughout the country by the EMDR Institute, and trainees receive didactic instruction, supervised practice, and practical tools and resources for implementation. The EMDR Institute also offers advanced specialty training for experienced clinicians. An electronic mailing list and networking groups are available through the EMDR Institute's Web site to facilitate peer support. Fidelity and outcome measurement materials include a treatment fidelity manual that provides detailed instructions for implementing and assessing the intervention. The EMDR Fidelity Rating Scale has multiple subscales to assess a clinician's use of EMDR protocols in each phase of treatment. Supervision is available to give clinicians insight on quality improvement.

Dissemination Weaknesses

No weaknesses were identified by reviewers.

Costs

The cost information below was provided by the developer. Although this cost information may have been updated by the developer since the time of review, it may not reflect the current costs or availability of items (including newly developed or discontinued items). The implementation point of contact can provide current information and discuss implementation requirements.

Item Description	Cost	Required by Developer
Eye Movement Desensitization and Reprocessing: Basic Principles, Protocols, and Procedures (2nd edition)	$62 each	Yes
Assorted books to support implementation in various contexts	$18-$55 each	No
EMDR Book Course (includes a copy of Eye Movement Desensitization and Reprocessing: Basic Principles, Protocols, and Procedures [2nd edition], an EMDR test, and 8 continuing education credits)	$154 per participant	No
7-day regional EMDR Basic Training at various locations across the United States (includes 40 continuing education credits)	$2,000 per participant	No
Assorted advanced specialty application workshops (includes continuing education credits, which vary by course)	$325 per participant	No
Initial EMDR clinician certification	• $250 for EMDRIA members • $350 for nonmembers	No

2-year EMDR clinician certification renewal	• $100 for EMDRIA members • $200 for nonmembers	No

Additional Information

To be certified in EMDR by EMDRIA, clinicians must be licensed or certified in their profession for independent practice and have had a minimum of 2 years' experience in their field. They also must have completed an EMDRIA-approved basic training program in EMDR, conducted a minimum of 50 EMDR sessions, and received 20 hours of consultation in EMDR by an approved consultant. In addition, to maintain certification, clinicians must complete 12 hours of continuing education in EMDR every 2 years.

Replications

Selected citations are presented below. An asterisk indicates that the document was reviewed for Quality of Research.

* Carlson, J. G., Chemtob, C. M., Rusnak, K., Hedlund, N. L., & Muraoka, M. Y. (1998). Eye Movement Desensitization and Reprocessing (EMDR) treatment for combat-related posttraumatic stress disorder. Journal of Traumatic Stress, 11(1), 3-24.

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* Marcus, S. V., Marquis, P., & Sakai, C. (1997). Controlled study of treatment of PTSD using EMDR in an HMO setting. Psychotherapy, 34(3), 307-315.

Power, K., McGoldrick, T., Brown, K., Buchanan, R., Sharp, D., Swanson, V., et al. (2002). A controlled comparison of Eye Movement Desensitization and Reprocessing versus exposure plus cognitive restructuring versus waiting list in the treatment of post-traumatic stress disorder. Clinical Psychology and Psychotherapy, 9, 299-318.

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Rothbaum, B. O., Astin, M. C., & Marsteller, F. (2005). Prolonged exposure versus Eye Movement Desensitization and Reprocessing (EMDR) for PTSD rape victims. Journal of Traumatic Stress, 18(6), 607-616.

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Van der Kolk, B. A., Spinazzola, J., Blaustein, M. E., Hopper, J. W., Hopper, E. K., Korn, D. L., et al. (2007). A randomized clinical trial of Eye Movement Desensitization and Reprocessing (EMDR), fluoxetine, and pill placebo in the treatment of posttraumatic stress disorder: Treatment effects and long-term maintenance. Journal of Clinical Psychiatry, 68(1), 37-46.

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* Wilson, S. A., Becker, L. A., & Tinker, R. H. (1995). Eye Movement Desensitization and Reprocessing (EMDR) treatment for psychologically traumatized individuals. Journal of Consulting and Clinical Psychology, 63(6), 928-937.

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Consider these Questions to Ask (PDF, 54KB) as you explore the possible use of this intervention.

Web Site(s):

- **http://www.emdr.com**
- **http://www.emdria.org**
- **http://www.emdriafoundation.org**