EYE MOVEMENT DESENSITIZATION AND REPROCESSING (EMDR)

Presented by Lance Parks, LCSW

Overview

Trauma, according to Substance Abuse and Mental Health Services (SAMHSA) and Trauma and Justice Strategic Initiative (2012), is a result of "an event, series of events or series of circumstances that is experienced by an individual as physically or emotionally harmful or threatening and that has lasting diverse effects on the individual's functioning and physical, social, emotional, or spiritual being." The best examples of experiencing trauma are being in a war-torn area, experiencing first-hand natural disasters, accidents, and so much more (Leonard, 2020). Exposure to trauma begins to affect how our bodies respond and our mental health. When we feel threatened, our bodies release cortisol and adrenaline hormones, thereby producing fight or flight responses, freeze, flop, or even fawn. In addition, flashbacks, panic attacks, dissociation, hyperarousal, sleep problems, low self-esteem, grief, self-harm, suicidal thoughts/feelings, and alcohol and substance misuse to cope with trauma are common effects towards mental health. (Mind, 2020).

With that being said, several treatments are geared towards helping people cope with trauma and improve their quality of life. These treatments include cognitive-behavioral therapy (CBT), eye movement desensitization and reprocessing (EDMR), somatic therapies, and prescription medications. (Leonard, 2020)

However, in this course paper, we will focus on eye movement desensitization and processing (EDMR) mainly on the following aspects: its history and dynamics, the treatment phases involved, studies and literature that backs this form of treatment, indications, contraindications, its usage in various types of traumas, side effects of this treatment and the controversies involved.

Chapter 1: History of Eye Movement Desensitization and Reprocessing

In **1987**, **Francine Shapiro**, a psychology student back then, was trying to consciously shake off negative emotions from an upsetting memory by doing eye movements. This, in turn, helped her recover from distress and assumed that eye movements aids in emotional desensitization (New York Times, 2019). With this hypothesis in mind, she began to perform experiments to validate it. She was able to gather positive responses from her subjects. However, as the investigation progressed, it became inconclusive that eye movements create therapeutic effects. Thus, Shapiro amalgamated other treatment elements, including a cognitive component. She later developed a standard procedure that she coined as Eye Movement Desensitization (EMD). (EMDR Institute, Inc.,n.d.)

Shapiro then began the rigorous experimentation, starting with herself as the subject, then with her friends and colleagues. She worked with 70 subjects initially for over six months. The process was straightforward: the subjects were asked to recall a painful memory, and Shapiro would move her fingers back and forth for about 20-30 seconds. She integrated the said technique with exposure therapy- a process in which people "engage and reprocess painful memories to build sharp edges, and then reinterpret them by repeated collection, or exposure" (New York Times, 2019). Shapiro stated that "single session of the procedure was sufficient to desensitize subject's traumatic memories, as well as dramatically alter their cognitive assessments" (EMDR Institute, Inc., n.d.). However, in another article, Shapiro was misquoted. The said article made claims that a single session of EMDR can cure post-traumatic stress disorder.

She expressly stated that the primary goal of the eye movement desensitization procedure is to desensitize people from anxiety and not to eliminate PTSD. She also added that the treatment procedure requires an average of five treatment sessions to treat post-traumatic stress disorder thoroughly.

By 1988, Shapiro published a study focused on the efficacy of EMDR procedure in treating traumatic memories. The measures were gathered during the 1st and 3rd months

of the follow-up initially. In the said study, 22 subjects suffered from emotional distress due to traumatic events like sexual molestation and assault, physical and emotional abuse, and the Vietnam war. The triggers noted were from the subjects were as follows: flashbacks, sleep disturbances, low self-esteem, and the like. In addition, the dependent variables of the said study were the level of anxiety, presenting complaints, and positive self-assessment. The study concluded that a single session of EMD desensitized the subject from emotional distress brought about by traumatic memories and changed the "cognitive assessment" and behavior which included the mitigation of the subject's complaints of the situation through the 3-month follow-up.

Moreover, similar studies were conducted by Brom et al (1989) and Cooper and Clum (1989). The former studied 112 subjects suffering from severe disorders caused by traumatic events such as bereavement, violence, and accidents. The study concluded that "trauma desensitization, hypnotherapy, and psychodynamic therapy resulted to a significant decrease in trauma-related symptoms than the waiting-list control group". Moreover, the latter group utilized imaginal flooding therapy or "a specific technique of exposure therapy, which is a type of cognitive behavioral therapy, that creates an environment or situation that helps people confront their fear in order to overcome it". (Lyons, 2020). The said study examined the effectivity of imaginal flooding over the common combination of psychotherapeutic and pharmacologic treatment of combat-related PTSD. It then concluded that flooding is ineffective towards the variables which are level of depression and anxiety. It means flooding can be used as an adjunct treatment for PTSD but, it cannot be used unilaterally.

Chapter 2

PART I

What is Eye Movement Desensitization and Processing?

Eye Movement Desensitization and Reprocessing Eye Movement Desensitization and Reprocessing (EMDR) is a form of psychotherapy designed to (1) reduce trauma-related stress, anxiety, and depression symptoms associated with posttraumatic stress disorder (PTSD); and (2) improve overall mental health functioning. EMDR has elements of other therapeutic approaches, including psychodynamic, cognitive behavioral, interpersonal, experiential, and body-centered therapies, in structured protocols designed to achieve the best possible treatment effects.

Adaptive information processing is the framework of the EMDR approach emphasizing that all people have a physiologically based information processing system, similar to other body systems such as the circulatory or digestive system. The information processing system stores memories and other elements of experiences in a manner that is accessible by and linked to related thoughts, images, emotions, and sensations. Traumatic or very negative events can impede healthy information processing. Therefore, EMDR addresses trauma-related symptoms by processing components of negative memories and associating them with more adaptive behaviors, emotions, and information.

For clinicians, (EMDR Institute, Inc., n.d.) EMDR, otherwise known as Eye Movement Desensitization and Reprocessing, is initially developed to help people cope with traumatic memories (Shapiro, 1989a, 1989b). According to Shapiro's (2001) Adaptive Information Processing model, EMDR therapy aids in accessing and processing traumatic memories and other adverse life experiences to facilitate their adaptive resolution. EMDR therapy successfully alleviated affective distress, reformulated negative beliefs, and decreased physiological arousal. The client attends to emotionally distressing material in brief sequential doses while focusing on an external stimulus during EMDR therapy. Although therapist-directed lateral eye movements are the most frequently used external stimulus, other stimuli such as hand tapping and audio stimulation are commonly used (Shapiro, 1991). Shapiro (1995, 2001) postulates that EMDR therapy facilitates access

to the traumatic memory network, thereby improving information processing and forming new associations resulting in complete information processing, acquiring new knowledge, distress reduction, and development of cognitive insights. EMDR therapy employs a three-pronged approach:

1. Past events that contributed to dysfunction are processed, establishing new associative links with adaptive information.
2. Current circumstances that elicit distress are targeted, and internal and external triggers are desensitized.
3. Imaginal templates of future events are incorporated to assist the client in acquiring the skill of anticipating future events.

Moreover, for laypeople EMDR (Eye Movement Desensitization and Reprocessing) is psychotherapy that enables individuals to recover from the symptoms and emotional distress caused by traumatic life experiences. Numerous studies demonstrate that by utilizing EMDR therapy, individuals can experience the benefits of psychotherapy that previously took years to achieve. It is widely believed that severe emotional pain takes an extended period to heal. EMDR therapy demonstrates that the mind, like the body, can recover from psychological trauma. When you cut your hand, your body immediately begins to heal the wound. If the wound is irritated by a foreign object or repeated injury, it festers and causes pain. Healing resumes once the block is removed. EMDR therapy demonstrates that mental processes follow a similar sequence of events. The information processing system of the brain naturally gravitates toward mental health. If the system is disrupted or imbalanced due to a traumatic event, the emotional wound festers and can cause excruciating pain. Healing resumes once the block is removed. Clinicians assist clients in activating their natural healing processes by using the detailed protocols and procedures learned during EMDR training sessions.

EMDR therapy has been the subject of over thirty positive controlled outcome studies. According to some studies, after only three 90-minute sessions, 84–90% of single-trauma victims no longer have post-traumatic stress disorder. Another study, funded by the HMO Kaiser Permanente, discovered that after only six 50-minute sessions, 100% of single-

trauma victims and 77% of multiple trauma victims were no longer diagnosed with PTSD. Another study found that after 12 sessions, 77% of combat veterans were free of PTSD. Due to the volume of research conducted on EMDR therapy, organizations such as the American Psychiatric Association, the World Health Organization, and the Department of Defense now recognize it as an effective method of treating trauma and other distressing experiences. Given EMDR therapy's widespread acceptance as an effective treatment for trauma, it's easy to see how it would effectively treat the "everyday" memories that contribute to people's low self-esteem, feelings of powerlessness, and the myriad other problems that bring them to therapy. The therapy is used by over 100,000 clinicians worldwide. Over the last 25 years, millions of people have been successfully treated.

EMDR therapy is a multi-phase procedure. During one section of the session, eye movements (or other bilateral stimulation) are used. After determining which memory to focus on first, the clinician instructs the client to consider various aspects of the event or thought and to use his eyes to track the therapist's hand as it moves back and forth across the client's field of vision. As a result of this, and for reasons a Harvard researcher believes are related to the biological mechanisms underlying Rapid Eye Movement (REM) sleep, internal associations form, and clients begin processing the memory and distressing feelings. Successful EMDR therapy transforms the emotional meaning of traumatic events. For example, a rape victim may transition from feelings of horror and self-disgust to the firm conviction that "I survived it, and I am strong." Unlike talk therapy, clients gain insights into EMDR therapy due to their own accelerated intellectual and emotional processes. As a result, clients leave EMDR therapy feeling empowered by the very experiences that debased them previously. Not only have their wounds healed, but they have transformed. As a natural outcome of the EMDR therapeutic process, clients' thoughts, feelings, and behavior all serve as robust indicators of emotional health and resolution—all without the need for lengthy discussions or homework assignments required in other therapies.

Adaptive Information Processing Theory and EMDR

Shapiro (1995) defined and predicted the effects of EMDR therapy using the Accelerated Information Processing model. Shapiro (2001, 2018) expanded on this by incorporating it into the Adaptive Information Processing (AIP) model, thereby broadening its applicability. She hypothesizes that humans possess an innate information processing system that generally converts the diverse elements of experiences into an adaptive state conducive to learning (EMDR Institute, Inc., n.d.) She views memory as a collection of interconnected networks organized around the earliest related event and its associated effect. It is understood that memory networks contain related thoughts, images, emotions, and sensations.

Adaptive Information Processing Model

The AIP model elucidates three main points:

- the pathophysiological basis of disease
- successful prediction of clinical outcomes
- case conceptualization and treatment procedures direction.

Parallel with other learning theories, the adaptive information processing model postulates the existence of an information processing system capable of assimilating new experiences into previously established memory networks. Perception, attitudes, and behavior are all based on these memory networks. Current situation perceptions are automatically associated with associated memory networks (Buchanon, 2007) (as cited in Shapiro & Solomon, 2008). For instance, the reader can comprehend this sentence based on prior exposure to written English. Similarly, burning one's hand on a stove triggers memory networks associated with stoves and the danger associated with hot objects. A conflict with a playmate who has a "me-first attitude" and its counterpart the "we-can-share" are accommodated and assimilated into memory networks related to relationships, thereby expanding the available knowledge base about interpersonal relations and conflict resolution. When the innate information processing system functions properly, it digests new experiences. Sensory perceptions are integrated and connected to previously stored information in memory networks, enabling us to imbibe our

experience. What is beneficial is acquired, stored in memory networks associated with appropriate emotions, and accessible to guide the individual's future experiences and endeavors. (Shapiro, 2001) (as cited in Shapiro & Solomon, 2008).

Dynamics of Pathology in view of AIP

When an experience is insufficiently processed, difficulties arise. Shapiro's AIP model (1995, 2001, 2006) (as cited in Shapiro & Solomon, 2008) postulates that a particularly distressing incident may be stored in state-specific form, meaning that it is frozen in time in its neural network, unable to connect to other memory networks containing adaptive information. She hypothesizes that when an excitatory, distressing, state-specific memory is encoded, the initial perceptions can be triggered by various internal and external stimuli. This results in inappropriate emotional, cognitive, and behavioral responses and overt symptoms such as high anxiety, nightmares, and intrusive thoughts. Due to perceptions being linked automatically to associated memory networks, it is understood that dysfunctional memories lay the groundwork for future maladaptive responses. Childhood events may also be encoded with survival mechanisms, resulting in inappropriate feelings of danger for adults. However, these historical events retain their power because they were not adequately assimilated into adaptive networks over time. Negative behaviors and personality characteristics are viewed negatively in the AIP model due to dysfunctionally held information (Shapiro, 2001) (as cited in Shapiro & Solomon, 2008).

From the above vantage point, a negative self-perception is not perceived as the source of current dysfunction; instead, it is viewed as a symptom of unprocessed earlier life experiences containing that affect and perspective (Shapiro & Solomon, 2008). Attitudes, emotions, and sensations are not viewed as simple responses to a past event; instead, they are viewed as manifestations of physiologically stored perceptions and their associated responses. This view of current symptoms resulting from insufficiently processed and stored memories is central to EMDR treatment. Belief restructuring and behavioral manipulation are not considered catalysts within the AIP model, despite their inclusion in other treatments (Shapiro & Solomon, 2008). Research comparing EMDR processing to other treatments can illuminate the mechanisms underlying the progressive changes in belief and self-efficacy associated with EMDR processing.

Memory Transmutation

Since unprocessed experiences result in a specific pathology, the AIP model (Shapiro, 1995, 2001, 2006) (as cited by Shapiro & Solomon, 2008) views processed experiences as a mental health foundation. The EMDR protocol entails four (3) steps or known as the three-pronged approach, which was previously established in this paper:

1. Gaining access to dysfunctionally stored information
2. Stimulating the innate processing system using standardized protocols and procedures (including bilateral or dual stimulation), and
3. Facilitating dynamic connection to adaptive memory networks.

This process allows the memory's characteristics to change as it transmutes to an adaptive resolution. Transcripts of sessions (Shapiro, 2001, 2002; Shapiro & Forrest, 1997) (as cited by Shapiro & Solomon, 2008) indicate that processing occurs primarily through a rapid progression of intrapsychic connections within the session as various emotions and memories, insights, and sensations surface. The inter-psychic connections also change with each new set of bilateral stimulation. Among the proposed mechanisms of action is the assimilation of adaptive information from other memory networks that connect to the network containing the isolated disturbing event previously. After successful treatment, it is hypothesized that the memory is no longer isolated, as it appears to be properly integrated into the more extensive memory network. Thus, the processing is understood to entail the formation of new associations and connections that facilitate learning, with the memory being then stored in a new adaptive form.

As Shapiro notes, the AIP hypothesis appears to be consistent with recent neurobiological theories of memory reconsolidation (Cahill & McGaugh, 1998; Suzuki et al., 2004) (as cited by Shapiro & Solomon, 2008). These theories postulated that an accessed memory could become volatile and restored in a modified state. According to Suzuki and colleagues, reconsolidation and extinction appear to have different neurobiological mechanisms (2004) (as cited by Shapiro & Solomon, 2008). While reconsolidation is believed to alter the original memory, extinction appears to generate a new memory that competes with the old. This has particular implications for exposure models and therapies

based on extinction (e.g., Brewin, 2006; cf. McCleery & Harvey, 2004) (as cited by Shapiro & Solomon, 2008).

Extinction has been linked to activity in a specific receptor in the amygdala. Research has been conducted using an activator compound known to trigger the receptor and enhance extinction to test the mechanism of extinction in exposure-based therapies for acrophobia and social anxiety (Hofmann et al., 2006; Ressler et al., 2004) (as cited by Shapiro & Solomon, 2008). Regrettably, it appears as though the compounds also enhance reconsolidation (Lee, Milton, & Everitt, 2006). However, research indicates that cannabinoid receptor one or L-type voltage-gated calcium channels, known to be pharmacologic antagonists, inhibit extinction, but not reconsolidation." (Suzuki et al., 2004, p. 4787) (as cited by Shapiro & Solomon, 2008). This type of research would establish more conclusively whether reconsolidation is the primary mechanism underlying EMDR's effects.

Additionally, controlled studies comparing extinction-based therapies and EMDR are suggested to investigate:

1. the types of associations available to clients before and following treatment;
2. "differences in the ability to access precise visual recollections of the original memory"; and
3. "differences in relapse rates, which may shed additional light on these possibilities." (Shapiro & Solomon, 2008)

Extinction effects, in particular, would not be expected to generalize to a new post-treatment event that bears a high degree of correlation to the initial critical incident. However, recent case reports indicate that EMDR treatment does generalize to future events, implying a reconsolidation mechanism rather than an extinction mechanism. When clients are confronted with similar trauma, EMDR may help to foster resilience and a lack of relapse (Rost, Hoffman, & Wheeler, in press; Zaghout-Hodali, Alissa, & Dodgson, 2008) (Suzuki et al., 2004, p. 4787) (as cited by Shapiro & Solomon, 2008). There is a need for further research to follow individuals treated with EMDR and prolonged exposure treatments systematically to determine whether there is a difference in post-

trauma treatment responses- a simple methodology to come up with a comparison between the prediction and outcomes of the extinction and reconsolidation models (Shapiro & Solomon, 2008).

Comparison between AIP and Other Information Processing Models

The AIP model is compatible with the emotional processing model that underpins a significant number of widely used exposure-based treatments in some ways. In summary, Foa and Kozak (1986) argue that two conditions must exist for fear reduction to occur:

1. The fear memory must be activated.
2. Corrective information containing elements incompatible with the fear structure must be present to facilitate a new memory.

Incorporating new information results in a decrease in fear responses through in-between-session habituation. It allows changes in the experience's meaning. Consistent with the AIP model is the extent to which procedures and protocols facilitate access to networks of emotions and the integration of new information (Rogers & Silver, 2002) (as cited by Shapiro & Solomon, 2008, pg. 317). Corrective information comes from the therapeutic situation and habituation in exposure-based therapies such as prolonged exposure. (Foa & Kozak, 1986; Rothbaum et al., 2005).

However, the changes that occur during EMDR suggest that clients incorporate information from the therapeutic context and prior life experiences (Shapiro, 1995, 2001, 2007b) (as cited by Shapiro & Solomon, 2008, pg. 317). The therapist's integration of information within and between memories appears to occur spontaneously, unprompted, rather than due to repeated and sustained exposure to the memory. Rogers and Silver (2002) (as cited by Shapiro & Solomon, 2008, pg. 317) concluded that EMDR appears to be more compatible with the assimilation, accommodation, and information processing processes than habituation.

While these observations are speculative, they are consistent with the target memory. It is because it is adaptively stored due to reconsolidation rather than changes resulting from memory formation. Again, research comparing recall of original memories to rates and types of retrieval patterns can shed light on whether the primary mechanisms of

action in EMDR are extinction-based or are primarily associated, assimilate, and reconsolidate-based. Additionally, process analyses such as those performed by Lee, Taylor, and Drummond (2006), Rogers et al. (1999) (as cited by Shapiro & Solomon, 2008, pg 317), and McCullough (2002) (as cited by Shapiro & Solomon, 2008, pg. 317) can shed light on particular mechanisms.

Models and Clinical Practice

While other information processing models are also based on memory network concepts, each model emphasizes a different set of factors and considerations. The various models direct the practices of their proposed treatments and attribute the change to various elements (Shapiro & Solomon, 2008, pg. 318).

As previously stated, the AIP model supports the notion that processing entails incorporating "corrective information" (Foa & Kozak, 1986) (as cited by Shapiro & Solomon, 2008, pg. 318). However, it does not view cognitive appraisal change as a critical determinant. Rather than that, the AIP model views processing as a process of integrating dysfunctionally stored memory into pre-existing networks that contain adaptive information. As a result, it emphasizes the importance of positive memory networks for processing to occur. Thus, history-making entails determining whether positive networks exist and, if not consciously, incorporating them. This tenet also guides EMDR clinical practice if processing becomes stuttering during a treatment session. In this case, the clinician mimics automatic processing by deliberately accessing the following positive network already present in the client's history or by infusing the necessary information to form a positive network that can be linked into.

Additionally, the two models differ in their assessment of current symptomology. The AIP model does not view conditioned responses, current emotional reactions to past events, or cognitive appraisals of past events as the primary source of the client's dysfunction. Rather than that, the AIP model views the problem as being caused by physiologically stored perceptions of the past event (images, thoughts, beliefs, emotions, sensations, and smells, for example). Thus, in contrast to other models, AIP tenets predict that processing important memories eliminate dysfunctional perceptions from storage. For example, the AIP model predicts that a large proportion of the sensations associated with

phantom limb pain are actually stored in memory and can be eliminated by processing the relevant memories. Prolonged exposure, sustained focused attention on the event, or changes in cognitive appraisal are not believed to be the primary agents of change. Rather than that, the modification is viewed as a by-product of the processing induced by the internal association process.

This is not to claim the irrelevance of conditioning or cognitive appraisals.

For example, EMDR therapy addresses current distress by first processing prior trauma. Indeed, clinical reports indicate that the initially identified trigger is frequently no longer distressing (Shapiro et al., 2007) (as cited by Shapiro & Solomon, 2008, pg 318). The second prong of EMDR treatment, on the other hand, involves directly processing the trigger, as new stimuli can become autonomously disturbing via second-order conditioning. However, it is assumed that these conditioning events have been stored in memory and can be adequately processed. It should not be assumed that each therapeutic approach will have a completely distinct mechanism of action or even that there will be only one. The complexity of any treatment increases the number of potential mechanisms of change that could interact to produce beneficial treatment effects. Nevertheless, research that examines the predictions of various models has the potential to verify the tenets and shed light on possible mechanisms of change.

Evaluation of Treatments

Identifying the mechanisms involved in any therapy is a time-consuming process that requires varying facets of observation and analysis. Hypotheses may be based on:

1. Constructs such as mind states, distinctive features of cognitive processing in general (e.g., conjectures regarding the structure and interaction of memory networks);
2. The specific types of procedures used to elicit change (e.g., prolonged exposure, bilateral stimulation); or
3. The underlying processes that have been hypothesized. While preliminary research has provided support for a variety of hypotheses, additional controlled research is required.

As previously stated, a central premise of the AIP model is that the physiologically stored memory networks are the source of pathology and health. Pathology is viewed as unprocessed memories, and the AIP model predicts that processing will result in symptom reduction or elimination. Although this has been generally recognized in the treatment of PTSD by addressing the critical event, the AIP model postulates that most pathology is also based on unprocessed memories and can be rectified by allowing the memories causing the complaint to resolve adaptively. This prediction has been borne out by a large number of case studies demonstrating that issues as diverse as

1. **Body dysmorphic disorder** (Brown, McGoldrick, & Buchanan, 1997) (as cited by Shapiro & Solomon, 2008, pg. 318),
2. **Phantom limb pain** (Russell, 2007; Schneider et al., 2007, 2008; Wilensky, 2006) (as cited by Shapiro & Solomon, 2008, pg. 319)
3. **Olfactory response syndrome** (McGoldrick, Begum, & Brown, 2008) (as cited by Shapiro & Solomon, 2008, pg. 319)
4. **Maladaptive sexual arousal** (Ricci & Clayton, 2008) (as cited by Shapiro & Solomon, 2008, pg. 319)

However, controlled research comparing the treatment of presenting issues to the treatment of core memories is imperative to address these issues.

PART II: Procedural Elements During Assessment Phase

As Shapiro (2001) (as cited by Shapiro & Solomon, 2008) points out, all complex forms of psychotherapy employ various procedures, and their interactions determine the treatment outcome. As previously stated, it would be oversimplistic to assume that a single mechanism of action causes EMDR effects. For example, there are procedural elements consistent with the AIP model that occur throughout the EMDR process and merit research attention in component analyses to ascertain their relative contribution and potential mechanism of action.

1. Selection of Treatment Targets

Mol and colleagues (2005) (as cited by Shapiro & Solomon, 2008) compared various experiences. They concluded that events that did not meet the criteria for the designation of Criterion A for PTSD were the cause of trauma symptoms similar to those found in PTSD. This finding adds to the AIP's prediction that the more common traumatic events in life ("small t trauma") are dysfunctionally stored and serve as the basis for pathology. Thus, on one level of analysis, the central mechanism of action of EMDR is proposed to be adaptive memory processing. This processing is accomplished functionally by accessing stored memory and stimulating the information processing system so that other memory networks can connect to the dysfunctional network, thereby maximizing therapeutic effects and mental health by transforming the targeted memory and targeting memories in a sequence. Thus, in other words:

1. Structured memory access with sequential targeting.
2. Stimulation of the information processing system via procedural elements.
3. Facilitation of dynamic integration of other pertinent data.

Identifying the dysfunctionally stored memories that appear to underpin the presenting symptoms is necessary to optimize adaptive information processing. These include both major and minor traumas, as well as present-day triggers. Additionally, the clinician ensures that relevant memory networks contain positive and/or adaptive connected information. These are believed to be necessary for the establishment of appropriate linkages during processing. A structured protocol is used to prepare the client, activate

the distressing memory comprehensively, and elicit pertinent aspects of the dysfunctionally stored information.

2. Mindfulness

The instruction to clients to "*let whatever happens to happen*" and to "*just notice*" what arises (Shapiro, 1989, 1995, 2001) (as cited by Shapiro & Solomon, 2008) is inherent in the concept of what has become known as **mindfulness** (Shapiro & Solomon, 2008). These instructions decrease demand characteristics and may also assist clients in observing their feelings and thoughts without passing judgment. The efficacy of adapting a cognitive set in which negative thoughts and feelings are viewed as passing events rather than an aspect of oneself has been demonstrated in research (Shapiro & Solomon, 2008). Teasdale (1997) (as cited by Shapiro & Solomon, 2008) emphasized the importance of the "decentering" or "disidentification" process, in which the client transitions from identification with the emotion to viewing the thoughts and emotions as fleeting thoughts and feelings that may or may not be accurate. This cognitive disconnection may enable clients to relate to negative experiences with a broader field of awareness, enhancing coping ability (Beck, Rush, Shaw, & Emery, 1979) (as cited by Shapiro & Solomon, 2008) and the client's sense of efficacy and mastery (Shapiro & Solomon, 2008). From an AIP perspective, the client's memory network becomes encoded with his increased coping ability and self-efficacy. This can improve the client's ability to focus while processing complex material and provide positive, adaptive information linked to memory networks containing dysfunctionally stored information.

Additionally, the EMDR procedures, including the neurobiological correlates of de-arousal eye movements (Barrowcliff, Gray, Freeman, & MacCulloch, 2004; Barrowcliff, Gray, MacCulloch, Freeman, & MacCulloch, 2003; Elofsson, von Scheele, Theorell, & Sondergaard, 2008), may produce the state of mind referred to by Teasdale. Controlled research is required to address these issues.

3. Memory Alignment Fragments

Inadequately processed experience has been hypothesized to be stored in fragments of memory (van der Kolk & Fisler, 1995). This results to the alignment of memory components is a procedural element that aids processing. Solomon and Shapiro's EMDR

protocol 320 Journal of EMDR Practice and Research, Volume 2, Number 4, 2008 entails eliciting an image, a currently held negative belief, a desired positive belief, current emotion, and physical sensation. This procedure, which may involve tapping into various areas of the brain, enables activation of different aspects of dysfunctionally stored information that have been hypothesized to be encoded in distinct memory networks with distinct connections and relations (Buckner & Wheeler, 2001; Gottfried, Smith, Rugg, & Dolan, 2004; Shapiro, 1995, 2001) (as cited by Shapiro & Solomon, 2008). The assessment phase brings these critical aspects of the negative memory into alignment, congruent with the BASK (behavior, affect, sensation, and knowledge) dissociation model (Braun, 1988) (as cited by Shapiro & Solomon, 2008). This procedural reconnection of the troubling material may assist the client in making sense of the experience and facilitating storage in narrative memory.

4. Somatic Awareness

Directing the client's attention to physical sensations following identification of the representative or worst image, negative cognition, and emotions may also be a procedural element that contributes significantly to positive outcomes. This may assist clients in identifying and distancing physical sensations from negative interpretations that reflect an excessive identification with their emotions/sensations. By separating physical feelings and emotion from negative interpretations, the client may become aware of the changeability of sensation. For instance, the client can transition from identifying with human emotion (e.g., "I am afraid") to recognizing that stomach and chest sensations are associated with fear. This can increase the client's self-efficacy and sense of mastery (Shapiro, 1995, 2001), which, from the perspective of adaptive information processing, increases the amount of positive information encoded in the brain that is available to link into memory networks that contain dysfunctionally stored information.

5. Cognitive Restructuring

Cognitive restructuring is an investigative element that is evident during the assessment phase. It involves the client identifying both negative and positive cognitions. The therapeutic process can be facilitated by identifying the irrational self-belief and restructuring and reframing it into an adaptive self-belief (Beck et al., 1979) (as cited by

Shapiro & Solomon, 2008). However, there are no explicit attempts during the EMDR assessment phase to alter or reframe the client's current beliefs. It is based on the assumption that the belief will change spontaneously during subsequent processing. However, from an AIP perspective, it is believed that establishing an initial association between negative cognition and more adaptive information that contradicts the negative experience facilitates subsequent processing by activating relevant adaptive networks. Analyses of spontaneous changes in cognitive content during EMDR treatment can aid in determining the mental element's contribution to treatment outcome.

Suggested Procedural Elements During Desensitization and Installation Phase

Perceived Mastery

Another critical procedural component may be perceived mastery. Clients may develop a sense of knowledge over their ability to mentally circumscribe and manipulate the distressing material through the ongoing sequences of imagery accessing, attention, and interruption. This can improve coping efficacy, which can enhance the client's ability to cope with stress, anxiety, and depression in potentially dangerous situations (Bandura, 2004). From an AIP perspective, the client's mastery experience is encrypted in the brain as adaptive information that can be linked into memory networks that contain dysfunctionally stored information. It would be interesting to compare bilateral stimulation conditions' efficacy with interrupted attention to the traumatic material, as is done in standard EMDR practice. As demonstrated in this section, it is unclear whether the sequencing increases a sense of mastery, or whether interrupted attention combined with bilateral stimulation or a combination of both, are the primary contributing elements and important mechanisms of change (Shapiro & Solomon, 2008)

Potential Eye movement Effects

During the desensitization and installation phases, structured procedures enhanced the relevant memory networks and engaged the brain's associative processing. According to the AIP model, dysfunctional information is accessed in the state in which it is currently stored. Bilateral stimulation stimulates the brain's inherent processing system, allowing data from other neural networks to be integrated. The formation of associations is thought

to be one of the mechanisms by which memory is transmuted. There are numerous hypotheses regarding the role of eye movements in this process.

Eye movements and other forms of bilateral stimulation are viewed as elements that aid in information processing in the AIP model. Regrettably, existing randomized controlled component analyses involving clinical populations and outcome measures have been flawed (see Chemtob, Tolin, van der Kolk, & Pitman, 2000; Shapiro, 2001) and should be conducted under more rigorous conditions. However, an expanding body of research has examined isolated eye movements in nondiagnosed populations (Gunter & Bodner, 2008). Numerous studies indicate that eye movements have a desensitizing effect when disturbing memories are accessed. For example, Barrowcliff et al. (2004) reported in a laboratory study that eye movements decreased physiological arousal as measured by skin conductance electrodermal measurements.

Numerous studies on PTSD treatment examined the physiological effects of eye movements during EMDR treatment sessions (Elofsson et al., 2008; Sack, Hofmann, Wizelman, & Lempa, this issue; Sack, Lempa, & Lemprecht, 2007; Sack, Lempa, Steinmetz, Lamprecht, & Hofmann, 2008; Wilson et al., 1996) (as cited by Shapiro & Solomon, 2008). Eye movements were found to increase parasympathetic activity and decrease psychophysiological arousal. Similar physiological effects were observed following a single EMDR session, as indicated by reduced heart rate and skin conductance (Aubert-Khalfa, Roques, & Blin, 2008) (as cited by Shapiro & Solomon, 2008).

Other studies have discovered that eye movements reduce the vividness and emotionality of both negative and positive memories (Barrowcliff et al., 2004; Gunter & Bodner, 2008; Kavanagh, Freese, Andrade, & May 2001; Maxfi eld, this issue; Sharpley, Montgomery, & Scalzo, 1996; van den Hout, Muris, Salemink, & Kindt, 2001). At the moment, it is unknown whether the change in vividness occurs before or following physiological de-arousal and whether these events occur concurrently or separately. Nonetheless, numerous hypotheses regarding the mechanism of action of bilateral stimulation have been advanced. These include the orienting response (MacCulloch & Feldman, 1996), rapid eye movement sleep (REMS) (Stickgold, 2002, this issue), and working memory

(Stickgold, 2002, this issue) (Andrad, Kavanagh, & Baddeley, 1997). All of these hypotheses predict the apparent desensitization effects observed in various studies. Additional research is required to identify the actual mechanisms of action and to determine whether multiple mechanisms interact.

Additionally, research is necessary to resolve the relationship between reported changes and treatment outcomes. In other words, we do not yet know the order in which these effects occurred and therefore cannot assume causality. Is the decrease in heart rate due to the memory becoming less distressing due to processing, or does the decreased arousal facilitate memory processing, making it less painful? Only randomized controlled research conducted under controlled conditions can resolve these issues (see Shapiro, 2001).

With decreased arousal and diminished vividness and emotionality of negative memories, information from other memory networks may connect to the storage networks that keep the dysfunctionally stored information (see Shapiro, 1995, 2001). Stickgold (2002) hypothesizes that the eye movements used in EMDR induce a neurobiological state similar to REM sleep, which increases access to less dominant associations and may result in cortical integration of distressing memories into semantic networks weakening the painful memories. Memory transmutation appears to entail a shift in the storage of sensory information from implicit to episodic and then semantic memory (Siegel, 2002; Stickgold, 2002) (as cited by Shapiro & Solomon, 2008).

Christman, Garvey, Propper, and Phaneuf (2003) (as cited by Shapiro & Solomon, 2008) and Propper and Christman (this issue) provide preliminary support for memory retrieval changes by demonstrating that eye movements enhanced episodic memory retrieval in laboratory studies with right-handed nonclinical participants. Propper, Pierce, Geisler, Christman, and Bellorado (2007) hypothesized that eye movements could alter frontal interhemispheric coherence. Kuiken, Bears, Miall, and Smith (2001–2002) (as cited by Shapiro & Solomon, 2008) discovered a link between eye movements and increased attentional flexibility. Replication of these studies in clinical settings with diagnosed left- and right-handed participants are required.

Additional research should be conducted to test the hypothesis that the quality of the targeted memory is associated with a more significant number of non-traumatic associative memories. This would allow for validating the theory generated by Suzuki et al. (2004) (as cited by Shapiro & Solomon, 2008) 's animal research. They proposed that when a memory is activated, it appears to become more malleable, allowing it to reconsolidate in an altered state. Thus, as Przybyslawski, Roullet, and Sara (1999, p.) (as cited by Shapiro & Solomon, 2008) noted, reconsolidation may enable "reorganization of the existing memory in response to new information in the retrieval environment."

Chapter 3: Eye Movement and EMDR Therapy

Even if EMDR therapy frequently cited eye movements as its most distinguishing characteristic, it does not involve eye movement alone. It is sophisticated psychotherapy with numerous components believed to contribute to the treatment's effectiveness. EMDR uses eye movements to direct the client's attention away from internal distressing material and toward an external stimulus. Shapiro refers to eye movements as **"dual attention stimuli"** which refers to how a client pays attention to external and internal stimuli. Although therapist-directed eye movements are the most frequently used dual attention stimulus, other stimuli such as hand tapping and auditory stimulation are commonly used. For more than a decade, the use of such alternate stimuli has been an integral part of the EMDR protocol (Shapiro 1991, 1993).

Hypothesized Mechanisms of Action for Eye Movements in EMDR Therapy

Dual attention stimulation, as commonly hypothesized, elicits an orienting response. The orienting response is a genuine interest and attention-seeking response when attention is drawn to a novel stimulus. Three distinct models exist for conceptualizing the orienting response in EMDR: cognitive/information processing (Andrade et al., 1997; Lipke, 1999) (as cited by EMDR Institute, Inc., n.d.), neurobiological (Bergmann, 2000; Servan-Schreiber, 2000; Stickgold, 2002) (as cited by EMDR Institute, Inc., n.d.), and behavioral (Bergmann, 2000; Servan-Schreiber, 2000; Stickgold, 2002) (as cited by EMDR Institute, Inc., n.d.) (Armstrong & Vaughan, 1996; MacCulloch & Feldman, 1996) (as cited by EMDR Institute, Inc., n.d.). These models are not mutually exclusive; they each view the same phenomenon from a slightly different angle. According to Barrowcliff et al. (2001) (as cited by EMDR Institute, Inc., n.d.), orienting in EMDR therapy is an "investigatory reflex" that results in a primary relaxation response when there is no threat; this relaxation contributes to outcome via a process of reciprocal inhibition. Others argue that initiating an orienting response disrupts the traumatic memory network, breaking previous associations with negative emotions and allowing for integrating new information. Kuiken, Bears, Miall, and Smith (2001–2002) (as cited by EMDR Institute, Inc., n.d.) demonstrated that eye movement was associated with increased attentional flexibility. Additionally, the

orienting response may induce neurobiological mechanisms that facilitate the activation and integration of episodic memories in cortical semantic memory (Stickgold, 2002) (as cited by EMDR Institute, Inc., n.d.). The orienting response, according to Stickgold, stimulates the same processes that occur during rapid eye movement sleep.

Numerous research studies (e.g., Andrade et al., 1997; Kavanaugh et al., 2001; van den Hout et al., 2001) (as cited by EMDR Institute, Inc., n.d.) demonstrate that EMs and other stimuli affect perceptions of the targeted memory by decreasing image vividness and associated affect. Two possible mechanisms for how this effect may contribute to EMDR treatment have been proposed. Kavanaugh et al. (2001) (as cited by EMDR Institute, Inc., n.d.) hypothesize that this effect occurs when EMs impair working memory by reducing vividness, resulting in diminished emotionality. Additionally, they suggest that this effect may contribute to treatment by acting as a "response aid for imaginal exposure," allowing clients who are distressed by memory images and/or affect to increase their exposure gradually. According to Van den Hout et al. (2001) (as cited by EMDR Institute, Inc., n.d.), EMs alter the somatic perceptions associated with retrieval, resulting in decreased affect and thus reduced vividness. They suggest that this effect "may temporarily assist patients in recalling memories that would otherwise appear intolerable." This explanation bears a great deal of resemblance to reciprocal inhibition.

Types of Eye Movements

https://www.chester.ac.uk/sites/files/chester/Kevin%20Kip%20Part%20III.%20Eye%20Movements%207-19-2017.pdf

- **Saccades-** rapid movements of the eyes that abruptly change point of fixation. Typically exhibited reflexively and an important phase of sleep (University of Chester, 2017)
- **Smooth Pursuits Movements-** voluntary slower tracking movements of the eyes designed to keep the moving stimulus in the center field of vision. (University of Chester, 2017)

- **Vergence Movements-** aligns the center of field vision with targets located at different distances from the observer (University of Chester, 2017).
- **Vestibulo-ocular movements-** compensates for head movements such as moving eyes to remain focused on a fixed object. (University of Chester, 2017)

Theoretical Basis of Eye Movements

- **Enhanced memory retrieval-** aids in cognitive processing, such as through interhemispheric communication. (Lyle & Martin, 2010) (as cited by University of Chester, 2017)
- **Taxing of Working Memory-** renders less vivid and emotional traumatic images. (Lee, Cuijpers, 2013; van de Hout, Muris, Salemink, & Kindt, 2001) (as cited by University of Chester, 2017)
- **Investigatory Reflex-** it is a described as the heightened alertness then exploratory behavior in the face of no threat

  The cognitive processes become more flexible and efficient. (Barrowcliff, Gray, MacCulloch, Freeman, &MacCulloch, 2003; Schubert, Lee & Drummond, 2011) (as cited by University of Chester, 2017)

- **Reciprocal inhibition-** relaxation effect of eye movements that reduces future emotionality whenever thinking about a traumatic experience. (can de Hout, Muris, Salemink, & Kindt, 2001) (as cited by University of Chester, 2017)
- **Increased Interhemispheric EEG Coherence-** REM-like state enhances memory reconsolidation. (Duttermuth & Lehman, 1981) (as cited by University of Chester, 2017)

Hypothesis: Taxing of Working Memory in Clinical Practice

- Secondary tasks (eye movements) reduce vividness and emotionality of mental images through interplay of dual taxation of working memory (Gunter & Bodner, 2008) (as cited by University of Chester, 2017)

1. Previously consolidated memories that are recalled (i.e. reactivated) can become labile and sensitive to disruption.

2. When individual performs a secondary task, both tasks compete for limited working memory resources
3. Distressing memory cannot be retrieved completely (i.e. gets blurred)
4. With temporary labile state, blurred memory reconsolidates after competition, and reconsolidated blurred memory is retrieved in the future (Van den Hout & Engelhard, 2012)

Bilateral Eye Movements Enhance the Retrieval of Episodic Memories

- **Semantic memory-** recall of general facts not drawn from personal experience (e.g. capitol countries). (almost always around the left hemisphere) (University of Chester, 2017)
- **Episodic memory-** recall of personal (autobiographical) facts including times, places, associated emotions, and other contextual information. (University of Chester, 2017)

  It is facilitated by increased interaction between two cerebral hemispheres

  --sequences of left-right bilateral eye movements results in simultaneous activation of both cerebral hemispheres.

Most recent studies: Bilateral saccadic eye movements performed prior to memory retrieval phase improve:

- Recall and recognition of words (Christman, Garvey, Proper, & Phaneuf, 2003; Lyle, Logan, & Roediger, 2008; Parker, Relph, & Dagnall, 2008; Samara, Elzinga, Slagter, & Nieuwenhuis, 2011) (as cited by University of Chester, 2017)
- Recall of early childhood memories (Christman, Propper, & Brown, 2006) (as cited by University of Chester, 2017)
- Recognition of details in visual event narrative (University of Chester, 2017)
- Recall and recognition of landmark shape and location information (Bruyné, Mahoney, Augustyn, & Taylor, 2009; Parker, Relph, & Dagnall, 2008) (as cited by University of Chester, 2017)

Other Types of Bilateral Stimulation

Consideration of alternate forms of bilateral stimulation are motivated by the EMDR literature and clinical practice where alternatives to eye movements have been implemented (with limited to no advice)

Bilateral eye movements: Activate both hemispheres of the visuomotor system.

Left-right tactile stimulation (e.g. finger tapping): Activates both hemispheres of the somatosensory system.

Alternating left-right auditory stimulation: Does not activate the two hemispheres in a strictly alternating fashion.

PRINCIPAL DIFFERENCES BETWEEN ART AND EMDR		
Category	**EMDR**	**ART**
Imaginal Exposure	Laser beam of single image that best represents the trauma	Entire traumatic even visualized from beginning to end
Desensitization	Tends to be free-associative (e.g. “what do you get now”)	Close-ended and body centric-immediate awareness to sensations and emotions directly connected with traumatic material.
Processing of Traumatic Material	Can be incomplete, based on free-associative approach and potential for clients to get stuck in distressing memories	Directive and Procedural, usually completed in a 60-minute session.
Primary focus	Strong cognitive focus	Focus on memory (visual imagery) and

		somatic/emotional sensations
State of Resolution	Installation of positive cognition through free-associative process	Replacement of negative images with positive image by “Director” intervention and Voluntary Image Replacement technique
Narrative Component	Discussion of traumatic event to select image, cognition, and emotion for processing	Does note require clients to narrate traumatic experiences to therapist
Bilateral processing	Varies direction/number of eye movements (or other bilateral stimulation) based on client responses and clinical judgments	Eye movement sets are fixed in direction and number.

(University of Chester, 2017)

Numerous research studies (e.g., Andrade et al., 1997; Kavanaugh et al., 2001; van den Hout et al., 2001) demonstrate that EMs and other stimuli affect perceptions of the targeted memory by decreasing image vividness and associated affect. Two possible mechanisms for how this effect may contribute to EMDR treatment have been proposed. Kavanaugh et al. (2001) hypothesize that this effect occurs when EMs impair working memory by reducing vividness, resulting in diminished emotionality. Additionally, they suggest that this effect may contribute to treatment by acting as a "response aid for imaginal exposure" (p. 278), allowing clients to be distressed by memory images and/or affect to increase their exposure gradually. According to Van den Hout et al. (2001), EMs alter the somatic perceptions associated with retrieval, resulting in decreased affect and thus reduced vividness. They suggest that this effect "may temporarily assist patients in recalling memories that would otherwise appear intolerable" (p. 129). This explanation bears a great deal of resemblance to reciprocal inhibition.

Francine Shapiro (1995) observed that the emotional distress associated with disturbing thoughts vanished when her eyes moved spontaneously and rapidly. She established beforehand the role of eye movement in the cognitive processing mechanism. Shapiro then began testing this effect and discovered that when others moved their eyes, their distressing emotions dissipated as well. Shapiro conducted a case study (1989b) and a controlled study (1989a), thus eventually confirming her hypothesis that eye movements (EMs) were associated with traumatic memory desensitization. Antrobus (1973), Antrobus & Singer (1964) conducted a series of systematic experiments that helped them link spontaneous EMs and unpleasant emotions and cognitive changes.

Over two dozen randomized controlled trials have been published examining the role of EMs in EMDR therapy. EMDR-with-EMs have typically been compared to a control condition in which the EM component has been modified (e.g., EMDR-with-eyes-focused-and-unmoving). There have been four distinct types of studies:

1. Case studies
2. Dismantling studies involving clinical subjects
3. Dismantling studies involving nonclinical analog subjects
4. Component action studies involving the examination of isolated eye movements

A recent meta-analysis established the eye movement component's beneficial effects by C.W. Lee & P. Cuijpers (2013) stated that in EMDR treatment studies, the additive effect of eye movements was moderate and significant (Cohen's d = 0.41). The effective size was, in addition, large and significant (d = 0.74) in the second group of laboratory studies.

Moreover, in the 26 studies evaluated, EMs had a consistent and significant effect on reducing the vividness of and affect associated with autobiographical memories.

Additional research has established various memory effects, including the elicitation of episodic memory and an increase in recognition of accurate information.

Differences and Similarities between EMDR and Hypnosis

An exclusive issue of the American Journal of Hypnosis was dedicated to the use of EMDR therapy and hypnosis. In his introductory article, the editor and former president of the American Association of Clinical Hypnosis addressed the issue directly, stating that although hypnosis should not be classified as a unique type of treatment method, it is not the same with eye movement desensitization and reprocessing. EMDR is still both a developing theory and a treatment about how information is perceived, stored, and retrieved in the human brain. (Shapiro, 1995, 2001). Indeed, EMDR is a genuinely unique treatment technique combined with other types of treatments such as psychoanalytic/psychodynamic therapy, behavior therapy, cognitive-behavioral therapy, and ego-state therapy (Hammond, 1990).

Nevertheless, there are some critical distinctions between hypnosis and EMDR therapy that should be highlighted. To begin, one of the most common clinical applications of hypnosis is to intentionally induce an altered state of mental relaxation in the patient. In comparison, mental relaxation is rarely attempted when beginning EMDR. Indeed, deliberate attempts are frequently made to establish a connection with an anxious mental state instead of a relaxed one.

Second, therapists frequently employ hypnosis to assist patients in achieving a single, intensely focused state of aroused receptivity (Spiegel & Spiegel, 1978). By contrast, EMDR attempts to focus on duality, which is the positive and negative self-referencing beliefs currently held by an individual and the emotional arousal induced through the imagery of the most distressing part of a specific memory. EMDR, on the other hand, bears some resemblance to Spiegel's (1978) split-screen cognitive restructuring technique.

Thirdly, one of the proposed effects of hypnosis is that a person's generalized reality orientation will decrease (GRO: Shor, 1979). This induced decrease in a person's GRO is frequently used to encourage fantasy and imagination, possibly by capitalizing on an increase in trance logic (Orne, 1977). By contrast, EMDR makes repeated attempts to ground the patient through current feelings and body sensations to keep the patient anchored in reality. A specific encouragement/incentive is provided to reject previously

irrational/self-blaming beliefs in favor of a newly reframed positive belief with an increase in subjective conviction about that belief. Additional distinctions have been made between hypnosis and EMDR by Shapiro and Forrest (1997) and Nicosia (1995).

Chapter 4: Treatment Process and Standard Protocol

Core Components and Understanding EMDR Therapy EMDR is not a “talk therapy” approach to manage dysfunctional beliefs. It uses the three-pronged protocol and an eight-phased approach to physiologically reprocess targeted memory networks. The eight-phased approach addresses the experiential contributors of a wide range of pathologies. Early phases, such as history-taking and preparation for EMDR treatment, occur only at the outset of the course of treatment, but they may be revisited as needed to confirm or further explore the patient’s presenting issues. The assessment, desensitization, installation, body scan, and closure phases take place during each session of bilateral stimulation. Reevaluation (Phase 8) occurs regularly to assess the impact of previous sessions and progress toward overall treatment goals. Focused protocols are used, and no homework or detailed descriptions of the events are required. Description of the Eight Phases of Treatment

- Phase 1: History-Taking. The Psychosocial/Diagnostic Intake Interview is conducted to evaluate the patient’s presenting issues, self-soothing skills, and readiness for reprocessing, and to develop treatment goals. The clinician gathers information required for informed consent, considers special EMDR criteria related to client selection and readiness, and identifies potential treatment targets from positive and negative events in the patient’s life (past, present, and future).

- **Phase 2: Preparation**. Patients are prepared for EMDR processing of traumatic targets by understanding the adaptive information processing framework, strengthening the relationship between the clinician and the patient, setting expectations for the course of treatment, and identifying coping skills for use during and between treatment sessions.

- **Phase 3: Assessment**. Here, the target for EMDR reprocessing is accessed by stimulating the primary aspects of the memory. Baseline measurements are taken of the images, cognitions, emotions, and sensations associated with the targeted trauma.

  Phase 3 (assessment phase), involves identifying and accessing the target memory that will be processed. Therapists ask the individuals to focus on a vivid, disturbing image that represents the traumatic event and to identify negative beliefs about the self that are rooted in that experience. Individuals must create a positive cognition or belief that could replace the negative belief. The individual is also asked to notice the feelings and body sensations that may be associated with the disturbing memory. Baseline measurements of reactivity are assessed during the exercise. (youth.gov, n.d.)

- **Phase 4: Desensitization**. This stage involves reprocessing the target memory network by activating related channels of association. EMDR procedures to reprocess the selected incident associated with the presenting issue are applied until successful resolution. The clinician and patient engage in sets of bilateral stimulation (lasting approximately 15–30 seconds each). Eye Movement Desensitization and Reprocessing Therapy: An Informational Resource 3 CER provides essential information that aids health care providers and their clients in deciding on the most appropriate treatment.

During phase 4 (desensitization), the traumatic event and present stimuli that trigger the past experience are processed. Individuals are told to hold the disturbing images of the traumatic event in their mind along with the associated negative belief, feelings, and sensations in their body while focusing on external stimulus. The external stimulus is the therapists' fingers or hands that are moved back and forth in front of the individuals' eyesight for about 20 to 50 seconds. After each set of bilateral stimulation, individuals are asked about any changes or thoughts they experience. Through each treatment session,

rating scales are used to keep track of any changes in the intensity of feelings and body sensations. As individuals focus on the traumatic experiences, the episodic memory is processed and individuals should experience noticeable shifts in cognitions, emotions, and sensations. The memory of the traumatic event can then be integrated and consolidated as a narrative memory. As a result, individuals are brought to an adaptive resolution through adaptive information processing. (youth.gov, n.d.)

Piedfort-Martin (2019) injected the terminology "*personification"* which pertains to the "ability of the client to feel that they have experienced these traumatic events, 'to take personal ownership of their experience." (Van der Hart et al., 2006, p.153) (as cited by Piedfort-Martin, 2019). Moreover, personification may occur spontaneously in EMDR therapy.

- **Phase 5: Installation.** Strengthening and enhancing associations to positive memory networks are put into place. The suitability of the selected positive cognition is reevaluated and linked with targeting and strengthening EMDR procedures.

In phase 5 (installation), individuals Identify the most positive belief about themselves (either the initial positive cognition from phase 3 or another one that may emerge during treatment sessions). Using bilateral stimulation, therapists help individuals increase the connection of the new positive cognition with existing positive cognitive networks. The effects can then be generalized within associated neural networks. (youth.gov, n.d.)

- **Phase 6: Body Scan**. This stage reprocesses any residual physical manifestations of the memory and involves accessing the memory and the positive cognition (belief), scanning the body, and reprocessing any sensations.

- **Phase 7: Closure.** In this stage, there is reorientation of the focus of attention to bring closure to the reprocessing. The client is stabilized and the session closed, with reorientation to the present. A plan is developed for the time between sessions, and as appropriate, a plan is arranged for contact with the clinician.

- **Phase 8: Reevaluation**. Phase 8 is often conducted at the beginning of a subsequent treatment session. In other words, in the midst of a course of treatment, the clinician will conduct the reevaluation at the outset of an individual therapy session to revisit the impact of previous sessions. Reevaluation ensures clinical attention and follow-up of every EMDR treatment session to evaluate specific target memories, identify other relevant associations that may have developed as a result of reprocessing, and evaluate patient progress.

In addition to bilateral stimulation (eye movements, taps, audio tones), courses of EMDR treatment can include customized procedures and protocols under the adaptive information processing framework. These procedures can include self-soothing techniques, skill building, and enhancing access to positive networks. While EMDR therapy can incorporate elements from other clinical approaches that are compatible with the adaptive information processing framework, it is distinct in that it addresses the physiological effects of stored memories.

During phase 6 (body scan), therapists assist individuals in identifying and processing residual body sensations. In phase 7 (closure), therapists ensure individuals' stability, and individuals are told about what they might experience between treatment sessions. The final phase (reevaluation) is the assessment that occurs at the beginning of each subsequent session. In each new session, the individual's psychological state guides the next step of treatment.

A. EMDR STANDARD PROTOCOL

Description

The EMDR Standard Protocol worksheet is an information-gathering and prompt sheet for completing the standard EMDR protocol. Treatment according to the EMDR model is three-pronged (addressing past, present, and future), and involves eight (8) phases. This prompt sheet addresses the assessment, desensitization, installation, body scan and closure phases (phases 3-7).

Instructions

To gather information about a specific memory on which to begin work the therapist can ask a client:

1. To choose a specific memory, event, or symptom
2. To choose a target image representing the worst part of that event
3. To identify a negative cognition associated with the event.
4. To identify a positive cognition associated with that event.
5. To rate the validity of the positive cognition (VoC, rated 1-7).
6. To identify emotions associated with the target image.
7. To rate the distress associated with the target image and negative cognition (SUDs, rated 0-10)
8. To identify any body sensations associated with the target image.

Protocol instructions are then given for the stages of desensitization, including rules for managing incomplete sessions, and closure.

Target issue, memory, event, or symptom *"What issue would you like to begin working on?"* **Target image** *"What image represents the worst part of this event?"* *"Which part of this memory bothers you most?"*	**Preliminary Instructions** • "I will tune you in to the target image. We will do sets of bilateral stimulation (BLS) to help you process your experiences." • "I just want you to notice whatever comes up. You may or may not experience images, memories, emotions, or body sensations." • "Whatever happens is okay. There is no 'right way' to do EMDR." • "I won't stop if you say 'stop' incase that's part of what you are experiencing. Give the stop signal if you want to stop. If you do become distressed it is normally

	better, we carry on processing- I want you to try to tolerate as much emotion as you can." • "After each set of stimulation, I will as you to give a brief report of what you were aware of."
Negative cognition *"When you think of that incident, what negative thought or belief do you have about yourself now?* *"What negative thing does that incident say about you now?"* *("I" statement)* **Positive cognition** "When you think of that incident and those negative words [negative cognition] what would you prefer to believe about yourself now?" ("I" statement)	**Desensitization** • "Bring the target image & negative cognition to mind, notice where you are feeling it in your body." • Set of BLS as fast as a client can tolerate comfortably • If client becomes distressed: "Just notice it", "Just observe", "It's old stuff" • After a set: "What do you get now?", "What are you noticing?" • If client reports new material: *"Go with that", "Notice that"*
VoC (Validity of Cognition) *"When you think of that incident how true to do those words [positive cognition] feel to you now on a scale of 1 to 7?"*	**Installation of positive cognition** • "Do the words [positive cognition] still fit, or would another positive statement be more suitable?" • Check VoC: "Think about the original incident and the words [positive cognition]. How true do they feel now (1-7)?" • "Bring the target image and positive cognition together in your mind."

	• Complete sets of BLS until no change. (Continue installation as long as adaptive material is emerging) • If client reports a VoC of 6 or less continue sets of BLS • If client reports a VoC of 6 or 7 continue until no further material emerges then proceed to body scan
Emotions *"When you think of that incident and those words [negative cognition] what emotions do you feel now?"*	**Body Scan** • "Close your eyes & concentrate on the incident and the positive cognition. Mentally scan your entire body. Tell me if you feel anything." • If positive sensations are reported to do a short set of slow BLS, if more positive sensations are reported give more slow sets of BLS. • If any discomfort reported process ("go with that") with fast sets of BLS until no further negative sensations reported.
SUDs (Subjective Units of Distress) *"How disturbing does it feel to you now, on a scale from 0 to1 0?"*	**Post-session processing** • "You might find that the processing we have done today continues after the session. You might become aware of memories,

(No disturbance) 0 1 2 3 4 5 6 7 8 9 10 (Highest disturbance) **Location of body sensation** *"Where do you feel that in your body?"*	thoughts, sensations or dreams. Just notice what you experience." **Closure of an incomplete sessions** • An incomplete session is where material remains unresolved and no positive cognition installed (i.e. SUDs > 1, or any other distress). • Explain the need to stop. • Consider using: Safe place exercise to end with a positive felt sense. Metaphor/imagery of putting issues in a container until the next session. Lightstream exercise to reduce any remaining distress.

B. CASE STUDY I

A case study conducted by the American Psychological Association (2017) on an Iraq War Veteran resulted in distress reduction and mind-processing changes. Mike was a 32-year-old flight medic who had served in Iraq for two tours. He was discharged from the Army for post-traumatic stress disorder (PTSD) and was divorced with a two-year-old son. Mike was referred for PTSD treatment by the Army psychologist using Eye Movement Desensitization and Reprocessing (EMDR) therapy. He traveled to the therapist's office in Clarksville, Tennessee. He received EMDR therapy twice daily for five consecutive days.

The Adaptive Information Processing (AIP) model underpins EMDR therapy views pathology from maladaptive, unprocessed memories. These unprocessed disturbing memories retain a strong emotional charge and, when triggered, produce PTSD and/or other disorders symptoms. In comparison, adequately processed memories, even if they were distressing at the time, can be remembered without being relived or emotionally

activated. EMDR therapy addresses troubling memories from the past, current triggers and prepares the individual to deal effectively with similar situations in the future. It is structured in eight phases:

1. History taking
2. Preparation
3. Assessment
4. Desensitization
5. Installation
6. Body Scan
7. Closure
8. Reevaluation

Mike's first session of EMDR therapy reviewed his history and prepared him for the treatment. The Preparation Phase taught Mike a technique for achieving a positive state of security and calm. This assists in maintaining a sense of confidence and control during and between sessions. He pinpointed ten distressing target events that occurred during his time as a combat medic. He also recounted a childhood incident when he was still seven. His father informed Mike that he was leaving, that his parents would part ways, and Mike would now be the one responsible in their household, particularly his mother. Subsequent sessions addressed each of these memories directly.

As described in the case report, Mike's seventh session addresses his memory of a mass casualty incident. For this event, he initially assigned a 10 to his subjective units of disturbance (SUD) score, where 0 equals no disturbance and 10 equals the worst possible. In the said incident, Mike and his fellow medic, Sid, rescued two critically injured soldiers because of a Humvee collided and an improvised explosive device (IED) collision. The session begins the assessment phase. The therapist guides Mike by identifying and rating the pertinent components of the targeted memory (i.e., image, negative belief, emotion, body sensations). Mike becomes enraged and agitated as he recalls the incident. Instead of responding to the questions, he struggles to maintain focus and tells a disjointed and chaotic account of the event.

Therapist: As you focus on the last mission, what picture represents the worst part of that memory?

Mike: The doctor in the CaSH (combat support hospital) was saying, "He's gone." I started to cry. Sid got me by the collar and said, "Come on now" and he pulled me away…. One of the worst days. The whole mission was the f***ing worse image.
Therapist: What words would best describe your negative belief about yourself now?

Mike: Indecisive. "Let me ask you, with utmost respect, where are we going with this? That mission was f***ed up! We were in charge, we took too long.
Therapist: I heard you say something to the effect, "I let the soldiers down." What's the negative belief about yourself as you think about it now?

Mike: I'm a failure.
Therapist: So if you think about what you'd like to believe about yourself, instead of "I'm a failure," would it be, "I did the best I could"?

Mike: No, I didn't – I failed them. I'm sorry, I'm completely trying to help you, but I failed them. I failed them.

Mike is resistant to even naming a positive belief, but finally agrees that he would like to believe, "I did the best I could" and gives it a '1' rating on the validity of cognition (VOC) scale of 1 (where 1=completely false and 7= completely true). He says that the emotion he feels is "pain" and gives the memory a SUD score of 10. "I feel I deserve to feel it." He identifies the location of any negative sensations in his body as in his "heart." The therapist then starts the Desensitization Phase, and asks Mike to think of the incident, the negative cognition "I'm a failure", and the body location and to hold these in mind while following the therapist's left-right hand movements with his eyes, for about 30 seconds. At the end of the set of eye movements, he instructs the client to take a deep breath and let it all go, and then asks what the client now notices.

Mike: I'm confused.

Therapist: "Go with that."
<Eye movements and silence.>
"Take a deep breath. Let it all go. What do you get now?"

*(The therapist's phrasing may vary slightly and the therapist is silent or minimally encouraging during the eye movements. This sequence is repeated and represented below by **********)*

Mike: It must have been a big bomb, because the Humvee was lying on its side.

Therapist: **********
Mike: I wanted to help them so bad, I didn't care about the (unexploded) bomb.… I walked right in front of it. I wanted the solider out of the vehicle. Sid was already giving his patient help while I was still trying to find a way to help the soldier.…

Therapist: **********

Mike: ...It's our job to save people's lives. So you need to do your job, and when you don't people die. I can't think of a higher responsibility in the army …

Therapist: Who decides if a person lives or dies?

Mike: God does.
A few sets of eye movements and responses follow, focusing on how it is God's decision if someone dies, not Mike's.

Therapist: **********

Mike: It sucks. It sucks that we weren't able to save those soldiers.… It's a fool's errand. Every time you go out, the choice isn't up to you. We pulled a lot of people back from death.

The therapist, a veteran, picks up on a theme Mike has been getting at that is consistent with his military training.

Therapist: We are not judged by how many we save, but whether we do our best. **********

Mike: I was doing my best on the mission.
In the next few sets, he recalls incidents when his role was compromised by decisions made by superiors. "It was not my decision...maybe I don't need to hold onto it." A number of sets follow on the issue of responsibility and decisions.

Therapist: What would Sid say to you about the incident?

Mike: ...Your guy was f***ed man. I knew that.

Therapist: **********

Mike: ...That night on the ground,… we stepped up, we handled it like professionals. Those guys were bad off.

Therapist: ********

Mike: I'm trying to ask you, "How did you do that?" That pit in my chest is not there. God, it's not there. This is all I had do for the last four years?! This is different. I don't feel heavy. I wish those guys hadn't died. I feel different about it. I kept thinking EMDR won't work with this one.… I really didn't let those guys down. I'm not God. I wish I could

have saved them but they were so bad off.… War is so horrible. It's OK. I was there. It's conflicting emotions.

Therapist: **********

Mike: ...I see that I can carry (the memory) with pride. I can carry it for those guys...

Mike then tells the therapist that the incident no longer causes him any emotional disturbance (SUD=0) and treatment moves into the Installation phase. Mike confirms that his preferred positive cognition is still "I did the best I could." The therapist tells Mike to think of this cognition while thinking of the event, and to rate it on the VOC scale and Mike gives it a VOC score of 7, totally true.

The therapist then asks Mike to scan his body for any disturbance (phase 6). Mike explains to the therapist that he still feels sad that the men died, but that he feels "OK". The session (phase 7) is closed with the therapist asking Mike about his experience in the session.

Therapist: Is there anything you learned or gained today?

Mike: I didn't know it could be like this. It's like I've got on a different pair of glasses. Strange. So fresh. I'm so surprised. You helped me see. I feel lighter. (The treatment) doesn't fix the problem. It makes me different.

Hurley, Maxfield, & Solomon (2017)

A treatment expansion was made to include additional targeted memories. The therapist used the Future Template to prepare him to return home on Friday of that week. He no longer manifested symptoms of PTSD. Mike returned home and enrolled in vocational rehabilitation to train as a medical technician. The therapist lost track of him after 18 months when he relocated to the west coast.

Along with demonstrating distress desensitization, the session demonstrates cognitive shifts. According to the Adaptive Information Processing theoretical model, disturbing memories are stored separately from more adaptive or contextual information. During EMDR therapy, the client accesses related information spontaneously, connecting to and transforming the disturbing memory. Mike recounts details of the incident in this session, putting into perspective the soldier's severe injuries, what he could and could not realistically do, and his bravery and determination to save the soldier at all costs. He recalls fond memories of his colleague Sid and other aspects of his army and medic experiences in Iraq, where he saved numerous lives.

Mike also expressed how the session had altered his perception of himself as if he were "wearing a different pair of glasses." Mike's belief, instilled during his childhood when his father left, was that his role was to be responsible for the well-being of others. Mike was taught at Ft. Sam Houston while training to be an Army medic that "if you don't do your job, people die." In his mind, he subconsciously reversed that to read, "If people die as a result of your actions, it means you did not do your job." By the end of the session, Mike had realized that he could relinquish responsibility for the soldier's death. "I feel lighter," he stated. Additionally, the session altered his perceptions of what had occurred. Rather than feeling shame and guilt, he said, "I can proudly carry the memory."

C. CASE STUDY II

Intervention ID: 131**;**

Ages: 16 to 25;

Rating: Promising

Evaluation: Study 1

Scheck, Schaeffer, and Gillette (1998) studied the efficacy of Eye Movement Desensitization and Reprocessing (EMDR) with a group of traumatized young women. The study randomly assigned 60 women between the ages of 16 and 25 to attend two sessions of either EMDR or an active listening (AL) approach. Study participants in the treatment group received EMDR treatment that followed the standard protocol devised

by Shapiro (2001), consisting of manualized steps. Participants in the comparison group received AL treatment that followed a nondirective, Rogerian-based model: Comparison group participants were asked to say more about the traumatic memory. Therapists then used attentive silence and non-evaluative acknowledgement of what the participants shared.

Individuals were recruited from local municipal agencies in Colorado Springs, Colorado. They were eligible for the study if they were female, under 25 years of age, had a recent history of at least two of eight dysfunctional behaviors, and had a self-reported traumatic memory. Dysfunctional behaviors were assessed using an eight-item questionnaire that measured arrests, sexual promiscuity, runaway behavior, and drug and alcohol abuse. The final group of study participants was 62 percent white, 15 percent African American, 15 percent Hispanic, and 8 percent Native American. Almost all of the study participants (90 percent) reported being victims of physical or emotional abuse as a child. Over half of the traumas that participants self-reported were traumatic sexual experiences, such as rape or child molestation. There were no significant differences between the EMDR treatment group and AL comparison group on age, education level, and ethnicity.

There were several outcome measures of interest. The Posttraumatic Stress Disorder Interview (or PTSD–I) used a structured interview format to estimate the Diagnostic and Statistical Manual of Mental Disorders (or DSM–IV) diagnosis for PTSD. In addition, the Beck Depression Inventory, a 21-item self-report scale, was used to assess the severity of depression. The State–Trait Anxiety Inventory, a 40-item self-report scale, included two subscales that measured trait anxiety (how the participant generally feels) and state anxiety (how the participant feels right now). The Penn Inventory for Posttraumatic Stress Disorder, a 26-item self-report scale, measured the strength or intensity of posttraumatic symptoms. The Impact of Event Scale, a 15-item scale, included two subscales that assessed avoidance and intrusions concerning the traumatic event that participants have experienced over the most recent 7 days. Finally, the Tennessee Self-Concept Scale, a 100-item self-report scale, included a number of subscales and measured overall level of self-esteem.

Pretest assessments were collected with the female participants once they agreed to join the study. Posttest assessments were administered following participants' attendance in two therapy sessions of either EMDR or AL. A follow-up interview was conducted about 90 days after the posttest assessment. Follow-up data was only collected on 32 of the 60 participants (53 percent) who were available for follow-up interviews and did not have additional psychotherapy during the 3-month follow-up period.

A factorial analysis of variance (or ANOVA) technique was used to analyze the outcomes measures, with one between-subjects factor (type of treatment) and one within-subjects factor (pre–post). Analyses of simple main effects that used an unweighted means approach was also applied to analyze the data

(youth.gov, n.d.)

Outcomes: Study 1

Scheck, Schaeffer, and Gillette (1998) found that 77 percent of study participants (n= 46) met all of the symptom, duration, and exposure criteria to be classified as having posttraumatic stress disorder (PTSD).

Treatment Outcomes: Depression, Anxiety, PTSD, and Impact

The results showed that there were significant pre–post improvements on all outcome measures for both the Eye Movement Desensitization and Reprocessing (EMDR) treatment group and the comparison group that received the active listening (AL) approach. However, the differential improvement on four outcome measures (the Beck Depression Inventory, the State–Trait Anxiety Inventory, the Penn Inventory for PTSD, and the Impact of Event Scale) resulted in significantly greater pre–post changes for the EMDR treatment group on measures of depression, anxiety, PTSD, avoidance, and intrusive thoughts. The effect size for EMDR group members averaged 1.56, compared to 0.65 for AL group members.

Chapter 5: Efficacy and Safety of EMDR

Post-Traumatic Stress Disorder and EMDR

Both domestic and international organizations recognized EMDR as an effective treatment to trauma. It has even recommended practice guidelines worldwide. For one the American Psychiatric Association came up with practice guidelines for patients with acute stress disorder and post-traumatic stress disorder.

Eye movement desensitization and reprocessing is commonly viewed as an amalgam of cognitive behavior therapy, exposure therapy (albeit brief and interrupted exposures), and a unique focus on eye movements (American Psychiatric Association, 2004). Given the efficacy of cognitive-behavioral therapy and exposure therapy in treating PTSD, a focal question about eye movement desensitization and reprocessing is whether the eye movements contribute to the therapy outcome. Numerous factors have hampered efforts to determine whether EMDR effects are distinct from cognitive behavior therapy and exposure therapy. Adults who experienced childhood sexual abuse, sexual assault, hurricane, and those riddled with civilian traumas were included in the EMDR studies. The protocols vary considerably, ranging from a single 90-minute session to eight to ten sessions. Additionally, the number of subjects in the studies varied considerably. Numerous studies compared EMDR to control groups consisting of waiting lists, supportive counseling, or active listening.

Others compared EMDR to various forms of prolonged exposure, and several compared EMDR with or without eye movement or finger tapping procedures. Most outcome variables were self-report PTSD scales (frequently the Impact of Event Scale), with a few utilizing more general symptom checklists or depression inventories. Moreover, no study has included structured or systematic measures of functional outcome. As a result of the substantial variation in study design and other methodological flaws, it is difficult to draw definite conclusions about the independently effective elements of EMDR.

EMDR appears to be effective for both acute and chronic PTSD symptoms. Marcus (1997) (as cited in American Psychiatric Association, 2004), for example, compared EMDR to standard care in 67 demographically diverse patients at a health maintenance organization who developed PTSD as a result of assault, rape, incest, accidents or witnessing a trauma. Although subjects were randomly assigned to a treatment condition, evaluations were not completely blinded, and standard care varied between therapists. Treatment sessions were continued until PTSD symptoms resolved or the study concluded, at which point 75% of subjects treated with EMDR and 50% of subjects treated with standard care no longer met the criteria for PTSD. Significant improvements in PTSD symptoms, as measured by the Mississippi PTSD Rating Scale and the Impact of Event Scale, and depressive symptoms, as measured by the Beck Depression Inventory, were also noted in the EMDR-treated group.

Rothbaum (1997) (as cited in American Psychiatric Association, 2004) assigned twenty female rape victims to either three weekly 90-minute EMDR sessions or a waiting-list control group. All of the subjects met the DSM-III-R criteria for PTSD, and the majority had been experiencing symptoms for years. At four weeks following treatment completion, 90% of EMDR-treated subjects no longer met the criteria for PTSD. Unblinded symptom ratings for PTSD and depression demonstrated significant improvements, although the duration is unknown since those who were waitlisted still need to undergo treatment.

Randomly assigned women (ages 16–25 years) with a self-reported traumatic memory to receive either EMDR or active listening in two 90-minute sessions separated by one week (Scheck et al., 1998) (as cited in American Psychiatric Association, 2004). Although both groups improved immediately following the intervention on measures of depression and anxiety, including PTSD symptoms, the EMDR group had larger effect sizes. The study, however, was limited by the fact that only 50% of eligible participants enrolled, and only 70% of those who actually enrolled completed the study. Additionally, only 77% of subjects met the criteria for a PTSD diagnosis at study entry.

Wilson et al. (1995) (as cited by American Psychiatric Association (2004) assigned 80 subjects to either EMDR or delayed EMDR treatment. The study observed an equal

number of men and women who had suffered various traumas between 3 months and 54 years old before treatment. Only half of the subjects met DSM-IV criteria for PTSD, and only one-third had not previously received treatment for their symptoms. Three 90-minute EMDR sessions were conducted, as well as follow-up assessments. Subjects who received delayed treatment experienced no change in symptoms during the 30 days preceding the start of EMDR, whereas those who received EMDR experienced significant improvements on measures of PTSD symptoms, somatization, interpersonal sensitivity, depression, and anxiety. After treatment initiation, similar improvements were observed in the delayed-treatment EMDR group, with advances in both groups maintained at 90-day and 15-month follow-up.

Ironson et al. (2002) (as cited in American Psychiatric Association, 2004) conducted a study comparing the efficacy of EMDR and prolonged exposure in 22 civilian patients. Both approaches significantly reduced PTSD and depression symptoms that remained stable over a three-month follow-up period. In the EMDR group, successful treatment was faster, more tolerable, and more comprehensive. Additionally, EMDR reduced anxiety on process measures that were significantly greater than the overall improvement in symptoms on outcome measures, with some evidence of sustained symptom improvement lasting up to three months.

Another study with a longer follow-up period discovered that treatment benefits were lost after six months. In the said EMDR dismantling study, 51 Australian male combat veterans with PTSD were randomly assigned to one of three conditions. The conditions used were two eye movement desensitization and reprocessing sessions, two sessions of REDDR or *reactive eye dilation desensitization and reprocessing*, or no intervention. REDDR was similar to EMDR, except that it uses eye dilation instead of eye movements. Furthermore, REDDR utilizes a black box with a flashing light **(opticator).** All subjects received standard care during the study.

Subsequently, no statistically significant changes were recorded in the outcome measures for the three conditions from the treatment sessions before and after. At three months, each of the three treatment groups had improved slightly, but no statistically significant difference existed between them. By six months, trait anxiety, depression, or

PTSD changes were no longer statistically significant (effect sizes at six months for EMDR plus standard care versus REDDR plus standard care=0.25). These findings, however, must be interpreted in light of the brief duration of the EMDR and REDDR conditions. In a 5-year follow-up study, 13 Vietnam combat veterans, who received EMDR, were compared to a controlled group of 14 demographically matched combat veterans who did not receive EMDR therapy. Both groups demonstrated a 5-year overall worsening of PTSD symptoms and loss of the modest to moderate early benefit of EMDR (Macklin et al, 2000) (as cited in American Psychological Association, 2004).

A comparative study done by Devilly and Spence (1999) (as cited by American Psychiatric Association, 2004) observed the outcomes of nine sessions of a cognitive behavioral therapy variant combined with eight sessions of EMDR on 23 subjects with mixed trauma histories. The study combined prolonged exposure, in-depth cognitive therapy, and a variant of Foa's stress inoculation training as part of the trauma treatment protocol (TTP). In addition, the researchers claimed that TTP was more effective than EMDR from pre- to post-treatment, with reasonable effect size and high power. The superiority of TTP became more apparent at the 3-month follow-up, when 83 percent of TTP patients failed to meet the PTSD criteria, compared to 36% of EMDR subjects. However, it should be noted that the study was not randomized in the conventional sense, as the majority of non-EMDR subjects were grouped in an initial block, and EMDR was administered in a second block.

Cusack and Spates (1999) (as cited by American Psychiatric Association, 2004) in their study randomly assigned 38 subjects to three 90-minute sessions of standard EMDR or eye movement desensitization, including all EMDR components except cognitive reprocessing. At study entry, two-thirds of the 27 participants (23 women and four men) met the DSM-IV diagnosis of PTSD criteria, and half experienced physical or sexual assault. Both groups experienced statistically significant reductions in symptoms following treatment, as assessed by the revised SCL-90, the Impact of Event Scale, the Structured Interview for PTSD, a behavioral assessment of speech anxiety, and a subjective unit-of-discomfort scale. However, both treatment groups improved similarly,

indicating that the imaginal exposure component of EMDR, rather than the cognitive reprocessing component, is critical for clinical efficacy.

Numerous meta-analyses of controlled trials have concluded that EMDR is an effective treatment. Foa and Meadows conducted a 1997 review that included studies on individuals exposed to highly stressful events and those who met the criteria for PTSD. While most of the reviewed studies found no difference between EMDR and no-treatment or waiting-list control conditions, one study found that EMDR was superior. The authors noted that additional research was necessary to determine effectiveness due to methodological issues.

Davidson and Parker compared EMDR to no treatment, cognitive behavior therapy, non-invasive exposure approaches, EMDR variants (e.g., dismantling studies), and "nonspecific" treatments. EMDR was significantly more effective than no treatment and comparable to other active therapies. The dismantling studies appeared to be effective across a variety of EMDR protocols in this analysis. Maxfield and Hyer conducted a meta-analysis comparing EMDR to control groups, waiting lists, cognitive behavior therapy, and other treatments. EMDR outperformed waiting-list conditions and was on a par with or outperformed other therapies (with considerable variability across studies). While Shepherd et al. included traumatized patients, who did not all meet the DSM-IV or DSM-III-R criteria for PTSD, they concluded that EMDR was comparable to a variety of psychotherapies and antidepressant therapy.

As a summary, eye movement desensitization and reprocessing (EMDR) is a treatment modality that falls within a continuum of exposure-related and cognitive-behavioral therapies. EMDR utilizes techniques that may give the patient control over the exposure experience because it is less reliant on a verbal account and methods for regulating anxiety in the apprehensive environment of exposure treatment. As a result, it may be advantageous for patients who are intolerant of prolonged exposure or who have difficulty verbalizing their traumatic experiences.

Comparing EMDR to other therapies in larger samples is necessary to elucidate these differences. In general, the dismantling studies indicate that eye movement or other proxies during treatment sessions has no cumulative effect. Despite EMDR's

demonstrated efficacy, these studies cast doubt on its theoretical underpinnings. Thus, it would appear that the primary reason for treatment gains is the widespread sharing of trauma exposure techniques and emotional reprocessing. Therefore, EMDR is preferable to no treatment or supportive counseling and maybe just as effective as cognitive behavior therapy or other exposure-based methods. As with other therapies, the extent to which gains are sustained over time requires additional research.

Additional Recommendations

- According to an American Psychological Association Taskforce, the only techniques empirically supported as probably efficacious for treating people with post-traumatic stress disorder were eye movement desensitization and reprocessing, exposure therapy, and stress inoculation therapy. (Chambless, et al 1998) (as cited by EMDR Insitute, Inc., n.d.)
- EMDR was labeled as the treatment with 'best evidence of efficacy' along side exposure therapy and stress inoculation therapy for psychological therapies by the United Kingdom Department of Health in 2001 (EMDR Institute, Inc., n.d.)
- In 2002, a position paper of the National Council for Mental Health in Israel recommended EMDR as one of the three methods in treating terror victims. (Bleich, Kotler, Kutz, & Shalev, 2002) (as cited by EMDR Institute Inc., n.d.).
- The Clinical Resource Efficiency Support Team of the Northern Island Department of Health, Social Services, and Public Safety (2003), Dutch National Steering Committee Guidelines Mental Health Care (2003) and INSERM (2004), declared that EMDR and cognitive behavioral therapy as a treatment of choice for the management of post-traumatic stress disorder (PTSD) in adults (as cited by EMDR Institute, Inc., n.d.)
- In 2005, the National Collaborating Centre for Mental Health stated that trauma-focused cognitive behavioral therapy and eye movement desensitization and reprocessing were 'empirically supported treatment of choice for adults with PTSD. (EMDR Institute, Inc. n.d.)
- Foa, Keane, Friedman, &Cohen, (2009) identified EMDR as an 'effective and empirically supported treatment' for people with PTSD. They also assigned the

said treatment with an AHCPR rating of “A”
for adult PTSD. The said advice was strongly contradicted the previously published report by the Institute of Medicine, which stated that additional study was necessary to determine whether EMDR was useful for adult PTSD. Despite such contradiction, AHCPR still granted a Level B rating to the use of EMDR to children.

- EMDR and Trauma-focused CBT were considered to be sufficiently backed by research evidence according to California Evidence-Based Clearinghouse for Child Welfare (2010) (as cited by EMDR Institute, Inc., n.d.)
- Therapy Advisor (2004-2011) enlisted EMDR as one of the treatments for PTSD. (EMDR Institute, Inc., n.d.)
- The Substance Abuse and Mental Health Services (SAMHSA)- National Registry of Evidence-Based Programs and Practices (2011) also enlisted EMDR as a method that is evidence-based and applicable for treating anxiety, depression, and post-traumatic stress disorder symptoms. Additionally, their analysis of the evidence suggested that EMDR improves mental health functionality.
- The World Health Organization (2013) noted that trauma-focused CBT and EMDR are the only approved psychotherapies for children, adolescents, and adults suffering from PTSD. EMDR, like trauma-focused CBT, aims to alleviate subjective discomfort, and enhance adaptive cognitions about a traumatic event. The only thing that differentiates EMDR from CBT is that it does not require ‘detailed explanations of the incident, direct challenge of beliefs, extended exposure, or homework’ (EMDR Institute, Inc., n.d.)
- EMDR received the highest recommendation and placed in a group of three ‘trauma-focused psychotherapies with the strongest clinical evidence.’ The A-rating is defined as a solid recommendation for doctors that they administer the intervention to eligible patients. There is sufficient evidence that the intervention improves critical health outcomes, and the benefits significantly exceeds the risks. (Department of Veterans Affair and Department of Defense, 2017) (as cited by EMDR Institute, Inc., n.d.)

- The International Society for Traumatic Stress Studies (2018) strongly recommended EMDR therapy as an effective and empirically supported treatment for people suffering from PTSD. (as cited by EMDR Institute Inc., n.d.)

Efficacy of EMDR in the Treatment of Phobias, Panic Disorder, Agoraphobia and other Clinical Disorders

There is a wealth of evidence that EMDR therapy is effective at treating specific phobias. Regrettably, research into EMDR treatment for phobias, panic disorder, and agoraphobia has failed to uncover solid empirical support for these applications. Though methodological limitations in the various studies may partially riddle the said findings, it is also possible that EMDR therapy is not consistently effective for these disorders. According to De Jongh, Ten Broeke, and Renssen (1999) (as cited (as cited by EMDR Institute Inc., n.d.), **EMDR may be most effective in treating anxiety disorders that arise from traumatic experiences because EMDR therapy is mainly used to treat distressing memories and associated pathologies. They also added that EMDR was less effective in treating anxiety disorders with an unknown etiology** (e.g., snake phobia).

Various random clinical trials have been conducted to evaluate EMDR treatment for arachnophobia, also known as spider phobia (Muris & Merckelbach, 1997; Muris, Merckelbach, van Haaften, & Nayer, 1997; Muris, Merkelbach, Holdrinet, & Sijsenaar, 1998) (as cited by EMDR Institute Inc., n.d.). These studies demonstrated that EMDR was less effective at eliminating phobias than in vivo exposure therapy. These studies' methodological limitations include the absence of the complete EMDR treatment protocol (see Shapiro, 1999) and confounding effects due to the use of the exposure treatment protocol as the post-treatment assessment. When the full EMDR phobia protocol was used in case studies with patients suffering from medical and dental phobias (De Jongh et al., 1999; De Jongh, van den Oord, & Ten Broeke, 2002) , positive results were obtained. According to a randomized controlled trial, three sessions of EMDR therapy memory processing resulted in remission of dental phobia (Doering et al., 2013). "After one year, 83.3 percent of patients were receiving routine dental care (d = 3.20)."

Clinical utility is a critical factor to consider when selecting a treatment. In vivo exposure may be impractical for clinicians who lack easy access to feared objects (e.g., spiders) in their office settings; additionally, some phobias are event- or location-specific (e.g., thunderstorms) (e.g., bridges). EMDR therapy may be more practical than in vivo exposure, and the in vivo component is frequently included as homework (De Jongh et al., 1999).

Three studies examined EMDR treatment for panic disorder with or without agoraphobia. The first two studies (Feske & Goldstein, 1997; Goldstein & Feske, 1994) evaluated a brief course of treatment (six sessions) for panic disorder. The results were encouraging but were constrained by the short duration of treatment. According to Feske and Goldstein, "even ten to sixteen sessions of the most powerful treatments rarely result in the normalization of panic symptoms, even more so when agoraphobia is present" (p. 1034). The effects of EMDR therapy were generally maintained during follow-up. A third study (Goldstein et al., 2000) examined the benefits of a longer course of treatment. However, this study shifted its focus and treated agoraphobic patients. Panic Disorder with Agoraphobia participants did not respond well to EMDR therapy. Goldstein (as cited in Shapiro, 2001) suggests that these participants required additional preparation beyond what was provided in the study to develop anxiety tolerance. The authors speculate that EMDR therapy may be less effective than CBT in treating panic disorder with or without agoraphobia; however, no direct comparison studies have been conducted. Faretta (2013) compared 12 sessions of EMDR to 12 cognitive behavioral therapy sessions to treat a panic disorder associated with agoraphobia. Without the use of treatment-specific homework, etiological events, triggers, and memory templates were processed in session.

In comparison, the CBT group engaged in in-session breathing and relaxation exercises and imaginal exposure and was assigned homework for both relaxation and exposure. Both treatments significantly reduced anxiety symptoms, as well as the intensity and frequency of panic attacks. At posttest and follow-up, EMDR resulted in substantially fewer panic attacks than CBT.

However, it must be noted that EMDR is not entirely applicable to every clinical disorder. EMDR therapy was developed to treat traumatic memories, and research has established its efficacy in treating PTSD. According to Shapiro (2001), it should aid in the reduction or elimination of other disorders that arise as a result of a distressing experience. Brown, McGoldrick, and Buchanan (1997) discovered that 1-3 EMDR therapy sessions processing the etiological memory resulted in successful remission in five out of seven consecutive cases of Body Dysmorphic Disorder. Similarly, it has been reported that EMDR treatment eliminated phantom limb pain after focal treatment of etiological memory and pain sensations (Vanderlaan, 2000; Wilensky, 2000; S. A. Wilson, Tinker, Becker, Hofmann, & Cole, 2000). EMDR therapy is unlikely to alleviate symptoms associated with physiological-based disorders such as schizophrenia or bipolar disorder. However, experiential factors may play a significant role in developing specific symptoms. There are informal reports about individuals successfully treated with EMDR therapy for distress associated with traumatic events.

Along with studies examining the efficacy of EMDR therapy in treating PTSD, phobias, and panic disorders, some preliminary research indicates that EMDR therapy may be beneficial for treating other disorders. These include dissociative disorders (e.g., Fine & Berkowitz, 2001; Lazrove & Fine, 1996; Paulsen, 1995); performance anxiety (Foster & Lendl, 1996; Maxfield & Melnyk, 2000); body dysmorphic disorder (Brown et al., 1997); and pain disorder (Grant & Threlfo, 2002). (e.g., Korn & Leeds, 2002; Manfield, 1998). However, these are only preliminary findings. Thus, additional research is imperative before forming any conclusions. Shapiro, 2002 describes the use of EMDR to treat depression (Shapiro, 2002), attachment disorder (Siegel, 2002), social phobia (Smyth, & Poole, 2002), anger dysregulation (Young, Zangwill, & Behary, 2002), generalized anxiety disorder (Lazarus, & Lazarus, 2002), infertility-related distress (Bohart & Greenberg, 2002), body image disturbance (Brown, 2002), and marital.

In the recent years, Cujipers, Cristea, Sijbrandij, van Veen & Yoder (2019) found that there were significant results found for EMDR in the treatment of phobias and test anxiety, however, the number of studies was small and may pose a risk of bias. They stressed

that EMDR may be effective in the treatment of post-traumatic stress disorder in short-term, but the quality of the available studies are too low to draw a definite generalization.

Two latest studies have taken things a step farther and are quite pertinent to the profession. The first, published in Nature in 2019 by Baek et al., (as cited by Amann, Castelnuovo, & Fernandez, 2019) elucidates the mechanism of action and neurobiological pathway of EMDR using an animal model. The scientists discovered that bilateral stimulation resulted in a significant and sustained decrease in fear behavior when compared to control settings. Additionally, the authors noticed that bilateral stimulation enhanced neuronal activity in the superior colliculus and mediodorsal thalamus, decreasing neuronal excitability in the amygdala's basolateral nucleus. The other publication is a review in Neuron by Maddox et al. on the encoding of painful memory (2019) (as cited by Amann, Castelnuovo, & Fernandez, 2019). Additionally, the authors explain EMDR in depth as a viable psychotherapy for rewriting traumatic memory engrams, which serve as the basis for traumatic memory persistence following an encoding of the threatening experience in the brain circuits.

Schizophrenia

Bont, de Jongh, & van Minnen (2013) (as cited in EMDR Institute Inc., n.d.) employed a close group controlled design to assess two psychological interventions for post-traumatic stress disorder (PTSD) in ten patients who also have a concurrent psychotic disorder. Patients were randomly assigned to either prolonged exposure (PE; 5 patients) or eye movement desensitization and reprocessing (EMDR; 5 patients). A total of twenty weekly assessments of PTSD symptoms, hallucinations, and delusions were conducted before, during, and after treatment. Throughout the treatment phase, the researchers conducted twelve weekly assessments of adverse events. Pretreatment, post-treatment, and three-month follow-up assessments of PTSD diagnosis, social functioning, psychosis-prone thinking, and general psychopathology were conducted. Adverse events were monitored at each session throughout the treatment. Intention-to-treat analysis of the ten patients initiating treatment revealed that both PE and EMDR significantly reduced the severity of PTSD symptoms; PE and EMDR were equally effective and safe. Eight of the ten patients received the whole duration of the intervention. At follow-up, seven of ten patients (70%)

no longer met the diagnostic criteria for PTSD. No serious adverse events were noted. It did not worsen patients' hallucinations, delusions, psychosis susceptibility, general psychopathology, or social functioning. The findings of this feasibility trial suggest that trauma-focused treatment approaches such as PE and EMDR benefit PTSD patients with co-occurring psychotic disorders.

Neurobiological aspects of EMDR Therapy

Because of neurobiology's infancy as a branch of science, the physiological underpinnings of all psychotherapies are unknown at the moment. It brings us to the conclusion that perhaps, all neurobiological models of psychotherapy are speculative. The development of advanced brain imaging techniques will enable testing hypotheses about the neurological mechanisms underlying all forms of psychotherapy and the majority of pharmaceuticals. At the moment, assumptions about the neurobiological mechanisms underlying EMDR therapy are purely speculative.

Rauch, van der Kolk, and colleagues (1996) exposed patients with PTSD to vivid, detailed narratives about their own traumatic experiences via positron emission studies. Patients demonstrated heightened activity only in the right hemisphere, in areas associated with emotional arousal, and heightened activity in the right visual cortex, consistent with the patients' reported flashbacks. Broca's area, the section of the left hemisphere responsible for converting personal experiences into communicable language, was "deactivated." Thus, these findings suggest that PTSD symptoms are reflected in physiological changes in the brain.

Rauch, van der Kolk and colleagues' case study (Levin, Lazrove, & van der Kolk, 1999; van der Kolk, Burbridge, & Suzuki, 1997; Zoler, 1998) provided preliminary evidence on effective treatment resulting in changes in brain activation patterns. Pre- and post-EMDR SPECT scans were performed on six PTSD subjects who each received three EMDR sessions. Photographs of pre-and post-SPECT scans are included in the Zoler article. Metabolic changes in two specific brain regions were observed following EMDR. There was an increase in bilateral anterior cingulate activity. This area modifies the experience of actual versus perceived threat, implying that PTSD patients may no longer be hypervigilant following EMDR. Second, metabolic activity in the prefrontal lobe appeared

to be increased. Increased frontal lobe function may indicate an improved capacity to make sense of incoming sensory stimulation. Levin et al. concluded that EMDR seemed to aid in the processing of information. The absence of a control group suggested no evidence, further stating that these effects were unique to EMDR; effective treatment of any type may produce comparable results.

K. Lansing, D.G. Amen, C. Hanks, and L. Rudy (2005) reported that SPECT scans performed pre-and post-treatment revealed decreased anterior cingulate, basal ganglia, and deep limbic activity. The 12th chapter of Shapiro's (2001) text discusses some recent neurological research findings and discusses their possible relevance to EMDR. Additionally, Stickgold (2002), a sleep researcher, developed a theory that explains the EMDR's alternating bilateral stimulation effects. The said effects force the client's attention to shift across the midline constantly. He proposed that turning attention facilitates REM-like neurobiological mechanisms, resulting in episodic memories and their integration into cortical semantic memory. Christman, S. D., Garvey, K. J., Propper, R. E., and Phaneuf, K. A. (2003) conducted independent research to bolster this theory. They discovered that alternating leftward and rightward eye movements improved performance on episodic retrieval memory tasks rather than semantic retrieval memory tasks.

Each psychophysiological study has demonstrated a significant reduction in arousal. Significant effects have been observed in neurobiological studies, including changes in cortical and limbic activation patterns and increased hippocampal volume.

Research with Military Personnel and Veterans

https://www.ptsd.va.gov/professional/treat/txessentials/emdr_pro.asp

Most research on EMDR has been conducted in non-Veteran civilian samples. A recent review identified four randomized controlled trials examining EMDR in military or Veteran populations (8). All of these studies were published before the year 2000 and only one study included a full course of treatment (9). The others were short duration studies (1-3

EMDR sessions). EMDR improved PTSD symptoms comparably to comparison conditions (exposure therapy (10); EMDR without eye movement (11); usual care (11); and, biofeedback (9,12)). Given the limitations of these studies, more research with Veterans and military Service members is needed.

Research with Comorbidities

To date, few studies have evaluated EMDR's effectiveness to treat PTSD when a comorbidity is present. A study comparing EMDR, Prolonged Exposure (PE), and waitlist controls among 155 patients with PTSD and psychosis showed that EMDR and PE were more effective than waitlist in reducing PTSD symptoms. Results were maintained at 6-month follow-up (13). A study of EMDR to treat PTSD in individuals with a concurrent alcohol use disorder is presently underway (14).

Research with Bilateral Stimulation

Research is ongoing to understand the function of alternating bilateral stimulation. Proposed functions include lowering physiological arousal, decreasing the vividness and emotionality of memories (15,16), and perhaps subsequently, increasing access to more adaptive associations by enhancing retrieval of episodic memories (16,17). A meta-analysis published in 2013 showed support for the effectiveness of eye movements to reduce subjective distress. It is important to note that this meta-analysis included studies beyond PTSD that used primarily self-report measures (16).

Comparative Effectiveness Research and Systematic Reviews of EMDR's Effectivity

https://emdrfoundation.org/wp-content/uploads/2018/02/SAMHSA-NREPP-Comparative-Effectiveness-Research-Series-on-EMDR-Therapy-2012.pdf

EMDR therapy is recognized as an evidence-based practice because it has been scientifically evaluated, demonstrated to be effective, and often cited as an effective treatment in national and international treatment guidelines for organizations such as the U.S. Department of Veteran Affairs, the U.S. Department of Defense, the United Kingdom Department of Health, and the International Society of Traumatic Stress Studies. In 2010, EMDR was reviewed and included in the Substance Abuse and Mental Health Services

Administration's National Registry of Evidence-based Programs and Practices. The effectiveness of EMDR has been evaluated in many studies, including comparative effectiveness research (CER). CER studies compare the benefits and harms of different interventions and strategies to prevent, diagnose, treat, and monitor community health and the nation's health care system. The Agency for Healthcare Research and Quality defines CER as a way to develop, expand, and use a variety of data sources and methods to conduct research and disseminate results in a form that is quickly usable by clinicians, clients, policymakers, and health plans and other payers.

Initially, there was limited empirical evidence on the effectiveness of EMDR therapy. However, studies over the past 15 years have demonstrated that EMDR is effective in reducing trauma-related stress, anxiety, and depression symptoms among children and adults of different racial and ethnic backgrounds, including veterans. Data on the efficacy of EMDR have been established through 30 randomized clinical trials, with published findings showing immediate improvements; some have shown maintenance of reduction of symptoms (e.g., anxiety, fear, depression) at followup.1–4 EMDR has been evaluated through meta-analytic procedures in six reviews. Findings from one of these reviews suggest that EMDR therapy and trauma-focused cognitive behavioral therapy provide the best evidence of efficacy for those suffering from PTSD.1 Another review noted that EMDR had incremental efficacy compared to other established cognitive behavioral treatments in treating children with PTSD. While other reviews found EMDR therapy to be as effective as exposure therapies for reducing PTSD symptoms, the length of EMDR treatment is more advantageous in reducing clinical symptoms in a shorter period of time.

EMDR therapy contains many elements that contribute to its treatment effects; however, the bilateral stimulation (e.g., eye movements) component has come under the greatest scrutiny. EMDR achieves clinical effects without the need for a significant amount of work between sessions or a prolonged focus on exposure therapies. Several studies have shown support for the eye movements component of EMDR over control conditions, and recent studies have shown support for eye movements over other forms of dual-attention stimulation in the following:

- Reductions in physiological symptoms

- Increasing vividness of imagery, attentional flexibility, and memory association
- Rapid decline in symptoms

Elements of EMDR Therapy that contribute to its effectiveness

EMDR therapy is a sophisticated therapeutic approach that synthesizes elements of various traditional psychological orientations into structured protocols. Psychodynamic (Fensterheim, 1996; Solomon & Neborsky, 2001; Wachtel, 2002) (as cited in EMDR Institute Inc., n.d.), cognitive-behavioral (Smyth & Poole, 2002; Wolpe, 1990; Young, Zangwill, & Behary, 2002) (as cited in EMDR Institute Inc., n.d.), experiential (e.g., Bohart & Greenberg, 2002)(as cited in EMDR Institute Inc., n.d.), physiological (Siegel, 2002; van der Kolk, 2002)(as cited in EMDR Institute Inc., n.d.), and interactional therapies are among them (Kaslow, Nurse, &Thompson, 2002) (as cited in EMDR Institute Inc., n.d.). As a result, EMDR contains several practical components, each believed to contribute to treatment success.

According to Marks, Lovell, Noshirvani, Livanou, and Thrasher (1998) (as cited in EMDR Institute, Inc., n.d.), emotion can be conceptualized as a "skein of responses," consisting of "loosely connected physiological, behavioral, and cognitive reactions." They propose that various types of treatment will weaken distinct strands within the skein of responses and that "some treatments may act on multiple strands concurrently." EMDR therapy is a multifaceted approach that addresses imagery, cognition, affect, somatic sensation, and associated memories. This complexity complicates isolating and quantifying the contribution of any single component, particularly when different clients who are similarly situated in terms of diagnosis may respond uniquely to other elements.

Shapiro's (2001) (as cited in EMDR Institute Inc., n.d.) AIP model conceptualizes EMDR therapy as directly affecting cognitive, affective, and somatic memory components to establish new associative links with more adaptive material. Numerous treatment components are designed to facilitate the processing and assimilation required for adaptive resolution. These include the following:

1. **Interconnection of memory components.** Simultaneous attention to the event's image, the associated negative belief, and the accompanying physical sensations may help establish initial connections between various elements of the traumatic memory, thereby initiating information processing.

2. **Consciousness.** Clients are encouraged to practice mindfulness by being instructed to "just notice" and "let whatever happens to happen." This cultivation of a stabilized observer stance in EMDR therapy appears to be similar to the processes advocated for emotional processing by Teasdale (1999) (as cited in EMDR Institute, Inc., n.d.).

3. **Association without restriction**. Clients are asked to report any new insights, associations, emotions, sensations, or images that come into consciousness during processing. This non-directive method of free association may facilitate the formation of associative links between the originally targeted trauma and other relevant experiences and information, thereby aiding in the processing of the traumatic material (Rogers & Silver, 2002) (as cited in EMDR Institute Inc., n.d.).

4. **Repeated exposure to and rejection of traumatic imagery.** EMDR therapy's brief exposures give clients repeated practice controlling and dismissing disturbing internal stimuli. This may instill a sense of mastery in clients, enhancing their ability to reduce or manage negative interpretations and ruminations and thus contributing to treatment effects

5. **Eye movements and other stimuli requiring dual attention.** Numerous theories exist regarding how and why eye movements may aid in information processing; these are discussed in detail below.

Adverse effects

For some clients, EMDR may be contraindicated (Rubin, 2014). The clinical literature on EMDR suggests that possible contraindications include the likelihood that disorders may be exacerbated by the extreme levels of emotion associated with reprocessing. These include **pregnancies, seizures, and other neurological problems**. Additionally, contraindications such as the usage of psychotropic drugs or substance misuse must be

evaluated. Additionally, clinicians should be on the lookout for signs of dissociation and dissociative disorders and should refrain from using EMDR with dissociative clients unless they have considerable experience as an EMDR clinician and have received practical experience in treating people with dissociative disorders (Rubin, 2014).

A temporary increase in distress may occur as with any psychotherapy.

Disturbing and unresolved memories may surface. Unanticipated high levels of emotions or physical sensations may be experienced by some clients as they undergo treatment sessions. Following the treatment session, the processing of incidents/material may continue, and other dreams, memories, feelings, and so on may emerge.

Many people are aware of only a semblance of the experience, while others are acutely aware of it. Unlike some other therapies, EMDR therapy does not require clients to intensely and repeatedly relive the trauma. Whenever high level of emotional intensity happens during EMDR therapy, it lasts only a few moments and then rapidly decreases. If it does not rapidly dissipate on its own, clinicians are trained in techniques to aid dissipation. Additionally, the client has been trained in methods for resolving the distress immediately.

Lastly, there are no clinical indications suggesting that EMDR therapy increases seizure frequency.

EMDR Adaptations for Implementation in Real world Settings

To meet the specific needs of health care settings and the clients they serve, EMDR therapy adaptations have been evaluated in specific populations. For example, EMDR's effectiveness has been evaluated in the treatment of adult patients with PTSD and other trauma-related issues. The intervention has also been adapted for use with children with PTSD and more recently was included in the California Evidence-Based Clearinghouse for Child Welfare treatment guidelines as well supported by research evidence. The treatment setting for EMDR is usually outpatient, although some have adapted the intervention for inpatient settings, particularly for veterans with PTSD.

EMDR has been shown to successfully treat individuals with several presenting traumas, including the following:

- Combat veterans who no longer experience flashbacks, nightmares, or other PTSD sequelae
- Persons with phobias, panic disorder, or generalized anxiety disorder
- Crime victims, police officers, or firefighters who experienced aftereffects of violent assaults or stressful incidents
- Persons experiencing grief through the loss of a loved one or line-of-duty death
- Children and adolescents experiencing depression and other effects of disturbing life experiences
- Victims of manmade or natural disasters
- Sexual assault victims
- Accident, surgery, and burn victims
- Victims of family, marital, or sexual dysfunction
- Addicts of chemical substances, gambling, or sexual deviation
- Persons with dissociative disorders
- Persons with performance anxiety in professional, sporting, or performing art scenarios } Persons with somatic complaints, including migraines and chronic pain

Acute traumatic stress symptoms after a potentially traumatic recent event (recommendations 1–4)

Acute traumatic stress symptoms refer to symptoms of intrusion, avoidance and hyperarousal – associated with significant impairment in daily functioning – in the first month after a potentially traumatic event. Other symptoms of acute stress, including hyperventilation, conversion and dissociative symptoms, and secondary non-organic nocturnal enuresis in children, are dealt with in other recommendations in these guidelines.

Psychological interventions and pharmacological treatments, especially benzodiazepines, have been used to manage people suffering symptoms of acute

distress. There is currently no consensus on the effectiveness of such management. The GDG examined the evidence on use of early psychological and pharmacological interventions in adults and in children and adolescents with symptoms of acute traumatic stress syndrome, and made the following recommendations:

1. Acute traumatic stress symptoms (first month): early psychological interventions – adults

Scoping question 1: For adults with acute traumatic stress symptoms associated with significant impairment in daily functioning in the first month after a potentially traumatic event, do early psychological interventions, when compared to treatment as usual, waiting list or no treatment, result in a reduction of symptoms, improved functioning/quality of life, presence of disorder or adverse effects?

- Recommendation 1
- (i) Cognitive-behavioural therapy (CBT) with a trauma focus should be considered in adults with acute traumatic stress symptoms associated with significant impairment in daily functioning.

- Strength of recommendation: standard
- Quality of evidence: moderate
- (ii) On the basis of available evidence, no specific recommendation can be made about standalone problem-solving counselling, eye movement desensitization and reprocessing (EMDR), relaxation or psycho-education for adults with acute traumatic stress symptoms associated with significant impairment in daily functioning in the first month after a potentially traumatic event.
- Strength of recommendation: not applicable
- Quality of evidence: very low

Remarks

CBT with a trauma focus should only be offered in those contexts where individuals are competent (trained and supervised) to provide the therapy. There is already a WHO (2010) mhGAP recommendation to offer access to psychological first aid to people who have been recently exposed to potentially traumatic events. When combined, these recommendations imply that psychological first aid should be considered in all adults with acute traumatic stress symptoms; and, where competent staff are available, CBT with a trauma focus should be considered in adults with acute traumatic stress symptoms associated with significant impairment in daily functioning in the first month after a potentially traumatic event. In situations without sufficient resources to provide CBT with a trauma focus, other interventions such as stress management may be considered in addition to psychological first aid.

2. Acute traumatic stress symptoms (first month): early psychological interventions – children and adolescents

Scoping question 2: For children and adolescents with acute traumatic stress symptoms associated with significant impairment in daily functioning in the first month after a potentially traumatic event, do early psychological interventions, when compared to treatment as usual, waiting list or no treatment, result in a reduction of symptoms, improved functioning/quality of life, presence of disorder or adverse effects?

Recommendation 2

- On the basis of available evidence, no specific recommendation can be made on early psychological interventions (covering problem-solving counseling, relaxation, psycho-education, eye movement desensitization and reprocessing (EMDR) and cognitive-behavioural therapy (CBT)) for children and adolescents with acute traumatic stress symptoms associated with significant impairment in daily functioning.

- Strength of recommendation: not applicable
- Quality of evidence: very low

Remarks

There is already a WHO (2010) mhGAP recommendation to offer access to psychological first aid to people who have been recently exposed to potentially traumatic events. Therefore, as no further specific recommendation can be made, psychological first aid should be considered in children and adolescents with acute traumatic stress symptoms associated with significant impairment in daily functioning in the first month after a potentially traumatic event.

3. Acute traumatic stress symptoms (first month): pharmacological interventions – adults

- *Scoping question 3:* For adults with acute traumatic stress symptoms associated with significant impairment in daily functioning in the first month after a potentially traumatic event, do pharmacological interventions (benzodiazepines and antidepressants), when compared to treatment as usual, waiting list or no treatment, result in reduction of symptoms, improved functioning/quality of life, presence of disorder or adverse effects?

- Recommendation 3
- Benzodiazepines and antidepressants should not be offered to adults to reduce acute traumatic stress symptoms associated with significant impairment in daily functioning in the first month after a potentially traumatic event. For benzodiazepines: Strength of recommendation: strong Quality of evidence: very low
-
- For antidepressants:
- Strength of recommendation: standard
- Quality of evidence: very low

- Remarks

  Clinicians should rule out concurrent disorders that may warrant treatment with benzodiazepines and antidepressants.

  There is already a WHO (2010) mhGAP recommendation to offer access to psychological first aid to people who have been recently exposed to potentially traumatic events. In addition, recommendation 1(i) (on psychological interventions for acute traumatic stress symptoms in adults) is that “cognitive-behavioural therapy (CBT) with a trauma focus should be considered in adults with acute traumatic stress symptoms associated with significant impairment in daily functioning”. When combined, these recommendations imply that psychological first aid and (where resources exist) CBT should be considered in adults with acute traumatic stress symptoms associated with impairment in daily functioning in the first month after a potentially traumatic event.

  4. Acute traumatic stress symptoms (first month): pharmacological interventions – children and adolescents

  Scoping question 4: For children and adolescents with acute traumatic stress symptoms associated with significant impairment in daily functioning in the first month after a potentially traumatic event, do pharmacological interventions (benzodiazepines and antidepressants), when compared to treatment as usual, waiting list or no treatment, result in reduction of symptoms, improved functioning/quality of life, presence of disorder or adverse effects?

Recommendation 4

- Benzodiazepines and antidepressants should not be offered to reduce acute traumatic stress symptoms associated with significant impairment in daily functioning in children and adolescents.
- Strength of recommendation: strong
- Quality of evidence: very low

Remarks

There is already a WHO (2010) mhGAP recommendation to offer access to psychological first aid to people who have been recently exposed to potentially traumatic events. Therefore, as no further specific recommendation can be made, psychological first aid should be considered in children and adolescents with acute traumatic stress symptoms associated with significant impairment in daily functioning in the first month after a potentially traumatic event.

Chapter 6: EMDR for Children and Adolescents

Amann, et al. (2020) identified 25 papers that examined the efficacy of individual EMDR therapy for children and adolescents who have PTSD (symptoms). There were 11 randomized controlled trials, six case series/studies for solo EMDR therapy, two randomized controlled trials, and six case studies for group EMDR therapy. Ten randomized controlled trials of individual EMDR therapy yielded a Sackett Level I grade.

In four RCTs, EMDR therapy was compared to a waitlist control condition, conventional care in two, and a control group in one. Five randomized controlled trials (RCTs) compared EMDR therapy (together with) trauma-focused cognitive behavior therapy

(CBT). The studies enrolled 19 and 139 people, ranging in age from 4 to 18 years. Only two research included preschoolers. Within a few sessions, all but one study revealed that EMDR therapy was associated with a significant reduction in PTSD symptoms or a loss of PTSD diagnosis compared to a waitlist control group, psychoeducation, or conventional care (three to nine sessions). A notable exception was Meentken et al.'s (2020) (as cited by Amann, et al, 2020) study, which shown that EMDR therapy was superior to routine care for child-reported symptoms of blood–injection–injury phobia, depression, and sleep issues, but not for PTSD symptoms.

Although the five studies comparing EMDR treatment to trauma-focused cognitive behavioral therapy found that both therapies were similarly beneficial, early evidence suggests that EMDR therapy achieved improvement in fewer sessions than trauma-focused cognitive behavioral therapy. Along with symptom reduction and remission of PTSD diagnosis, five studies indicate that EMDR therapy may help reduce comorbid symptoms such as depression, anxiety, and behavioral issues. Additionally, six nonrandomized controlled studies on individual EMDR therapy for children and adolescents have been reported. Three of the studies were nonrandomized controlled trials, while the other three were uncontrolled extended case studies all of which shown significant decreases in PTSD symptoms. Concerning EMDR group therapy (> 3 months posttraumatic stress; for research purposes)

Two RCTs and six case series or randomized studies were published on EMDR group treatment (> 3 months post-trauma; for studies three months post-trauma) (Amman, et al, 2020). The sample size ranged from eight to 184 children and adolescents aged three to twenty-two years. The RCTs compared EMDR group therapy to a no-treatment control condition. They found that EMDR group therapy was more effective than no treatment at reducing PTSD, anxiety, and depression symptoms, with results remaining stable at a three-month follow-up. The outcomes of the group case series and uncontrolled trials were consistent and demonstrated decreases in PTSD symptoms and measurable improvements in sadness and anxiety symptoms. (Amann, et al, 2020)

Guidelines for Treatment

Despite the substantial sound effects of EMDR therapy in children and adolescents with PTSD, there are discrepancies in the recommendations for EMDR therapy across worldwide guidelines. While the ISTSS (2019) (as cited by Amann, et al., 2020) and the World Health Organization (WHO, 2013) (as cited by Amann, et al., 2020) both strongly advised EMDR therapy for children with PTSD, the NICE guidelines (NICE, 2018) (as cited by Amann, et al., 2020) advocated conditional EMDR therapy and recommended that it be used exclusively in cases when children do not respond to or engage in trauma-focused cognitive behavioral therapy.

This decision made was in response to the NICE stressing the lack of adequate RCTs involving children. As highlighted in the NICE guidelines (NICE, 2018) (as cited by Amann, et al., 2020) and meta-analyses on EMDR for pediatric PTSD (e.g., Brown et al., 2017; Moreno-Alcázar et al., 2017), the majority of empirical research conducted to date have methodological flaws and a significant risk of bias. Although two RCTs had large sample sizes (N > 100), the majority of studies used a small number of participants (ranging from 19 to 74). Additionally, methodological limitations are the lack of a diagnostic clinical PTSD interview, the absence of long-term follow-up assessments, and the absence of suitable treatment fidelity checks. These methodological shortcomings erode reviewers' confidence in the outcomes' reliability and validity.

Chapter 7: Areas of Debate

Confusion, Misinformation, and “Pseudoscience”

EMDR therapy is a cognitive-behavioral treatment for PTSD that has generated considerable controversy in the research review literature. One article (Perkins & Rouanzoin, 2002) (as cited by EMDR Institute, Inc., n.d.) examined the original empirical research in light of the review literature to better understand the historical controversies and contradictory conclusions reached by various authors, and some significant findings were suggested.

The confusion appears to be caused by:

1. a lack of awareness of the lack of placebo effects in treating PTSD;

2. a theoretical and methodological ambiguity regarding the distinction between EMDR therapy and exposure procedures;
3. disagreements over the importance of the eye movement component of EMDR;
4. poorly designed outcome studies; and
5. Historical misinformation that becomes confounded with empirical

All of these old allegations have been refuted by the current research base for EMDR therapy. EMDR therapy is widely recommended as a first-line treatment for trauma on a global scale.

However, some people may continue to be misinformed, and the following will address common misconceptions:

a.) EMDR therapy is only marginally more effective than no treatment and/or has not been thoroughly tested.

This is incorrect. Over twenty randomized studies have found that EMDR therapy is superior to standard VA care, biofeedback-assisted relaxation, simple relaxation, active listening, and various forms of individual psychotherapy used in an HMO (e.g., exposure, cognitive, psychodynamic). Additionally, it has been compared to and found to be comparable to cognitive behavioral therapy. While exposure therapy required 1-2 hours of homework daily, EMDR has produced matching results with none (EMDR Institute, Inc., n.d.).

b.) EMDR therapy is an exposure-based modality.

This is incorrect. In seven of twelve randomized studies, EMDR therapy was faster or more effective than exposure therapy on some measures. Exposure therapy requires 1-2 hours of homework per day, whereas EMDR requires none. Additionally, EMDR practices bear little resemblance to exposure therapy. A process analysis revealed significant differences between the two (Rogers et al., 1999) (as cited by EMDR Institute, Inc., n.d.), and some researchers stated following another study: *"In strict exposure therapy, the use of many of ['a host of EMDR-essential treatment components'] is considered contrary to theory."* (

Additionally, previous research indicates that both therapists and patients prefer this procedure to the more direct exposure procedure." (Boudewyns & Hyer, 1996) (as cited by EMDR Institute, Inc., n.d.).

c.) There are no logical explanations for eye movements.

This is incorrect. The information processing model was developed in 1991 and is described in detail in three texts. Numerous neuropsychologists have also provided detailed explanations and theories for the effects of eye movements. Numerous researchers have also articulated theories and conducted hypothesis-driven research supporting eye movements and other forms of dual attention stimulation.

At this point, it is clear from the research that eye movements have a beneficial effect, that EMDR therapy is not based on traditional exposure principles, and that it is widely accepted as an empirically supported treatment for trauma.

EMDR appears to be a relatively safe therapy with no apparent adverse effects. Despite its growing popularity, mental health professionals continue to question EMDR's efficacy. Critics point out that majority of EMDR research utilized few subjects. However, other researchers have demonstrated the treatment's effectivity from data pooled from multiple researches. (WebMD, 2019)

Difference EMDR and Exposure Therapy

A standard method of treating anxiety disorders is to expose clients to anxiety-eliciting stimuli. It has occasionally been assumed that EMDR therapy employs this traditional method of exposure and that this accounts for EMDR therapy's effectiveness. According to Lohr, Lilienfeld, Tolin, & Herbert (1999) (as cited in EMDR Institute, Inc., n.d.), Had EMDR been presented as another treatment option, issues regarding its efficacy and mechanism could have been circumvented. However, this perspective overlooks critical components of the EMDR procedure that contradict exposure theories. In other words, exposure theories predict that if these EMDR components are used in exposure therapy, the outcome will be diminished (Rogers & Silver, 2002) (as cited in EMDR Institute, Inc.,

n.d.). These components include frequent brief exposures, interruptions, and free association.

1. Foa and McNally (1996) (as cited in EMDR Institute Inc, n.d.) assumed that since habituation should be gradually introduced no matter the diagnosis, exposure must be prolonged for it to render as effective. EMDR, on the other hand, makes use of extremely brief repeated exposures (i.e., 20-50 seconds).
2. According to other theorists (Marks et al., 1998) (as cited in EMDR Institute Inc., n.d.), exposure should be continuous and uninterrupted. Marks et al. (1998) (as cited in EMDR Insititute Inc., nd.d) highlighted further that constant stimulation deteriorates response. , if stimulation is done in an intermittent manner, the response increases. On the other hand, EMDR repeatedly interrupts the internal attention to inquire, “What do you get now?”
3. Exposure therapy is structured to discourage avoidance (Lyons & Keane, 1989) (as cited in EMDR Insitute, Inc., n.d.). It particularly proscribes its patients from decreasing their anxiety level through scene changing or skipping traumatic points to eliminate anxiety. However, free association with whatever memory enters the individual’s consciousness is necessary for the EMDR process. Due to these distinctions, exposure researchers have stated: “In strict exposure therapy, the use of a large number of [’a host of EMDR-essential treatment components’] is considered contrary to theory.” Additionally, previous research indicates that both therapists and patients prefer this procedure to the more direct exposure procedure.” 192 (Boudewyn and Hyer, 1996). A one-session straightforward process analysis revealed significant differences in the practices and subjective responses of the two therapies (Rogers et al., 1999).

Exposure therapy theories do not account for the therapeutic effects of EMDR, with its brief, interrupted exposures and elicitation of free association. Additionally, it appears as though there is a difference in the treatment process. Clients generally experience

prolonged periods of high anxiety during exposure therapy (Foa & McNally, 1996). In contrast, EMDR clients typically experience rapid reductions in SUD levels early in the session (Rogers et al., 1999). This distinction suggests that EMDR therapy's repeated brief focused attention may elicit a different mechanism of action than exposure therapy's continuous long exposure.

Chapter 8: Implications for Practice and Training in EMDR

Developmental and interpersonal neurobiology contributes an intersubjective dimension to both adaptive and dysfunctional AIP and memory networks. This dimension begins with early interaction patterns between caregiver and infant and has been linked to client-clinician interaction patterns. The mirror neuron system elucidates these networks' intersubjectivity. AIP provides direction for EMDR practice by establishing a memory network/information processing framework that enables this intersubjective matrix. This expanded framework demonstrates the importance of expanding clinicians' instructions to include their activated memory networks as inherent to the intersubjective matrix in EMDR. A discussion of these concerns within this framework can help clinicians gain a key role to play in the therapeutic process and suggest ways for clinicians to best self-monitor and make necessary adjustments to expedite their clients' progress.

Primary intersubjectivity occurs during birth, when infants enter the world helpless except to cry and be cared for. The development of adaptive and dysfunctional memory networks occurs as a result of functional and dysfunctional interactions between the caregiver and the infant's experience. Throughout the first eighteen months of life, experiences are implicitly encoded, laying the groundwork for the formation of these networks. The formation of neuronal connections is the precedent of human connections. Corticolimbic connections have been demonstrated during this stage of postnatal development in the formation of regulation memory networks affect as a result of positive attachment experiences.

Overpruning and death of neurons involved in these connections during development impair the development of affect regulation. Without positive attachment experiences, the

amygdala, colloquially referred to as the "fear center," becomes hyperactive in response to perceived threat. When attuned to the intention of another, researchers discovered that mirror neurons activate motor neurons. Action observation results in action intention, which is physiologically experienced in the infant/child/adult brain as an embodied simulation of the "other." The observation/intention process is encoded in the brain's memory networks and may be activated during moments associated with previously encoded implicit memories.

The study on the mirror neuron system, or the social brain's resonance circuit, has implications for the EMDR treatment of traumatized clients. Beginning at the start of life, the infant begins to learn within an inter subjective matrix together with the mirror-neuron system discovery serving as its neurobiological foundation. Through all significant life experiences, the intersubjective matrix is encoded in memory networks. This process results in the development of empathy, which is defined as the matching of inner and outer experiences. We "know" the other's experience through our own.

AIP implicitly describes these complex intersubjective matrices. Through the lifespan, adaptive or dysfunctional patterns of secure or insecure attachment resonances persist. Within an AIP framework, these neurobiological processes help clinicians determine when to stay out of the way or intervene to facilitate blocked reprocessing. Because developmental neurobiology and mirror neuron research demonstrate that the clinician's memory networks are constantly in contact with the client's, EMDR protocols and procedures cannot be separated from the client's and clinician's memory networks.

Stern's term "intersubjective matrix" will be used to elaborate on the interactions between clinician and client's adaptive and dysfunctional memory networks. If the reader is familiar with the author's previous works, he or she will notice the term "therapeutic relationship" is conspicuously absent. This term appears to be more perplexing than clarifying. It appears to indicate a warm and understanding relationship that may serve as a mode for disseminating coping strategies or for respecting the traumatized client's inherent humanity, but is not particularly useful for resolving trauma's effects (personal communication). Rather than that, Dr. van der Kolk and Dworkin (2017) agreed on the usefulness of the term "resonance" (or, to use Siegel's terminology, "mental state

resonance") (1999) (as cited by Dworkin, 2017). The terms collaborative working alliance, rupture and repair, implicit relational knowing, now moments and moments of meeting are used to describe what occurs intersubjectively during EMDR psychotherapy. Finally, because the author is a man, the client and clinician are referred to in the same gender. There is no malice intended. Everything about EMDR begins with the model of Adaptive Information Processing.

The Model of Adaptive Information Processing

Adaptive Information Processing (AIP) Model stressed that in neurological systems, a unique balance exists that enables information to be processed to a dynamic conclusion and that pathology is the raw experiences that are kept in their own cognitive networks and are incapable of becoming naturally connected to something more adaptive. Given that EMDR psychotherapy is guided by AIP, it would seem that if unprocessed memory is pathology, adhering to the EMDR methodology will yield the most robust results.

These conclusions are purely based on research, not on the intricate processes of daily interactions between clinicians and clients who do not meet research criteria. Their meta-analyses include studies that omit this inter-subjective matrix. While the AIP model has been thoroughly explained in previous works, this article contributes to the professional literature by elaborating on the complexities of the intersubjective matrix in daily EMDR psychotherapy practice. These matrices influence all interactions between client and clinician and encompass all present-moment processes when protocols and procedures, such as developing Targeting Sequence Plans, strategies; the Safe/Calm Place procedure; outlining the procedural steps; facilitating blocked processing; “staying out of the way”; cognitive interweaves; instructions installing positive cognitions, a body scan.

Clinical Decision-Making in EMDR

Shapiro emphasized that EMDR is not a one-size fits all approach and must be customized for each client (Shapiro 2001, p 381) (as cited by Dworkin, 2017); clinical judgment must be used throughout the process (Shapiro 2001) (as cited by Dworkin, 2017); and clinician factors influence EMDR methodology. Clinical judgment in EMDR can now be expanded to include an understanding of attachment processes between client and clinician, as well as identifying and intervening in this intersubjective matrix,

thanks to neuroscience research. The clinician's instructions are now elaborated to include nonlinear memory network activations and the clinician's memory networks' role in this process. The term "counter transference" (EMDRIA 2007) (as cited by Dworkin, 2017) is contentious. It is defined as interference, as Freud used the term for the first time in his classical definition (Freud 1912) (as cited by Dworkin, 2017). Other theorists began to question whether counter transference can be used productively in patient treatment, as it is in totalistic and integrative perspectives.

In information processing terms, Freud (1912) (as cited by Dworkin, 2017) defines countertransference as "the activation of state-dependent memories in the clinician that have been sparked by the client, intentionally or unintentionally." As with any activation of a memory network. Memory network activations are the foundation for attunement and resonance, which are required for EMDR practice. It should not be interpreted as implying pathological processes, because implicitly activated clinician memory networks are sources of information about nonconscious messages clients transmit affectively. By identifying and decoding them, positive outcomes can be enhanced via relational interweaves. At all stages of EMDR psychotherapy, activated clinician memory networks are part of a neurobiological intersubjective matrix.

Attachment and the Intersubjectivity: Client-Clinician Conflicts

Attachment research has been beneficial in elucidating the nature of clinician/client rapport (Dworkin, 2017). “Attachment is based on collaborative communication,” and contingent communication between caregiver and infant helps shape the developing brain insecure attachment patterns. Adaptive memory networks are built on the foundation of secure attachment experiences. Interpersonal neurobiology is based on a definition of memory that is consistent with AIP, in which past events have an effect on future function.” Securely attached children’s HPA axis activities do not exhibit cortisol elevations, indicating that they have begun to develop fear-arousal strategies. By eighteen months, their corticolimbic neural circuitry has developed sufficiently to act as a buffer against separation distress without glucocorticoid elevation (Spangler and Grossman 1990) (as cited by In comparison, infants whose caregivers are depressed or disorganized develop insecure attachment patterns, dysfunctional memory networks, and elevated cortisol

levels, all of which contribute to the developmental over-pruning Perry refers to. Insecure attachment patterns' stress response system reveals an underactive or hyperactive pattern of dysfunctional memory networks incapable of reducing fear responses. These early attachment patterns may be repeated in the client-clinician encounter, necessitating the formation or strengthening of resources and positive experiences prior to safely initiating active reprocessing strategies for traumatic experiences. The relationship between attachment and intersubjectivity emphasizes the importance of reciprocal mutual influence and the inherent vulnerabilities of both client and clinician in this matrix.

Attachment patterns, intersubjective consciousness, memory networks, and information processing systems of the clinician are distinct from those of his client. Each constantly assesses the other's intentions, and when there are perceived or actual misalignments, the therapeutic bond may be ruptured, resulting in significant complexities. Strengthened therapeutic attachment patterns, or therapeutically "implied relational knowing," must be firmly established in order to maintain and test a sufficient alliance during active trauma reprocessing phases. Instructions for maintaining optimal intersubjective interactions in EMDR should be supplemented by ongoing examination and self-reflection of the clinician's own attachment processes vis-à-vis the client, as well as the client's attachment processes vis-à-vis the clinician. The attachment literature, beginning with Bowlby's three-volume work Attachment and Loss, demonstrates that attachment patterns established during childhood persist throughout the therapeutic alliance (Dworkin, 2017).

Consider the parallels between these research findings and clinical observations regarding AIP. "Pathology arises from unprocessed memories. The infant builds up dysfunctional memory networks as a result of the interactive nature of the caregiver's "emotionally charged" communications. Mirror neuron research demonstrates that humans respond to the affectively charged actions of a significant other with intentional attunement and embodied simulation; there is a crossover between attachment, developmental neurobiology, intersubjectivity, and mirror neuron research, and AIP.

The addition of memory network interactions to the protocols and procedures of EMDR, whether adaptive or dysfunctional, elaborates on the AIP's fundamental tenants. With

collaborative contingent communication, highly adaptable to adaptive connection activates the social brain's resonance circuit, resulting in mental state resonance. When this co-constructed state is stable, EMDR Reprocessing protocols and procedures can be applied to the client without difficulty, and productive trauma reprocessing can continue to an adaptive conclusion.

The Convergence of Intersubjectivity and AIP Model

The moving along concept is reflected in the early stages of EMDR when the client feels welcomed by an accommodating and resonant clinician.

However, once the client and the clinician's attachment memory networks converge, and in a way, activate insecure attachment patterns in either one or both of them, the influences of the client's and the clinician's attachment memory network may be misaligned.

The term **implied relational knowing** refers to an unconscious, procedural way of knowing how to interact with others that are formed through repeated interactions with significant figures in one's life. A traumatized individual may have the implicit relational knowledge that:

"People think I'm stupid,"

"They get frustrated with me," and

"I can't trust them."

This self-perception may lead to various dysfunctional behaviors. One pattern might be excessive compliance or subservience ("I'm attempting to please you so you won't be angry with me, but I'm too stupid to figure out how"). A clinician trained in EMDR may have implicit relational knowledge ("People treat me as if I am unimportant and don't listen to me"). They may hold beliefs that contribute to their frustration and irritability ("He treats me this way because I am unimportant.")

This clinician's initial response to a client who acts subserviently may start with kindness (because the client is attempting but failing), possibly until their frustration is reflected in the client's mirror neurons. This causes withdrawal into dysfunctional belief by the client:

"I can't do this."

"I'm incompetent."

The activation of the clinician's mirror neuron may trigger an injured network memory of the client. Client and clinician are linked neurobiologically in a two-person, subject-to-subject, bidirectional and nonlinear experience.

Below is an example of the historical examination phase.

Gary is a 28-year-old male single patient and works as a special education teacher for children with disabilities. He recently received a negative evaluation from a supervisor and became quite anxious about the prospect of losing his job due to his stupidity. The EMDR clinician assesses the client's overall clinical picture and initiates developing a Targeting Sequence Plan. To begin, the client states that the image he sees is of his supervisor frowning. Following that, the current instructions direct you to acquire a negative cognition.

Clinician: "When you consider (repeat description... supervisor's frown...), what negative belief about yourself do you have?"

Gary: "I am ashamed of myself."

Clinician: "How does that reflect who you are as a person?"

Gary: "I despise myself,"

Now the clinician becomes frustrated and asks (as instructed in the manual),

Clinician: "What negative belief goes with that emotion ("of hating yourself")?"

Gary: "To be honest, I've despised myself since I was a child."

The clinician's frustration (and failure memory networks) intensify, and the clinician responds to the client (with a tinge of irritation in his voice);

Clinician: “Not what you believed about yourself then, what do you believe about yourself now?”

The clinician’s frustration grows, and he says irritably,

Clinician: “Gary, when you see your supervisor’s frown, in your worst moment, what negative belief about yourself do you have about yourself when you think of that event?”

Gary’s auditory mirror neurons detect the clinician’s irritability, and his failure memory networks activate in response to the clinician’s frustration.

Gary: “I’m doing everything wrong now, aren’t I?”

Developing Appropriate Negative Beliefs (Cognitions NC) Training Manual, Part 1. (2009) pg. 22

This previous dialogue is an illustration of an attunement breakdown. The clinician’s visual and auditory neurons are activated empathically in response to his client’s activated failure memory networks. His adaptive memory networks containing compassion are activated as well. He responds, “I understand that this question is difficult for you to answer the way I want you to; is it possible that my responses to you made you feel like you were failing again?” Gary nods and shrugs his shoulders. “Perhaps the questions, or how I was asking them, bothered you now, and thus you are experiencing your negative beliefs now. Let’s see if we can do this a little differently this time. Is that acceptable?” Both feel relief at this moment and work to mend the rupture. Implicitly, the clinician is communicating to the client (and himself) that it is acceptable to make errors (hence mistakes do not equal failure, and I am here for you.). This is a “moment of meeting” that mends the attunement rupture. Is this a case of transfer and counter-transfer? Perhaps, but it might be more accurately described as the interaction of activated adaptive and dysfunctional memory networks, with mirror activations occurring in each party and self-correction occurring as each party considers their role in the process. The standard

EMDR instruction to “strive for optimal attunement” may be improved by emphasizing the clinician’s mindful awareness of how his subjectivity (memory networks) begins and continues to influence the client’s subjectivity (memory networks.)

The preceding illustration depicted a “now moment” and a “moment of meeting.” A **now moment** is “an emotionally charged moment” because it “calls into question the nature of the client-clinician relationship” (Stern 2004) (as cited by Dworkin, 2017). Throughout the Targeting Sequence Plan, the clinician overtly follows the standard instruction of eliciting a negative belief. While Gary is attempting to please the clinician by following the instruction, the process simultaneously reveals his implied relational knowledge to the clinician, “at the moment,” that *“people think I’m stupid (and thus ashamed of myself)....”* **“Meeting moments”** entail a response that is well-suited to the particular crisis. This can’t be a generic technical response...” The instructions, *“When you think about yourself,...what negative beliefs do you have about yourself as a person;...what does that say about you as a person; what negative beliefs go along with that emotion...”* etc., are all general technical responses that do not meet the criterion for a moment of meeting.

This now moment jeopardizes Gary’s alliance with the clinician, and a moment of meeting is required to resolve the intersubjective crisis. They initially enacted the same problems Gary and the clinician did, only this time they occurred *“at the moment.”* The EMDR clinician must become aware of this repetition, along with Gary’s dysfunctional memory network activations; otherwise, Gary’s implied relational knowing (“people think I’m stupid; they get frustrated with me, and I can’t trust them ;) will be reinforced.

Another failed dyadic experience will occur due to the clinician’s implied relational knowledge (*“people treat me as if I’m unimportant and don’t listen to me”*). And his negative cognition *“I am insignificant”* is a defense against the clinician’s implied relational knowing about Gary.

Although the clinician’s response does not directly address the required instruction (*“what negative beliefs do you have about yourself”*), it is *“well suited to the situation.”* It engages Gary in a co-created problem-solving attempt. This meeting point could involve the clinician becoming aware of the dyadic process through his bodily reactions. A somatic

response (physiologic activation or numbing of a dysfunctional memory network) is the best indicator for a clinician to initiate the self-correction process.

Perhaps the solution to this dilemma can be found in the client-clinician reenactment. The client's implicit dysfunctional memory network activation may also include the statement, *"I don't want to believe anything bad about myself right now.* It will be excruciatingly painful." This portion of the memory activation never becomes part of the client's explicit verbalizations; he feels terrible, reacts in ways consistent with his implicit relational knowing, and now moments continue to develop in the absence of "negotiated repairs to the therapeutic alliance's rupture."

Eventually, the chances of EMDR psychotherapy being a successful joint venture will dwindle. The client and clinician must recognize these now moments, note how each feels when the work becomes blocked, and develop an adaptive response to this dysfunctional moment. While this illustrates what might occur during the History Taking phase, these potential intersubjective conflicts could occur during any stage of EMDR (Dworkin, 2017).

Desensitization Phase: Now and Meeting of Moments

According to Dworkin (2017) the "now moments" can be noted during the desensitization phase of EMDR clinical practice, when the client reports experiencing "nothing" following two consecutive sets of eye movements. While there are numerous "instructive" procedures for facilitating blocked processing, the clinician must pay close attention to the verbal or nonverbal intersubjective experiences that may occur when trauma reprocessing becomes blocked. Both the client's adaptive and dysfunctional memory networks and bodily reactions (whether somatic activation or somatic numbing) can assist the clinician in making these medical decisions.

Robert, a single social worker 36 years old, contacted Dworkin (2017) for EMDR reprocessing. He had been traumatized by a traumatic romantic breakup and believed himself to be a failure as a result. After determining that other treatment methods were ineffective in assisting him in resolving his dysfunctional failure and rejection of memory networks, he decided to "try" EMDR. His implicit knowledge of relationships was that older

men demonstrate kindness and compassion. He intimated that he had a great relationship with his father, a fair relationship with his mother (“she is a little too emotional for my taste, like most women”), and a robust social support network. We formed an excellent initial alliance; he informed me during the history taking that he had few childhood “issues”; he scored low on his DES-T and completed all Preparation phase procedures. While I had my suspicions that he was unaware of additional childhood issues, it appeared as though we shared a mental state. He possessed the necessary coping abilities to initiate the active phases of EMDR.

With little distress, he reprocessed some childhood rejection issues during athletic competitions. He began recalling a dissociated memory of being a small child and discovering the absence of his mother whenever he played in the minor league. He also recalled that his mother was having an extramarital affair with his father’s best friend during one of these reprocessing sessions. After dealing with his childhood athletic competition trauma, we decided to focus on this one next.

P: “I see my father crying and approach him to console him.

NC: “I am a failure,” NC declares.

PC: “I did the best I could.”

VOC: 3

E: Despair and guilt

SUPPLEMENTS: 8

Body: Agony and discomfort in his stomach

In the said interview, the client relayed that after two sets of EMs that no new information had surfaced for him. Dworkin (2017) used more extended sets, direction changes,

instructions for under-accessing memory target, and a cognitive interweave: The same author asked the client what he would do if the same situation happened to his best friend.

There appeared to be no “standard instruction” that fit the now moment. Dworkin (2017) experienced the inability to think clearly during that moment which was coined as an intersubjective “now moment.” He quickly considered this dilemma and wondered if his mirror neuron system was sensing nonconscious dysfunctional memory networks from his patient, Robert, and activating dysfunctional unprocessed memories of his own when he felt helpless and had no single idea of what to do.

Dworkin (2017) formed a strategy. He first compartmentalized his anxiety about the inability to think clearly; then, as a “moment of meeting,” he decided to share his inner experience of clouded thinking. When he began to narrate his internal experience to his client, the latter exclaimed that what the former had felt is exactly mirrors his present emotions.

Thus, Dworkin (2017) suggested reprocessing this intersubjective moment of what had just occurred between client-clinician, which activated another dissociated memory network of Robert’s. He recalled forgetting his lines while performing in his first school play when he was six. In the audience, he saw his mother crying, which triggered feelings of shame within him, causing him to pee on his pants. This precarious event escalated his humiliation. Through dual attention and verbal support, he endured an extended period of intense emotional release.

Following this period of release, he realized he had been dating women who were critical of him. It took three 90-minute sessions for them to reprocess the remainder of Robert’s past issues with women, the romantic breakup that brought him to me, his current referents (dating women who resembled his mother), and his future template of finding a more suitable partner whom he eventually married.

The Limitations of Instructions To Clinicians/Practitioners

Throughout each phase, the EMDR protocol provides instructions for the clinician on how to do the operations (Dworkin, 2017). All steps have standard instructions explicitly

created for their needs. In the preparation phase, the practitioner shall use a train metaphor to ask the client to imagine himself on a train. For the client to get hold of his experiences, the clinician asks the client to imagine himself traveling on a train and allow his thoughts and sensations to pass, just like the scenery during the train travel. (Dworkin, 2017)

Another instance of reprocessing being disabled is during “scanning.” The physician should invite the client to re-examine the initial occurrence for anything that is currently more distressing than the original target (Dworkin, 2017). While this is beneficial, it does not clarify the intrinsic connection between the clinician’s memory networks and the client’s. The clinician’s adaptive and dysfunctional memory networks interact with the client. The procedural elements he uses to apply, access, and stimulate the dysfunctionally stored information are more complex than following these instructions (Dworkin, 2017). A complete instruction could include a simple and mindful observation of how his memory network activations and interactions impact his attunement, adaptively and dysfunctionally. While doing such, he should also be aware of his client’s responses during the said activity.

Instructional behaviors are advantageous. Clinicians who begin EMDR training are presumed to be familiar with ideas such as the collaborative working alliance with shared goals, distinct tasks, and initial bonding. The instructions provide the clinician a map for completing all of the activities expected of him and his client and adhering to EMDR’s protocols and procedures. Readers must note that the clients primarily rely on the clinician for safety and emotional stability during abreaction, mainly that powerful emotional releases might occur.

The clinician should maintain bilateral stimulation as much as possible until the client reaches the next adaptive information processing plateau. Some EMDR clinicians may be inclined to discontinue bilateral stimulation, fearful that the powerful release of emotion will be too much for the client. The clinician’s disordered memory networks may become engaged, resulting in an equally intense release (Dworkin, 2017). The technique used during the preparation phase of learning and practicing the Stop Signal is intended to empower the client to control the level of discomfort they can tolerate (Dworkin, 2017).

Clinicians whose memory networks become dysfunctionally activated due to intense emotional reactions may cause harm to the client by continuing bilateral stimulation. The former should also begin assessment when the client appears to be adaptively maintaining dual attention but has not yet reached the next plateau of adaptive information processing. The clinician's intersubjectively triggered dysfunctional and unprocessed memories may either be viewed correctly or mistakenly as harmful.

The suggestion is that the clinician has lost their capacity for dual consciousness. The reader may understand the clinician's activation of his defective memory networks as *countertransference* that must be addressed to avoid interfering with the client's reprocessing. The intersubjective matrix is far more intricate.

However, additional instruction may benefit the clinician. As long as the client maintains dual attention and demonstrates an information processing progression, the clinician shall do the following:

1. Continue reprocessing the client's dysfunctional memory networks
2. Observe mindfully his memory activations
3. Use the compartmentalization strategies the clinician has developed to help calm reactions

While current instructional guidance promotes critical thinking, it overlooks the potential for some of the reprocessing obstacles generated by implicit nonlinear interactions. The clinician is intrinsically involved in the procedure regardless of whether he verbalizes anything. Both are in continual intersubjective feedback loops that are nonlinear. The social brain's resonance circuitry is profoundly involved in encoding memory networks, human empathy, and emotional resonance. Such is the result of mind attunement.

The human neurobiological social connectedness literature demonstrates that a large proportion of intersubjective connectivity occurs subconsciously. Instructing clinicians to be attentive to their somatic reactions broadens attention on both client and clinician memory network activation. Dworkin's (2017) inability to think clearly while replaying a memory with Robert exemplifies this idea. When the client's and clinician's resonance circuits are in sync, the therapist can follow conventional protocol, keeping out of the way

or *facilitating blocked processing*. In contrast, the traumatized client reprocesses damaged memory networks.

The mirror neuron system, developmental neurobiology, and attachment literature demonstrated that each participant's memory networks are activated when a caregiver, child, clinician, and client engage in goal-directed behavior. Behaviors change when memory networks are active. Any parent who informs their child that it is time to attend a school or do his homework knows that the

Time to go to school or do homework knows that both parent and child have many parallel and sequential activations, bidirectional and nonlinear. This parallel is accurate when it comes to EMDR psychotherapy. Whether the EMDR clinician verbalizes or not, whether they are out of the client's line of sight, or whether they have their eyes open or closed, various adaptive and dysfunctional intersubjective matrices occur.

Beginning with the discoveries of philosopher John Locke (1963) (as cited by Dworkin, 2017), the semiotics of communication is such that even the slightest nonverbal shift in breathing, facial expression, tone expression, or any other nonverbal communication can be detected by either side and have an effect on both parties:

"*All that falls within the compass of human understanding, whether it is first, the nature of things as they are in themselves, their relations, and their mode of operation; or, secondly, what man himself ought to do, as a rational and voluntary agent, to attain any end, especially happiness; or, thirdly, the ways and means by which knowledge of both the one and the other can be gained."* (Locke, 1963) (as cited by Dworkin, 2017)

According to Shin et al. (2005) (as cited by Dworkin, 2017), it took 33 milliseconds for a research group of patients with PTSD to detect an angry face in their limbic system's amygdala region.

Return to the EMDR clinician who, terrified of injuring his client during desensitization, discontinues bilateral stimulation. The clinician's memory activations may have motivated him to stop bilateral stimulation since he may have been experiencing guilt activations (Dworkin, 2017). The clinician had activated his sadistic networks due to resonating with the client's dysfunctional memory network activation related to his father's emotional

abuse. The clinician's activated memory networks carrying guilt were notifying him (adaptively) that he had been conspiring with the client's dissociated memory activation to convince him that he needed to be punished for retaining his father's love. In this situation, the clinician may utilize the client's history to determine whether he is repeating the abuser/victim pattern *in the present* phase of bilateral stimulation continuation. If such is the case, the clinician may question the client whether what he is experiencing is similar to past abuses. Perhaps by beginning this process with the statement, "I'm perplexed; it feels as though you and I are rehashing an old topic; does it make sense to you?" (Dworkin, 2017).

Additionally, you could recommend to the customer that he scan his body while pondering the subject. Without revealing any content, if the client can connect, the clinician can accept rational responsibility for being a part of this repetition and ask the client to process this intersubjective process. In this case, the client may successfully reprocess this old memory, or if he becomes blocked again, it may be possible to ask the client what he would do in this situation. Reprocessing could then proceed rationally. The first impediment to reprocessing may have been the reenactment of the client and doctor sustaining bilateral stimulation in the absence of progressions.

The second impediment to reprocessing may be unrelated to an intersubjective experience (Dworkin, 2017). In this instance, the clinician's adaptive memory networks would be in harmony with his client's. Then, using one of the typical cognitive interweaves, this obstructed reprocessing might be resolved. The clinician's ability to distinguish between the two scenarios, typically through self-knowledge and self-reflection at the moment, will help in their decision-making process.

Clinicians cannot make simplistic or linear decisions. Perhaps the clinician's resonance circuit was attuned implicitly to an implicit memory network in the client who identified with the attacker and was willing to endure punishment to continue being protected (loved) by his father (clinician). Client and clinician would be empathically resonating due to their complementary memory networks engaged by their resonance circuits.

Suppose the clinician follows the present guidelines and only becomes aware of his sadistic memory network. In that case, he may sense guilt due to another activated and dysfunctional memory network chastising him. The clinician then interprets his memory activation as pathology. in AIP terms, unprocessed memories are equivalent to countertransference. It misses the opportunity to continue being optimally interactive by noting his sadistic memory activations were induced by the client's dissociated memory networks of need to be loved and protected by being punished first by the "aggressor," the parent, and then by the mother. Again, practitioners may follow these instructions:

1. Mindful observations of the clinician/practitioner's activations
2. Compartmentalizing the said observations
3. Weaving the intersubjective information into a relational web.

Teaching how to use somatic activations productively is imperative. Should this step be missed, the clinician may wrongly blame himself for his sadism, seeking his countertransference treatment after that. Thus, the practitioner/clinician may miss meetings due to these instructional restrictions.

The Interaction of EMDR Protocols and Procedures with Memory Networks

Additionally, there is a synergy between the clinician's application of EMDR procedures and memory networks and the client's reception, compliance, bewilderment, or opposition in the client's memory networks.

How can a technique be applied "objectively"? It is possible only inside one's subjective perception of present-moment living. The procedure and the memory network are inextricably linked.

Here are two illustrations:

1. A participant of an EMDR training is overconfident and believes that he has mastered the procedural issues. He acted compliantly to receive his certification. With such confidence, be began to make modifications such as omitting

Safe/Cam place and the Dissociative Experience Scale during the preparation phase even after a 10-hour consultation.

2. Another EMDR training participant from the same program is an excellent clinician. However, his disordered memory networks containing painful experiences and who feels inadequate withhold him from believing that he has thoroughly learned EMDR methods, despite the same ten hours of consultation. His consultant wants him to begin with a client with adult-onset PTSD; he has adaptive memory networks that believe that hard work results in mastery. He also works diligently to master the protocols and procedures, even though his dysfunctional memory networks that hold beliefs of inadequacy remain quite active.

Their clients' mirror neuron systems perceive both clinicians, and their adaptive or defective memory networks react.

Without proper basic preparation measures, the clinician who has mastered EMDR with his superior modifications begins EMDR Reprocessing with a client with complicated PTSD. He starts with "The EMDR," which refers to phases 3-8. His client develops pathological dissociation, stares off into space, and expresses a desire to stop doing the procedure towards the end of the session. This triggers the clinician's dysfunctional memory networks. He defends himself against his unprocessed memory networks of defectiveness, causing him to become averse to applying EMDR methods in the future.

In the second scenario, the clinician who has engaged faulty memory networks and believes he has not mastered EMDR conveys these messages to his client. His client is appreciative of his readiness to explore a novel way of trauma resolution. He is enthusiastic and eager to participate as a co-participant due to his experience as a 9/11 victim. In the second case, the clinician opens his handbook and uses it to initiate EMDR psychotherapy with his client (using his adaptive memory networks). They go over all the procedures for preparation and assessment and have an excellent treatment session. The client is also making more progress than he has in the past toward resolving this trauma. The second clinician gains confidence due to the mastery experience, trains in advanced EMDR techniques and eventually becomes an Approved Consultant. Dworkin

(2017) drew these scenarios from his 14 years of experience as an EMDR Institute instructor.

This comparative story of the two EMDR clinicians scratches the surface of EMDR psychotherapy's intricacy. Multiple signals will be transmitted back and forth between client and doctor in a nonlinear approach.

Becoming a competent EMDR clinician requires more than mastering AIP and EMDR's protocols and procedures; it requires:

1. a collaborative approach to maintaining mental state resonance,
2. recognizing now moments (misattunements) as inherent parts of being human,
3. negotiating these moments of meeting to repair a rupture of attunement, and
4. restoring positive resonance as a part of the adaptive information process.

Chapter 9: Latest Recommendation for EMDR Future Studies

According to Amann et al. (2020), while the results are encouraging in terms of the number of published studies and their outcomes, the overall quality of the studies has been rated as low by independent reviewers, leaving little room for confidence in the reported benefits. Methodological quality continues to be a significant challenge. To this purpose, the current position article has a weakness wherein the researchers did not evaluate the quality of the individual studies. It would have probably aided in the further assessment of the status of EMDR in the designated focus areas to have taken into account bias risks in each study and conducted separate meta-analyses for each target area. The purpose of the current study was to map the current state of research in the target domains. Amann et al. (2020) some broad recommendations regarding methodology can be made. Future research on EMDR therapy should include the following components:

- Blinded diagnostic evaluation, independent fidelity tests, and long-term follow-up (at least six months or one year).
- Be registered with an international trial registry before enrolling the first participant.
- At each time point, include a minimum of ten individuals (N = 10) in each trial arm. It means that each component must have a minimum of 13 patients to begin therapy to account for attrition.
- Make comparisons with active treatments and waiting conditions (68 percent of the ISTSS trauma-focused CBT studies are waitlist control studies compared to 39 percent of the EMDR studies).
- When possible, active treatment controls should be recognized therapies with documented efficacy, and future researchers should evaluate the treatment fidelity.
- Pay close attention to the diagnosis of participants. To be included in disorder-specific guidelines, at least 80% of participants must be diagnosed with the disorder.

- Rather than a sample of participants who completed treatment, use an intent-to-treat sample.
- Where possible, include data on cost-effectiveness.

To summarize, the EMDR community confronts numerous challenges, not least performing additional research. Conducting high-quality research remains critical. The future researchers of EMDR therapy must emphasize research in the areas indicated. A multisite study should be backed financially. This action ensures sufficient sample numbers and the generalizability of results beyond treatment effects observed at specific sites.

The above recommendations promulgated by Amann et al. (2020) increases the probability that EMDR will be evaluated or considered for inclusion in international guidelines on these topics. Moreover, if included, EMDR therapy will be available as a treatment in the early stages of trauma for children and young adults, combat-related PTSD, and depressive disorders, and chronic pain patients.

Chapter 10: GUIDELINES FOR VIRTUAL EMDR THERAPY BY EMDR INTERNATIONAL ASSOCIATION

https://www.emdria.org/wp-content/uploads/2020/04/Virtual_TG_Report_for_Member.pdf

The intersection of knowledge, professional skills, and technology offers a dynamic opportunity for global healing. This opportunity may be enhanced with the accessibility of virtual therapy and telehealth. This opportunity also brings potential risks. The body of research continues to grow for telehealth in general, but the task group has found no research to support or refute the efficacy of EMDR therapy through virtual means. As EMDR clinicians begin to innovate and consider stepping into the virtual world of telehealth, EMDRIA leaders are compelled to determine the appropriate organizational stance regarding the virtual delivery of EMDR therapy.

Regulatory agencies, insurance companies, and professionals use a wide variety of terms to refer to telemedicine in general. The most basic understanding is that telemedicine involves the use of technology to provide clinical services.[1]

In this report, references to virtual delivery of EMDR therapy pertain to EMDR therapy which is administered by an EMDR trained clinician online via telecommunications; it does not include companies, websites, or services which offer EMDR self-therapy without live guidance from an EMDR trained clinician. Self-administration of EMDR therapy is strictly forbidden in EMDRIA Policy and is beyond the scope of this report.

Q1: What do we know about our stakeholders' needs, wants, and preferences that are relevant to this decision?

The Task Group undertook an investigation through one to one interviews, online discussion groups, and a member survey to gather more information regarding our stakeholders' needs, wants, and preferences regarding virtual delivery of EMDR therapy. Responses in discussion groups were mixed with a wide array ranging from full support and enthusiasm to grave concern. The Task Group also held one to one interviews with clinicians who have either practiced general therapy models virtually or who have delivered EMDR therapy virtually.

A survey of membership yielded responses from 1,600 stakeholders, and results leant support for continued investigation of virtual EMDR therapy. Some respondents stated the belief that virtual EMDR therapy inherently carries more risk than traditional therapy, while others see little difference and see no enhanced threat. Fifty-three percent (53%) of respondents reported they had either delivered EMDR therapy virtually in the past or would consider practicing EMDR virtually in the future. Since EMDR therapy involves an 8 phase approach, the Task Group also asked which of the 8 phases had been delivered virtually. Respondents reported using each of the 8 phases at least 60% of the time which suggests all 8 of the phases are being delivered by virtual means rather than only the early phases or isolated parts of the protocol. Of the 800+ respondents who reported they had or would deliver EMDR virtually, the following concerns and challenges were mentioned:

Safety	**263**
Relationship/Attunement	212
BLS/DAS (how to do it)	193
Abreaction	100
Technology challenges	88
Dissociation	82
Ethics/Liability/License	70

Research/Efficacy	58
"See my previous response"	55
N/A	51
Training needed	46
No concerns	33
Distractions	11
Payment	8
Resources	6
Assessment	5
All (All concerns)	3
Client's comfort/education	2
Costs of Equipment	1

*It should be noted that in some of these cases where practitioners actually have delivered EMDR therapy by virtual means, these issues were mentioned as initial concerns but were found to be less worrisome with investigation, preparation, training, experience, and actual practice.

Needs, Wants and Preferences

Members expressed interest in guidelines for virtual therapy and practice which should inform them in the following areas:

Legal/ Ethical:

- **Licensing Regulations and Jurisdiction:** Of these interviewed and surveyed, many raised the importance of consulting one's licensing boards and professional or ethical rules. While outlying communities and rural areas can gain access to care through opportunities for virtual therapy, our stakeholders cited jurisdictional rules and regulations as a matter of concern. Most states have rules limiting practice outside their own licensing zone. Wide cultural differences can

be found and should be studied and considered as clinicians from one population reach out to help clients from diverse and possibly unfamiliar populations. Furthermore, a vast distance may fall between client and clinician thereby limiting the response during crises. Emergency services for the client's region will need to be explored prior to establishing telehealth services in that region.

- **Confidentiality/HIPAA Compliance.** One of the highest areas of concern is that of HIPAA compliance and efforts to maintain confidentiality. Technology opens somewhat of a Pandora's Box with regards to maintaining security and privacy. Most email and text servers lack encryption, and social media venues are prone to security breaches. Many video conferencing applications as well as the computer operating systems they run on are not fully secure. Respected telehealth educators recommend use of video conferencing applications which carry a Business Associate Agreement to ensure HIPAA Compliance. Online payment methods also present security and privacy risks.
- **Consent to treatment:** As there are additional challenges and technological/security factors related to offering EMDR by virtual means, clinicians raised concern about how to best address consent for therapy.
- **Safety/Risk:** Therapists voiced awareness of the need to be prepared for the range of unexpected technical problems, psychotherapeutic issues, and results or outcomes that occur during sessions, in both in-office and online. Complex trauma clients may experience dissociation and/or abreaction during EMDR therapy sessions. Many stakeholders who were surveyed and interviewed raised this risk as a concern. While clinicians lose the ability to reach out to touch or be present in the room with the client, guidelines can at least give clinicians ideas of how to manage potential risks such as these. JoAnna Watson-Wong addressed these issues through a poster session at the 2013 EMDRIA Conference. [2] She stresses the importance of building strong attunement and communication skills

to ensure contact with the client during unexpected technical glitches and/or unclear processing. Prior to beginning reprocessing, clinicians should build an alliance with a client's adult ego state to enable helpful communications during these moments and to check in on missed or confusing cues and clues during processing. Given the current state of technology, these skills are foundational in building strong attunement which can better help a client to stay engaged, connected and within an optimal window of tolerance for processing during EMDR therapy."

Technological:

- The Task Group has conducted in-depth interviews with select EMDRIA members nationally. They reported virtual delivery of all eight phases of the protocol, and several discussion group respondents indicated they have offered virtual delivery of EMDR. Sixty percent (60%) of Member Survey respondents reported they are delivering *all* eight phases of the protocol virtually. Therefore, the Task Group has endeavored to provide guidelines for the technological needs of clinicians providing any phase of treatment online rather than in-office. These guidelines will address video conferencing application considerations, dual attention stimulation modalities, and security considerations.
- It should be noted that just as with in-office treatment, online EMDR therapy requires the presence of a clinician with the client. In the words of Dr. Francine Shapiro, "It is difficult, if not impossible, to engage in intense, complex personal therapy without a clinician's assistance. It is not generally recommended that clients be taught the self-directed use of eye movements. There is no way of knowing what a given target or anxiety is linked, and even seemingly innocuous disturbances can be rooted in extremely disturbing childhood memories." She goes on to warn "Attempting self-directed therapy…can also result in re-

traumatization since the memory may merely dissociated once more rather than reprocessed."[3]

- Along with these technology guidelines, the Task Group has determined that it is prudent for EMDR clinicians providing any treatment virtually to complete a tele-mental health certification in order to implement and maintain a safe standard of online practice. EMDR clinicians will need to stay abreast of rapidly changing technologies and guidelines in order to stay current and maintain safety and security for their practice. Clinicians should refer to their licensing board to identify telehealth trainings that meet the standards of their specific licensing body.

Training/Preparedness:

- **Education for clinicians:** Many stakeholders stressed the need for training and education. Following the development of technological guidelines and the recommended pursuit of tele-mental health certification from a telehealth expert, the Task Group recommends advanced training pertaining to the use of EMDR therapy by virtual means. The Task Group recognizes the need for development of advanced training of EMDRIA members related to delivering EMDR therapy virtually. It should be noted that this is in addition to members' completion of an EMDRIA Approved EMDR therapy training.
- **Regulating/Responding to reactions outside client's window of tolerance:** As mentioned previously, clinicians need to build deeply attuned relationships and the ability to handle technical problems or to check in on missed or confusing processing cues and clues to more effectively respond to clients who begin to dissociate or abreact during an EMDR session. Clinicians voiced concern about how to best manage these challenges during virtual EMDR delivery.

- **Cultural Considerations and Diversity:** One concern mentioned in the literature for telehealth is being culturally educated and prepared in working with diverse populations of a community which may differ from the provider's own background. Clinicians will need to learn as much as possible about the population with which they propose to work. Additionally, they will need to contact local emergency service providers to ensure communication channels are open and active and have consent to contact appointed persons in the client's community in case of emergency.

Q2: What do we know about the current realities and evolving dynamics of our environment that is relevant to this decision?

Current Realities and Evolving Dynamics:

- Compared to other industrialized nations, the United States spend more on health and fails to achieve comparable health outcomes (Luxton, Nelson & Maheu, 2016). Such poor outcomes, in part are due to widely acknowledged health disparities—
  Including those of gender, race, age, income, locality, and more. Considering those for whom accessibility barriers may be highly burdensome and even insurmountable, telehealth provides a unique care opportunity.

- In 2010, the World Health Organization (WHO) published this linked report titled Telemedicine: Opportunities and Developments in Member States https://www.who.int/goe/publications/goe_telemedicine_2010.pdf. In this report, teleradiology is the most prevalent e-health service amongst member states. The report examined telepsychiatry, and the lack of tele-behavioral health service provision may be due to the time it takes for such service delivery. However, in the years since the publication of this report, there has been a significant growth in technology and options for the delivery of telepsychology and tele-counseling.
- In the United States, the Office of the National Coordinator for Health Information Technology (HealthIT.gov) notes their support for telemedicine and telehealth;

sadly there appears to be limited telehealth support within this site. The Substance Abuse and Mental Health Services Administration (SAMHSA) has limited data published about the use of telehealth for mental health services delivery, although the SAMHSA website includes a report about telehealth for rural behavioral health.

- Watson-Wong, J. (2013, September). Poster titled, EMDR Internet Therapy presented at the 18th EMDR International Association Conference, Austin, TX. Mrs. Watson-Wong presented logistical and technological information as well as legal, ethical and security considerations. She made recommendations on how to effectively administer EMDR therapy through virtual means, describing the art of "Presencing" in creating a professional Internet presence, with tools to augment online attunement, work with unclear client processing, and cope with hardware problems. She handed out a paper titled, Internet Presencing Essentials that details her poster. Her recommendations are detailed in the "Guidelines" section of this report.
- Additionally, various health and counseling organizations have published guidelines and standards for telehealth and telehealth delivery. These organizations include other health and behavioral health professional organizations, including the following: the American Counseling Association, the American Medical Association, the American Psychology Association, the American Telemedicine Association, the Association for Counseling & Therapy Online, the National Association of Social Workers, the American Association for Marriage and Family Therapy, and the National Board for Certified Counselors. As a professional mental health organization it is time for us to be included in this list.
- While suicide ideation appears to have equivalent rates in urban and rural areas, the suicide mortality rate is higher in rural zones according to a study by Tarlow, Johnson, and McCord (The Journal of Rural Health, 0 (2018), p. 1-6.) Clinicians who deliver EMDR therapy remotely in rural communities will need to pay particular attention to depression and anxiety assessments, impulse control, and access to lethal means (e.g. firearms).

- As evidenced in the EMDRIA Member Survey on Virtual Delivery of EMDR Therapy, most EMDR Clinicians are curious about but have little information on how to deliver EMDR Therapy remotely. Interested clinicians will need to find 9 video conference applications which are HIPAA-compliant and which have a Business Associate Agreement (BAA).
- Many licensing boards have rules about practicing across state and provincial lines, even when clients are temporarily away from home. These rules vary widely and are continually changing. Additionally, some health insurers regulate which services can be offered across geographical lines and require additional documentation for reimbursement. Malpractice insurance rules will also impact a clinician's considerations for virtual therapy delivery. Clinicians must stay abreast of changes in the regulatory landscape.
- The Task Group has made every effort in this report to ascertain information, research and guidelines on telehealth, especially pertaining to EMDR therapy. The group has reviewed guidelines from other professional organizations and from EMDR organizations around the globe. Little evidence and few guidelines are available at this time. It appears this is an area where more research is needed. • Standards and guidelines from other professional organizations such as the American Counseling Association, the American Medical Association, the American Psychological Association, the American Telemedicine Association, the Association for Counseling & Therapy Online, the National Association of Social Workers, the American Association for Marriage and Family Therapy, and the National Board for Certified Counselors, have been reviewed for consideration as to the most appropriate ethical guidelines for the delivery of virtual EMDR therapy. Because virtual conferencing is a relatively new method for delivering psychotherapy of any kind, more research needs to be done to ascertain the most comprehensive ethical guidelines for practice as it relates specifically to EMDR therapy.

This report introduces relevant issues with regard to the virtual delivery of EMDR therapy. The report specifically addresses professional practice and guidelines, ethical considerations, and overarching issues for EMDR therapy delivered by virtual means.

Q3: What do we know about the capacity and strategic position of our organization that is relevant to this decision?

With the increasing demand for access to mental health and the alarming prevalence of trauma in our present world, EMDR therapists will be asked to respond virtually to their clients and to impacted communities.

- EMDRIA's Professional Code of Conduct does not yet address telehealth or application of EMDR by virtual means. The organization may need to develop language to address potential issues as stakeholders take EMDR to the virtual world of therapy.
- Applicable guidelines and laws surrounding professional technology standards and telehealth change rapidly and vary widely among licensing boards. They will continue to evolve as the field grows. Practitioners may experience confusion about which guidelines or rules to follow and must work to stay current.
- Presently, no guidelines for virtual delivery of EMDR therapy exist in the United States or it appears anywhere in the world of EMDRIA has a unique opportunity to be a leader in developing guidelines pertaining to virtual delivery of EMDR therapy.
- EMDR clinicians are well-positioned to do pilot and research studies to clarify the efficacy of virtual delivery of EMDR therapy. The Task Group recommends the encouragement of further research in this area.
- EMDRIA lacks the in-house expertise to directly provide telehealth software applications of EHR systems. However, the organization may be able to form an affinity agreement in the future with vendors in order to offer member discounts, association revenue, and increased confidence to members in the use of secure HIPAA-compliant video software applications.
- EMDRIA is well positioned to disseminate helpful information pertaining specifically to virtual delivery of EMDR therapy. The attached guidelines can aid

clinicians with decision-making, security and technology considerations, and good clinical EMDR virtual practices.

- Continuing education offered by presenters at the EMDRIA Annual Conference, advanced programs offered outside of the conference, online network meetings, and webinars can educate clinicians as well.
- EMDRIA's "Go With That" magazine can supply additional information about virtual delivery of EMDR therapy.
- The dissemination of information and avenues for education would not represent significant costs to EMDRIA and may even generate some revenue for the organization.
- Some EMDR clinicians are more comfortable with technology than others. The organization can help members with similar virtual delivery interests connect with one another through EMDRIA's online community website.
- The Task Group recommends the EMDRIA Board encourage the EMDR Foundation to support groundbreaking research into the efficacy of virtual delivery of EMDR therapy by granting funds to an interested researcher. This would raise awareness of the Foundation and inform EMDR Clinicians of possibilities and cautions.

Q4: What are the ethical implications?

Of the many ethical considerations, **informed consent** for therapy is essential and mandated.

Implications for the organization:

- There is insufficient evidence to endorse or deny the delivery of EMDR therapy in a virtual format, however, this innovation has already begun to be put into practice by many in the field. We encourage all clinicians who are implementing this format to contribute to our growing body of knowledge and research as we strive to determine best practices for the virtual delivery of EMDR therapy.

Implications for the individual clinician:

- **Consent:** Many telehealth software applications offer a consent form that can be sent to and utilized with clients. Such a consent should at the very least contain the following:
- Plans for handling problems with technology and how to respond to unanticipated failures in such
- Possible challenges to confidentiality when exchanging information online and the importance of using HIPAA Compliant applications or software which carry a Business Associations Agreement
- Maintaining transparency and protection
- Billing and payment guidelines
- Insurance coverage and consent to exchange information if billing a third party. Note: Insurance companies continue to update policies regarding reimbursement for virtual therapy. These policies will need to be reviewed periodically by clinicians and clients.
- **Security:** As a matter of due diligence, a clinician's practices, policies, and infrastructure should be reviewed annually to examine adherence to security, legality, ethical issues, and sound practice.
- **Malpractice coverage:** Clinicians should consult their malpractice policies to ensure they are in compliance with their coverage and policies.
- **Adequate comfort and education:** Several members who were interviewed by the Task Group emphasized the importance of being comfortable with technology. Clinicians can attend training classes regarding the delivery of online therapy and should become well-versed in issues of security, selection and use of technology, provision of services, and HIPAA compliance.
- Additional information about ethics, and examples of ethical statements can be found at https://telehealth.org/ethical-statements/.

As we strive to make EMDR therapy increasingly available globally to all suffering individuals, the option for virtual delivery of EMDR has the potential to help us reach

remote areas where no other options for quality care are accessible. For those implementing this format, we offer the following recommendations for training, legal, and ethical compliance, safety guidelines for clinically sound practice.

Guidelines for Virtual Delivery of EMDR therapy:

For those who do wish to move ahead with virtual delivery of EMDR therapy, we offer the following guidelines which are non-binding but meant to minimize risk and inform clinicians:

1. Ethical Integrity: EMDR clinicians will follow applicable laws, licensing standards, and will maintain fidelity to EMDR therapy as they deliver therapy virtually.

- **Therapist Administration:** EMDR therapy must be administered by an EMDRIA Approved EMDR trained clinician online via telecommunications. This does not include companies, websites, or services which offer EMDR self-therapy without live guidance from an EMDR trained clinician. Self-administration of EMDR therapy is strictly forbidden in EMDRIA policy.
- **HIPAA Compliance/ Confidentiality:** Clinicians are obliged to stay informed about the telecommunications software they use including whether or not the applications maintains a Business Associate Agreement. Attention must be given to security and encryption to attempt to establish maximum possible environment of confidentiality.
- **Informed Consent:** As required by professional and licensing standards, Clinicians are obliged to obtain full consent not only for therapy but also for the risks involved in virtual delivery. In addition, clinicians and clients will need to agree and consent prior to beginning therapy on a back-up plan for when technology fails and/or when crises arise. Consent should include administrative functions such as email communications (especially if there are attachments containing personal records) and the online software application used for sending billing statements and receiving payment. Client needs to be informed if they have options other than online therapy.

- **Fidelity/Integrity:** Virtual EMDR must be administered in such a way that it adheres to the infidelity and integrity of the EMDR therapy model.
- **EMDRIA Code of Conduct and Licensure Code of Ethics:** Clinicians are obliged to follow both their licensure code of ethics as well as the EMDRIA Professional Code of Conduct.
- **Safety/Risk:** Clinicians must perform reasonable safety checks and know the support systems and community services in the areas where clients are being served.
- **Licensing regulations.** Clinicians are obliged to know their own licensing regulations with regard to virtual therapy including jurisdiction, issues, such as the client's geographical location and whether or not the clinician's licensure applies to services in that area. "It is highly suggested that mental health professionals consult their own licensure boards for guidance and to contact other jurisdictions' licensing boards (where the client is located) regarding the need for a temporary license and to see if they have any laws or regulations addressing these issues."[4]
- **PSYPACT** is a recent agreement between certain states for Licensed Psychologists only which allows some interstate practice of telehealth services. Psychologists will want to stay abreast of these developments as it impacts their jurisdictional limitations.[5]
- **Cultural Awareness with regard to remote communities:** Clinicians should equip themselves with knowledge of the population and cultural considerations when working with populations in remote locations and in populations which differ from their own.

- **Client's environmental security:** Clinicians should discuss with one's clients the topic of protecting their security (i.e. awareness of "shoulder surfing", using a computer that is not their own, and the vulnerability of using internet café's or a hotel Internet connection.)

2. Preparation and Training:

Clinicians are advised to receive additional raining to equip themselves for this specialized application of EMDR therapy. Clinicians are encouraged to seek training beyond the EMDRIA Approved EMDR therapy training. A thorough virtual therapy training program will address at the following at minimum:

- Electronic Office
- Basic hardware setups
- Software for Emailing, video-conferencing, and for forms and billing
- Security: securing equipment, client records and data transmissions
- Insurance
- Legal/Ethical, Informed consent
- Presencing
- Create a professional online presence
- Using web cam & microphone successfully to enhance attunement
- Clarifying unclear client processing & speech, without interference
- Fixing technical difficulties without interference of client processing
- Online EMDR
- DAS methods of delivery and equipment or software
- Attunement
- Safety: resourcing and containment
- Working with new clients to prepare them for online work.
- Promoting of video conferencing among current & perspective clients

3. Relational Attunement:

Clinicians are advised to use additional screening and assessment tools to build strong attunement within the therapeutic relationship which includes building an alliance with a client's adult ego state to ensure contact with a client to handle technical problems or to check in on unexpected or unclear processing, especially during an EMDR session. Clinicians should also maintain cultural sensitivity and awareness which includes awareness that the cultural background of the remotely located client may be different than that of the clinicians. Doing so will enhance therapeutic outcome and aid in crisis management should the need arise.

4. Technical Considerations/Infrastructure

These change quickly, so clinicians must remain informed to establish safety, reliability, and security. Clinicians are advised to enroll in educational courses and obtain proper equipment to ensure technology runs as smoothly, securely, consistently, and safely as is reasonably possible.

Hardware and Peripherals:

- An electronic office for online psychotherapy needs to be functional and secure. It should have a computer system with a dedicated, high-speed computer that is powerful enough to support professional needs. It should minimally be able to handle communications by video conferencing and by email and to create and maintain and safely store electronic forms & records. Where possible, conveniently used encryption methods could increase the safety of communications and record storage.
- Many also want to do paperless billing and to handle other administrative details. Software should be chosen with functionality and security in mind i.e. the selection of HIPAA compliant video conferencing software. Training may be required to use software applications. One should respond to notices of available system and software updates because they may address software problems or improve security protection. If adding the capability for social media, we recommend serious attention to security issues and adherence to firm boundary policies with clients and the type of information shared.

- The computer should be password protected and have good anti-virus protection, fast and secure network bandwidth provided by a reliable Internet Service Provider and the ability to print and scan. The computer needs to have or be connected to a screen of adequate size for viewing one's clients. It must also have the capability to support any external devices needed for secure video conferencing possibly including external webcam, headphones, speakers, microphone, back up discs for saving files and surge-protective power strips.
- One's smart phone with headphones or ear piece is not only a convenience but it is necessary for dealing with security issues that occur with technical problems or client emergencies. In addition, any software, or hardware equipment needed for dual attention stimulation should be included.
- Another security concern is one's local network which could be an office or home network that may be wireless. Home networks can be secured by passwords but clinicians should be aware of user privacy within their own homes. Office network security also needs to be checked.
- The security of a clients' computer systems and Internet connection should be discussed with them. Many clients either don't know or don't care. Therapists need to have a policy about how they will handle communicating with clients on insecure Internet connections and document any issues in a patient's records. In order to do this, therapists will need adequate training so they can make sound decisions.
- All equipment needs to be maintained on a regular basis All equipment needs to be maintained on a regular basis with a backup plan in place if there is a failure of any of the components. Hardware becomes outdated as speeds and requirements change and batteries or parts may burn out. Unmaintained equipment can become a problem for the integrity of a computer system.

5. EMDR Specific Technique

- Dual Attention Stimulus methods are ideally administered by the clinician
- Dual Attention Stimulus methods are delivered in discrete sets

- Screen size should allow for full breadth of eye movements across the midline (the central plane of vision from left to right) as research has shown this to be efficacious.
- Clinicians take appropriate measures to establish adequate attunement/safety as addressed below:
- As with any interactive therapy where strong emotion can be triggered, clients with affect phobia or with underdeveloped affect tolerance skills may dissociate or have abreactions. Clinicians should consider making additional effort during the phases of History and Preparation to establish attunement, develop resources, and build affect tolerance skills in order to provide additional support and safety for the EMDR client.
- Clinicians can establish added safety by being diligent to build trust by graduating targets, monitoring SUDs levels and ego state changes, and 18 staying highly attuned throughout the process. Clinicians may allow extra time for session closure and perform consistent follow up on the effects of EMDR from session to session to provide more safety and stability for the virtual client. Clinicians may also want to give additional follow up instructions and resourcing homework to be done between sessions. While these are all normal parts of EMDR therapy, we may need to be more consistent in our use of them and conservative when it comes to providing safety for the virtual client.

6. Crisis Management:

Clinicians must plan ahead for potential crises and should have readily on hand any contact information for the service area in which their client resides. Informed consent should include any necessary releases so clinicians can respond from miles away to ensure the client's safety.

- **Abreaction:** Clinicians will want to build a strong therapeutic relationship in advance of phases 3-7 especially and develop a plan in agreement with the client as to what will happen in the case of abreaction.
- **Dissociation**: Clinicians will want to build a strong therapeutic relationship in advance of phases 3-7 especially and develop a plan in agreement with the client

as to what will happen in the case of dissociation symptoms arising during or between sessions.

- Emergency Preparedness: Clinicians should obtain emergency information in advance. This includes contact information for first responders, clinics, help lines, and emergency services in the client's immediate community. The 9-1-1 services in the clinician's region cannot respond to a crisis in another location and time could be lost while trying to contact the appropriate authorities in that region. These contacts should be verified in advance of the onset of therapy.

7. Payor Sources and Insurance:

- If insurance will be a potential payor source, clinicians should clarify whether insurance coverage is available for telehealth services. The APA regularly 19 updates its billing codes each year and has added new codes for telehealth in recent years.
- Although each state has its own policies on telehealth, the demand for this service is growing and, as a result, each state continues to revamp their policies, and definition of, telehealth. With regards to insurance, some states are expanding their telehealth reimbursement policies whereas others are creating more restrictions. Mental health providers need to educate themselves on the policies in their state of practice, as well as know the policies in any other state from which the client is participating in the telehealth. Clinicians should make clients aware of those policies in their disclosure.

8. **Malpractice Insurance**

Clinicians will want to review their own Malpractice Insurance policies to determine whether or not their services will be covered and to consider any limitations or jurisdictional restrictions which may be in place.

EMDR International Association Members, Certified Therapists, Approved Consultants, EMDR International Association Credit Providers, and EMDR Training Providers must adhere to the following policies as a condition of membership and approval.

Chapter 11: Professional Code of Conduct

Introduction

The EMDR International Association (EMDRIA) has adopted a Professional Code of Conduct in order to assure the highest standards of excellence and integrity in EMDR. By adopting this Code, EMDR International Association creates guidelines to establish and uphold standards of practice, training, certification, and research. All members of EMDR International Association, as a condition of membership, subscribe to the Code of Conduct.

Code of Conduct

Members of EMDR International Association shall observe the professional and ethical standards of their respective clinical professions. If members are not licensed or accountable to a particular discipline's code of ethics, or if their Code of Ethics does not address the concern at hand, then the American Psychological Association (APA) Code of Ethics (APA Ethical Principles of Psychologists and Code of Conduct, January 1, 2017) shall apply.

Members shall continue to be in good standing with the professional organization with which they are affiliated and regulatory board (e.g., state or provincial licensure board or Ministry of Health) in their jurisdiction and have no confirmed findings of illegal,

unprofessional or unethical conduct. Members shall report within 30 days to EMDR International Association any problems and authorize EMDR International Association to contact the appropriate licensing boards.

Members shall adhere to the code of ethics of their respective clinical profession with regard to the advertising of services or EMDR training programs. If members are not licensed or accountable to a particular discipline's code of ethics, then the **APA Code of** Ethics (APA Ethical Principles of Psychologists and Code of Conduct, January 1, 2017) regarding ethics in advertising and public statements shall apply.

Members or Non-Members serving in an EMDR International Association-sanctioned position will follow all policies and guidelines related to that position.

Sexual Orientation Change Efforts

In the United States, health and mental health associations have objected to sexual orientation change efforts (SOCE) that define non-heterosexual orientation as deviant and abnormal.1 A significant body of scholarly research and evidence indicates that a normal continuum of human sexuality, sexual orientation, gender identity and expression all exist beyond heterosexuality. Further, there is research that indicates that SOCE can be harmful, particularly to children and adolescents.

Considering this context, EMDR International Association recognizes the need and responsibility to address the use of EMDR therapy approaches in any SOCE that pathologizes sexual and gender minority (LGBTQIA2) persons and communities. EMDR International Association does not believe that representations of sexual orientation and gender identity result from unresolved trauma. An individual's sexual orientation and gender identity are not matters of pathology. EMDR International Association does not believe LGBTQIA individuals are in need of mental health treatment by virtue of their sexual orientation and gender identity. Therefore, the use of EMDR therapy in any SOCE program or other similar intervention is inappropriate and outside the norms and values of EMDR International Association. EMDR International Association prohibits the use of EMDR therapy for this purpose by its Members, Certified Therapists, Approved Consultants, Credit Providers, and Approved Training Providers.

Diversity and Cultural Competence

EMDR International Association acknowledges and promotes membership diversity for the purpose of fostering growth, learning, creativity and productivity in our professional organization. We value diversity and encourage inclusion, sharing and mutual respect for the multiple perspectives that foster a climate of understanding of the interdependence of multicultural humanity within our profession and in members' service to the community. We foster diversity through education and the development of policies and practices that encompass multiple aspects of human differences, life experiences, and viewpoint, and further recognize their similarities and interrelationships. EMDR International Association's diversity perspective includes, but is not limited to, the influence of culture, race/ethnicity, nationality/citizenship, gender/gender identity, sexual/affectional orientation, socio-economic status, religion/spirituality, ability/disability, and/or age.

EMDR International Association values cultural competence both as an organizational goal and as a core component of effective EMDR therapy. We seek to ally with and contribute to the general movement toward cultural competence within the fields of health service provision, education and elsewhere. We view culture as the common patterns of human behavior and overall meaning associated with particular social groups that can include thoughts and behaviors, language and communication patterns, customs, beliefs, values and other dimensions related to group identification and participation. Cultural groups include a wide range of socially salient groups, large and small, within a society. The impact of culture is both externally lived in a person's life through social interactions as well as being internally experienced within a person's sense of self. EMDR International Association regards cultural competence as the capacity to understand and respect the importance of culture and to integrate that awareness into both organizational health and service delivery.

EMDR International Association strives to educate and support EMDR clinicians as they implement culturally attuned EMDR therapy in a multicultural world. EMDR International Association believes that cultural competence includes a deep and evolving appreciation of the role that cultural forces play in the well-being of all people, both constructive and

destructive. We encourage culturally competent clinicians to pursue knowledge and understanding regarding the general importance of culture as well as cultural awareness specific to service to each client; and to further adapt and maintain EMDR therapy skills that are culturally sensitive and effective.