

EMDR: Where did it come from? What is it? Where is it going?

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Objectives

- Explain the origins of EMDR
- Describe the eight phases of EMDR
- Name the three prongs of the basic treatment protocol

Orientation towards EMDR

EMDR is one of a wide variety of methods under the rubric of "Power Therapies" that target specific issues and problems, aimed at rapid resolution.

These methods generally employ **attunement to a problem** including the **emotions** and **somatic component**, and apply a **dual attention task** with a physical sensation that supports resolution of the client's negative emotional attachment to the target issue.

Active Ingredients Project Efficient Therapies of PTSD (Figley, 1995)

- Eye Movement Desensitization and Reprocessing (EMDR)
- Thought Field Therapy (TFT)
- Visual/Kinesthetic Dissociation (V/KD)
- Traumatic Incident Reduction (TIR)

Active Ingredients Project Data

Method	Subjects	Treatment time (min.)	Follow-up SUD
EMDR	6	172	2.64
TFT	14	63	3.60
V/DK	11	113	3.30
TIR	9	254	5.67

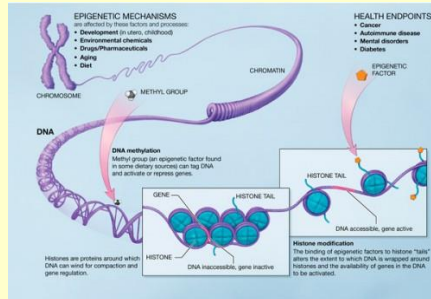
Epigenetics

- Environmental influences affect the genetic expression of DNA
- Epigenetic modifications can be inherited from one generation to the next.

Epigenetic Mechanisms

- DNA methylation and histone modification can regulate gene expression without altering the underlying DNA gene sequence.

Epigenetic Modification



Epigenetics and Environmental Stress

- The genome dynamically responds to the environment. Stress, diet, behavior, toxins and other factors activate chemical switches that regulate gene expression.
- The lousy childhoods or excellent adventures of our ancestors might change personality, bequeathing anxiety or resilience by altering epigenetic expressions of genes in the brain.

Epigenetic effects

- As environmental influences affect the genetic expression of individual traits, many effects can occur.
- In addition to emotional and behavioral issues, altered gene expression can affect cardiovascular status and can be associated with risk of cancer.

Epigenetic Inheritance

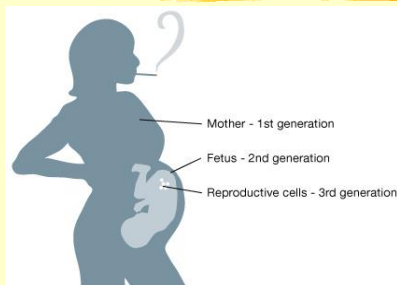
- DNA sequencing of genes is unchanged.
- Some epigenetic tags remain in place from generation to generation.
- The new embryo's epigenome is not completely erased and rebuilt from scratch.

Epigenetics and psychotherapy

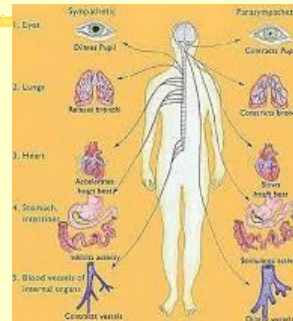
- “Successful psychotherapy may activate epigenetic mechanisms in brain circuits to reduce psychiatric symptoms by improving the efficiency of information processing in these circuits, just like effective drug therapy is thought to do.”

J Clin Pharm Ther 2012 p253

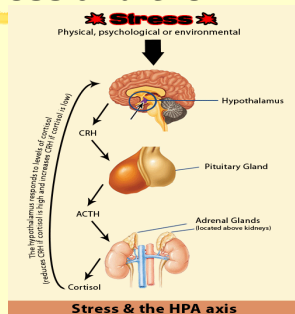
Intergenerational effects of smoking



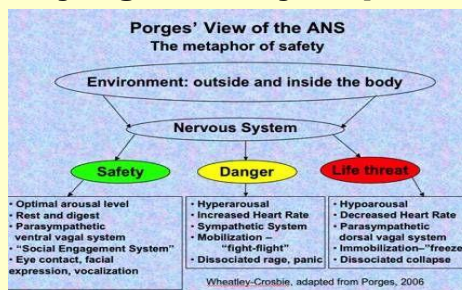
Autonomic Nervous System



Stress and the HPA Axis



Polyvagal Theory Sequence



Trauma Treatment Overview Phase or Stage Oriented Approach

1. Safety, stabilization, and symptom reduction
2. Processing traumatic experiences
3. Integration or fusion, and rehabilitation

Trauma Treatment Overview 1. Stabilization Phase

- Safety from self injury, drugs, promiscuity, destructive relationships
- Stabilization of mood, affect tolerance, functioning in daily life, relationships
- Symptom reduction, learning to self-soothe, containment of re-experienced traumas

Trauma Treatment Overview 2. Trauma-Processing Phase

- Re-experiencing, abreacting, desensitizing, and detoxifying traumatic events
- Reframing context of the abuse
- Tolerating feelings of helplessness, grief confusion, shame, horror, terror, anger and rage

Trauma Treatment Overview 3. Integration, Fusion, Rehab Phase

- Grapple with loss, grief, mourning, loneliness
- Practice new skills
- Tolerate not relying on dissociation
- Deal effectively with everyday problems

The Adaptive Information Processing System

- Healing is the usual human response to untoward events
 - Physical - cut heals
 - Psychological - problems resolve
- Learning occurs based upon constant 'updating' in response to changing environment, perceptions, and knowledge.
- Disturbing events that are not metabolized or "bled off" are stored in a manner that precludes the usual integration that occurs with life events.

EMDR Historical Highlights

- 1987** Shapiro develops Eye Movement Desensitization (EMD)
- 1989** Shapiro publishes 2 EMD articles
- 1991** EMDR renamed EMDR
- 1992** First EMDR Conference
- 1995** Shapiro's *EMDR* published
- 1995** EMDR International Association established
- 2001** *EMDR*, 2nd Ed., published
- 2002** Resource Development and Installation
- 2007** Journal of EMDR Practice and Research begins

EMDR Research Highlights

- 1989** Treatment of somatoform disorder (Brown)
- 1998** Treatment of military veterans (Carlson)
- 1998** EMDR equivalent to exposure therapy (Van Etten)
- 1999** Superior to routine Tx for adults with CSA (Edmond)
- 2002** Positive results with children with PTSD (Chemtob)
- 2002** Equivalent to CBT for adult PTSD (Several articles)
- 2004** Group protocol for children (Fernandez)

More EMDR Research Highlights

- 2004** As effective as CBT for sexually abused girls (Jabergghaderi)
- 2006** Effective treatment after 9/11 (Silver)
- 2007** EMDR Reduces PTSD sx better than SSRI (van der Kolk)
- 2008** Effective vs. CBT for child behavior problems (Wanders)
- 2012** EMDR and B/SIT significantly reduced test anxiety (Cook-Vienot)
- 2012** Traumatized C&A -15 EMDR studies (Cook-Vienot)

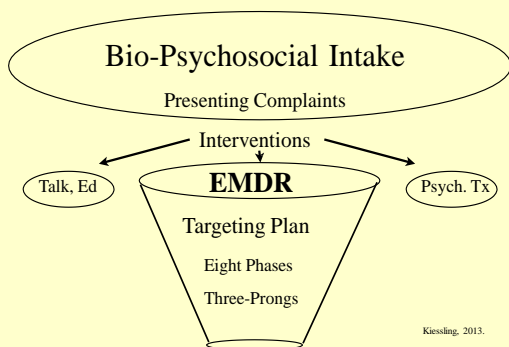
Professional Organizations Endorsing EMDR include:

- **2013** World Health Organization (WHO)
- **2011** Substance Abuse and Mental Health Services Administration (SAMHSA)
- **2010** Department of Veterans Affairs & Department of Defense
- **2009** International Society for Traumatic Stress Studies (ISTSS)
- **2004** American Psychiatric Association (APA)

The EMDR Approach

- Integrated psychotherapy approach
- Based upon the Adaptive Information Processing Model
 - The Present is a re-manifestation of the Past
 - Reprocessing = Adaptive Learning
- EMDR takes a complex approach to trauma, processing not only the emotion associated with the trauma, but the entire trauma memory within its network of associated memories.

Case Conceptualization



EMDR Treatment Goal

Trait Change vs. State Change
Effective, Efficient & Safe

8 Phases of EMDR

1. Client history taking
2. Client preparation
3. Assessing target event
 - Picture the situation
 - Establish negative cognition (NC)
 - Establish positive cognition (PC)
 - Validity of Cognition (VoC)
 - Subjective Units of Disturbance (SUD)
 - Emotion and somatic components

Phase 1: Client history and treatment planning

- This phase usually occurs over the first few sessions. Often the person being evaluated is asked to complete an information form that includes questions about current and past medical status, family and childhood history, and current symptoms.
- During the interview, the clinician asks supplementary questions. These questions include facts about the person's past as well as current and past symptoms.

Phase 1: Client history and treatment planning (cont.)

- Detailed information is necessary to create an independent assessment of the client's condition. In complicated situations, contact with the person's family may be requested.
- The clinician will use this information to build a treatment matrix addressing present and past disturbing event
- For children, parents are involved in the consultation. The clinician generally shares his/her impressions with the client and a decision about how to go about treatment is agreed upon.

TRAUMA/RESOURCE TIME LINE

Age	Disturbing or Traumatic Events	Positive Figures, Events, Achievements
1		
2		
3		
4		
5		
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25		

Phase 2: Preparation

- If it agreed that that EMDR would be used in therapy, there are several steps in preparation for the actual processing of the material. A degree of trust must exist between the client and clinician. The clinician explains the theoretical background for EMDR and describes the actual steps in the process.
- The clinician learns about the client's self-soothing skills and teaches the client new skills to increase the ability of the client to tolerate the processing of traumatic material.

Phase 2: Preparation (cont.)

- One of the calming techniques used in EMDR is to establish a "safe place" in the client's imagination to which the client can return during times of emotional disturbance.
- The clinician discusses the types of bilateral stimulation (BLS), and they decide what kind of bilateral attention process they will use.
- Safety procedures are discussed and set in place. The client's concerns and fears are addressed.

Phase 2: Preparation (cont.)

- The clinician might apply BLS during this phase to develop and enhances psychological resources before beginning information reprocessing (Phase 4: Desensitization).
- BLS for resource building is applied with a short set of very slow alternating movements.
- Prior to moving to the next phase (Phase 3: Assessment) the client must be able to change emotional states from being troubled/disturbed to feeling neutral, stable, or positive. This is so the client will be able to recover from a disturbing state that can occur from the reprocessing of a disturbing event.

Phase 3: Assessment

- The Assessment Phase begins the EMDR reprocessing session. The client is asked what the target incident will be. He/she is asked what picture represents the worst part of the experience.
- The client associates words that best go with the picture (or experience) that express a negative belief (Negative Cognition (NC)) about self in the present time while attuning to the disturbing event.

Negative Cognition Properties

- Negative belief around target issue
- First person present tense (I am ...)
- Statement of being (vs. doing)
- Child-like perspective
- Irrational quality
- Generalizable

Phase 3: Assessment (cont.)

- Next, the client decides what he/she would like to believe about self in place of the negative thought.
- The client assesses the validity of this positive thought (Positive Cognition (PC)) relative to the target experience, on a seven-point scale (Validity of Cognition (VoC) scale 1-7).

Phase 3: Assessment (cont.)

- The client then names the emotions associated with the target event and scales the disturbance level on an eleven-point scale (Subjective Units of Disturbance (SUD) scale 0-10).
- The client identifies the location of the body sensation associated with the disturbance.

Examples of Cognitions

Negative Cognitions	Positive Cognitions
I am a bad person	I am a good person
I am worthless	I am worthwhile
I am shameful	I am honorable
I am unlovable	I am lovable
I am incompetent	I can take care of myself

8 Phases of EMDR (cont.)

4. Desensitization
5. Installation
6. Body scan
7. Closure
8. Re-evaluation

Phase 4: Desensitization

- The desensitization phase is the core of the information processing. It begins with the client to holding in focus a picture of the traumatic event, a negative self-perception and a body sensation associated with a disturbing event.
- The clinician then helps the client focus on a bilateral stimulus (BLS) while holding the target event in mind.
- The stimulus may consist of rapid hand movements or moving lights in the client's field of vision; alternating tones to the ears, or alternating taps on the hands.

Phase 4: Desensitization (cont.)

- These sets of bilateral attention may last from less than a half-minute to, in rare situations, several minutes, depending on the client's response. The client is asked to bring his awareness to the office and to comment on whatever comes in awareness.
- After giving a short description of what thought, feeling or experience that comes up in the client's mind, the client does another set of bilateral stimulation.
- Over many sets of BLS, the therapist supports the client through the processing of whatever images, thoughts, feelings or sensations that come into awareness.

Phase 5: Installation of Positive Cognition

- When the processing of the disturbing memory is complete, as measured by the amount of residual disturbance of the memory (SUD =0), the positive thought (positive cognition) is revisited, reconfirmed as appropriate and scaled as to validity in the presence of the original experience.
- Sets of bilateral stimulation are applied until the positive thought is experienced as being totally valid (7 on a scale of 1-7).

Phase 6: Body scan

- The client is asked to close his/her eyes, concentrate on the target experience and mentally scan the entire body.
- If sensations or lack of sensations are reported, short sets of bilateral stimulation are applied until any negative sensation subsides or positive sensations are fully experienced.

Phase 7: Closure

- The client is guided to a neutral or positive emotional state prior to leaving the session.
- The client may continue to process the material for days after a session, perhaps having new insights, vivid dreams, strong feelings, intrusive thoughts, or renewed recall of past experiences.
- These experiences may feel confusing to the client, but they are considered to be a continuation of the healing process.
- The client is asked to keep a record of new sensations and experiences and report them to the clinician at the next session. If the client becomes concerned or surprisingly disturbed, he/she should let the clinician know right away.

Phase 8: Re-evaluation

- At the beginning of the next session, the client reviews the week, discussing any new sensations or experiences and reviewing his/her log. The disturbance of the previous session's target experience is assessed to help decide on the course of action.
- Generally, the eight-phase process is applied to past events, current triggers and anticipated future events related to the target event (Three Pronged Approach).

EMDR Worksheet

Presenting issue or memory: What issue or memory would you like to work on today?

Picture: What picture represents the worst part of the experience?

Negative cognition (NC): What negative words best go with that picture (or experience) that express your belief about yourself now?

Positive cognition (PC): When you bring up that picture (or experience), what would you like to believe about yourself now?

Validity of cognition (VoC) (PC only): As you bring up that picture (or experience), how true does that (PC) feel to you now on a scale of 1 to 7, where 1 means it feels completely false and 7 means it feels completely true?

	1	2	3	4	5	6	7
	Completely false						Completely true

Emotions/feelings: When you bring up that picture (or experience) and those words (NC), what emotions do you feel now?

SUD Scale: On a scale of 0-10, where 0 is no disturbance or neutral and 10 is the highest disturbance that you can imagine, how disturbing does the picture (or experience) feel to you now?

	0	1	2	3	4	5	6	7	8	9	10
	No disturbance	Neutral									Highest disturbance

Location of body sensation: Where in your body do you feel it?

Desensitize: I'd like you to bring up that picture, the negative words (repeat the negative cognition), and notice where you are feeling it in your body – and follow my fingers. SUD should be 0 before moving to installation.

Installation of positive cognition: Do the words (PC) still fit, or is there another positive statement you feel would be more suitable?

Think about the original experience and those words (PC). From 1 (completely false) to 7 (completely true), how true do they feel? Hold them together (obtain the VoC) after each set. Do eye movement until an larger strength. If reports a 6 or less, check appropriateness and address blocking belief (if necessary) with additional processing.

Body scan: Close your eyes. Concentrate on the experience and the PC, and mentally scan your entire body. Tell me where you feel anything (if any sensation is reported, do EMDR. If a positive comfortable sensation, do EMDR to strengthen the positive feeling. If sensation of discomfort reported, processes must deconstruct intrusions.)

Closure/debrief the experience: The processing we have done today may continue after the session. You may or may not notice new insights, thoughts, memories or dreams. If you do, just notice what you're experiencing – take a snapshot of it (what you're seeing, feeling, thinking, and the trigger) and keep a log. We can work on that new material another time. Contact me if you need to.

Three Pronged Approach

- Past
- Present
- Future

Points for Consideration

- Informed consent during preparation phase
- Secondary gain if receiving disability
- Ego strength to tolerate stress of the method
- Strong therapeutic relationships support the work
- Age may require modification of the protocol
- Length of session – insurance time limitations will lead to frequent closing of incomplete sessions

Medical Issues

- Medication represses symptoms requiring the target to be reexamined when meds are decreased.
- Medical condition may require special circumstances.
- Hospitalization has been used to support fragile patients who could be distressed by reprocessing.

Special Protocols

- Safe place
- Strengthen resources
- Affect management
- Single trauma event
- Recent events
- Emergency room
- Drawing protocol
- Blind to therapist
- Self care
- Stress management
- Phobias
- Dreams
- Excessive grief
- Couples
- Groups
- Children
- Somatic disorders
- Complex trauma

Potential Obstacles for EMDR practitioners

- Training is complex/expensive
- Client preparation can be elaborate
- Sessions may take more than 50 minutes
- With incomplete sessions, residual processing discomfort may be present

Potential Obstacles for EMDR practitioners

- Premature/inappropriate application
- Might uncover unrealized dissociation
- Limited number of colleagues trained in the method (though there are hundreds of clinicians in the local community who are trained in EMDR)
- The method looks so hokey that people can't believe it works!

A good thing!!

All insurance companies
now reimburse for
EMDR treatment

Advantages of using EMDR

- Established effectiveness for PTSD
- Brings out strengths of client
- Can be applied to any form of clinical practice
- Focuses on specific target/problem
- Generalizable positive effects

Integrative Group Treatment Protocol (IGTP)

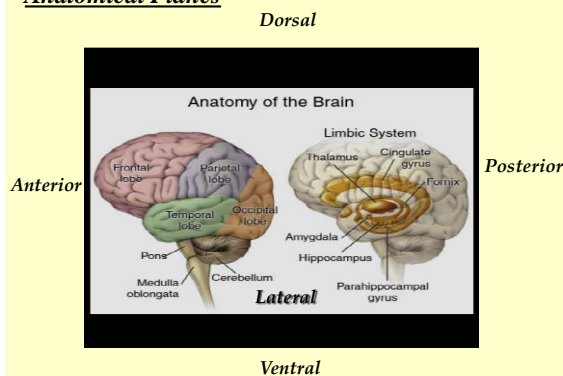
(Jarero & Artigas, 2010)

- Protocol
 - Activation with picture
 - SUD level
 - Self administered BLS
 - Draw another picture
 - SUD level
 - Repeat sequence
- Resulted in substantial ↓ SUD

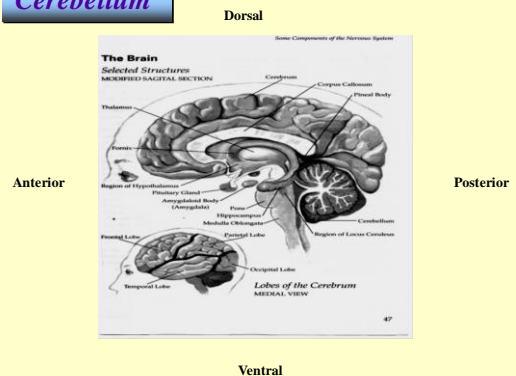
Neurobiology of EMDR

- Neuroanatomy
- Multipronged Approach to Mechanisms of Action
- Theoretical Perspectives
- REM-like System Hypothesis
- SPECT Scan Study

Anatomical Planes



Cerebellum



Multipronged Approach to Mechanisms of Action (Stickgold, 2008)

- Theoretical perspectives
- Test the predictions of a specific model – REM sleep
- Top-down dismantling – what are the necessary components
- Bottom-up investigation of the impact to identify the basic building blocks

Theoretical Perspectives (Bergmann, 2010)

- Deconditioning Model
- Orienting Response Models
- Frontal Lobe Activation Model
- REM-Like Physiological Systems
- Reciprocal Suppression/Activation of the Anterior Cingulate Models
- Hippocampal Neural Mapping Model
- Low Frequency Stimulation Model
- Thalamic Temporal Binding Model
- Parietal Lobe Activation Model

REM-like System Hypothesis (Stickgold, 2002)

"Several lines of evidence suggest that EMDR may help in the treatment of PTSD by turning on memory processing systems normally activated during Rapid Eye Movement (REM) sleep but dysfunctional in the PTSD patient.

Two separate memory systems store information in the brain. One, located in the hippocampus, stores 'episodic' memories, the memories of actual events in our lives. The second, located in the neocortex, stores general information and associations...

REM-like System Hypothesis (Stickgold, 2002)

...EMDR through the repetitive redirecting of attention, activates brain systems normally present during REM sleep. Any alternating, lateralized stimulation regimen, whether eye movements, tapping, or binaural sound, could activate these systems by forcing the brain to constantly reorient to new locations in space.

In this manner, EMDR can 'push-start' the broken-down REM machinery that is required for the brain to effectively process traumatic memories."

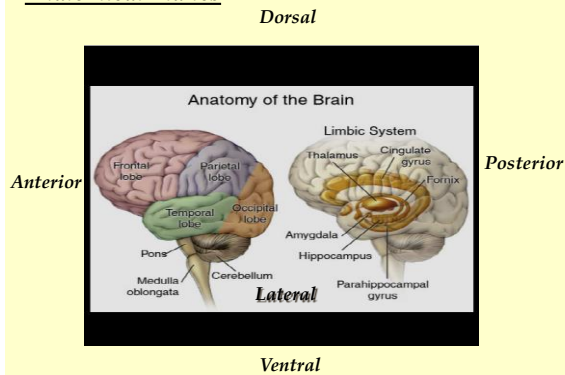
SPECT Scan Study Results (Levin, Lazrove and van der Kolk, 1999)

- 6 subjects with 3 EMDR Sessions
- Post-EMDR, the Rorschach Hypervigilance Index went from positive to negative, indicating that the subject was spending less time scanning the environment for threats, and available ego resources also increased, as measured by the Experience Actual variable.
- Upon recalling the traumatic memory during SPECT scanning, two areas of the brain were hyperactive post-EMDR treatment, relative to pre-treatment: the anterior cingulate gyrus and the left frontal lobe.

SPECT Scan Study Results (Levin, Lazrove and van der Kolk, 1999)

An important implication of these findings is that, using EMDR, successful treatment of PTSD does not reduce arousal at the limbic level, but instead, enhances the ability to differentiate real from imagined threat.

Anatomical Planes



Functional and Structural Neuroimaging (Pagani et al. 2013)

- EMDR-related neurobiological changes were monitored by EEG during therapy itself and showed a shift of the maximal activation from emotional limbic to cortical cognitive brain regions. This was the first time in which neurobiological changes occurring during any psychotherapy session have been reported

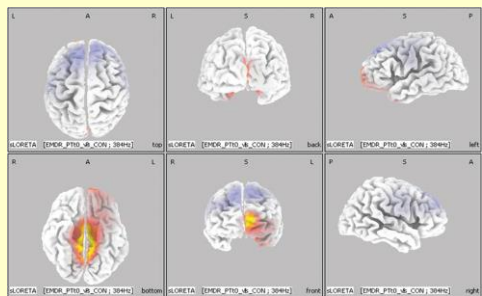
Answers to Objectives Revealed

- Explain the origins of EMDR-**
 - EMDR came about after Shapiro's 1987 walk in the park. She developed the process over the next four years.
- Describe the eight phases of EMDR –**
 - See slides.
- Name the three prongs of the basic treatment protocol –**
 - Past, Present and Future

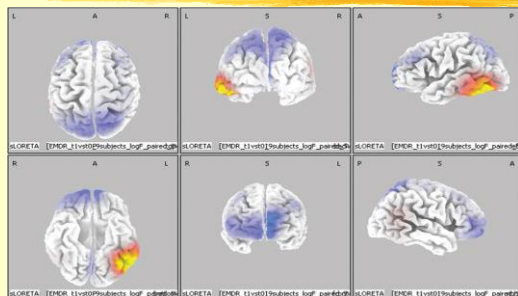
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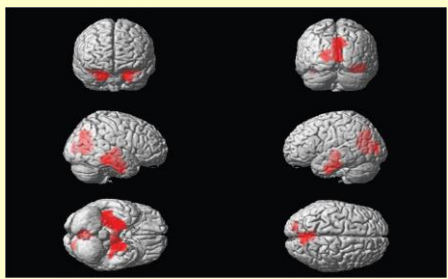
Patients vs. Normal Controls During 1st Session



Patients in 1st Session vs. the Last Session



SPECT Scan Perfusion after EMDR Therapy



EEG Cortical Representation of Increased and Decreased activity after EMDR Therapy

