Hand Out:
Memory reconsolidation, creativity, and EMDR,

EMDR Canada Conference
Vancouver B.C. April 26, 2015
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Introduction

"EMDR will prove to be more easily explained by the concept of memory reconsolidation than by concepts of extinction or exposure."

Francine Shapiro: key note address

EMDR Europe, Edinburgh 06 2014

1. The neuroscience of memory consolidation and reconsolidation

- Until memories are fixed they are fragile and easily destroyed.
- In a few hours become imprinted as LTM (long term memory)
- This is consolidation

The Body Keeps Score.
van der Kolk, 1994

- A section titled "*Emotional memories are forever.*
- " *Indelibility of Subcortical Emotional Memories*" (LeDoux et al 1989)
- Consolidated emotional learning was thought to be irrevocably locked @ 1999

Eric Kandel: Nobel Prize 2000

- Showed how memories (learning) are consolidated from STM to LTM
- New dendrites, synaptic networks developed in isolated neurons
- Karim Nader asked himself, “what makes us so certain memories are fixed forever.”

Fear memories are particularly durable but …

- destroying basal nuclei of the amygdyla (LBA) destroyed those memories.
- Nader in 1999 conditioned a group of rats to fear a tone.
- Then abolished the fear in activated rats by injecting a substance into LBA which only inhibits protein synthesis.

LeDoux (1996) The emotional brain: The mysterious underpinnings of emotional life. New York, NY Simon & Shuster

Karim Nader, psychology McGill

- Rats that received anisomycin within four hours of tone: forgot fear subsequently.
- Controls who heard tone 6 hours before anisomycin, did not forget.
- Controls where the tone was not played before anisomycin did not forget.

Nader, K., Schafe, G.E., & Ledoux, J.E., (2000) Fear memories require protein synthesis in the amygdyla for reconsolidation after retrieval. *Nature, 406*, 722-726.

Rats and extinction training

- 24 hrs after fear conditioning
- A single retrieval trial [shock] followed by extinction training,
- either within a 6 hour window or not.
- Rats in the window had their fear extinguished.

Monfils MH., Cowansage, KK, Kahn,E., Ledoux, JE. (2009) Extinction-reconsolidation boundries: key to persistent attenuation of fear memories. *Science* 324, 951-955

Nader: *Re-recording human memories*

- Memories pass through two states:
- Short term memory (STM) where memories are labile
- Over a few hours neurons synthesize new RNA and networks are consolidated as LTM

Nader's conclusions

- Reactivated memories require the formation of new neurotransmitters to be reconsolidated.
- This labile state of reactivating memory:
- occurs in a window of @ 4-5 hours. Nader, K., (2003) Re-recording human memories *Nature*,425:571-572

Human memory consolidation and reconsolidation

- 100 right handed subjects 18-27 yrs
- With left hand repeated a 4-1-3-2-4 sequence for 30 sec X 12 with 30 sec rests
- Tested for speed and accuracy.

Walker, M.P., Brakefield, T., Hobson. J.A., & Stickgold, R., (2003) Dissociable stages of human memory consolidation and reconsolidation. *Nature, 425*, 616-620

Consolidation and reconsolidation, Walker cont.

- Subjects trained in 1st Motor sequence (MS) 41324
  - Result: improved after sleep

- Sub Grp 1.) day 1, learnt 2nd MS 23142, immediately after 1st training / tested day 2:
  - 1st learning wiped out

- Sub Grp 2.) after training with 1st MS day 1
  Day 2: activated 1st /then 2nd MS training.
  - Result: day 3 : 1st learning wiped out

Nader on Walker, Nature 2003

- The memory of the first sequence becomes consolidated within 6 hours (LTM)
- The activation/interference–induced block to reconsolidation the next day demonstrates -
- the first [experimental] erasure of a consolidated memory in humans.

Simple training can alter consolidated memory in humans

- Training leads to learning (LTM)
- Sleep enhances speed and accuracy
- Rehearsal makes it labile , vulnerable to interference

"Can neuroscience rewrite our most traumatic memories?"

- Danielle Schiller grew up in Tel Aviv
- Her father, a holocaust survivor
- She directs lab of affective neuroscience NMS-S Med NY.

Spector, M. (2014) Partial Recall: Can neuroscience help us rewrite our most traumatic memories? *The New Yorker* May 19, 38-48

Preventing the return of fear using reconsolidation

- Trained 65 people to fear a pink square by association with a wrist shock
- Raised pulse, BP, skin conductance
- Fear abolished only in those who were first activated with shock before applying extinction.

Schiller, D., et al., (2010)Preventing the return of fear in humans using reconsolidation update mechanisms. *Nature, 463*, 49-53

Schiller conclusions in humans

- A memory that is activated becomes plastic for 4-5 hours
- When this recovered memory is paired with mismatching information,
- it will be reconsolidated in an updated version.

Summary: Learning, reconsolidation and EMDR

- Should we process only one memory or resource in a session and rehearse before sleep?
- so that the resolution can (re-)consolidate in LTM, sans interference?

Adaptive Information Processing (AIP) model,

- Clinical observation, before "reconsolidation" was applied to memory:
- Eye Movement Desensitization renamed EMD & **Re-processing** in the late 80s.
- "AIP consistent with reconsolidation of memory… accessed memories can become labile and be restored in an altered form."

  Soloman, R.W., & Shapiro, F., (2008). EMDR and the adaptive information processing model: Potential mechanism of change. *Journal of EMDR practice and research 2*, 315-325.

Bruce Ecker (2012) on EMDR & MR

- "EMDR functions … by bringing about a genuine resolution of negative emotional experiences
- rather than engaging in counteractive managing of symptoms.
- new knowings contradicting the target construct can suddenly and unpredictably emerge during sets, as a whole body experience…"

  Ecker, B, Ticic, R., Hulley, L., (2012) *Unlocking the emotional brain*. Routledge

Bergmann on EMDR

- Decreased hyper arousal and hyper vigilance
- Repair of cognitive, memorial, emotional and somatosensory fragmentation.
- The mechanisms … continue to mystify.

Bergmann, U., (2010) EMDR's Neurobiological mechanism of action: a survey of 20 years of searching. *Journal of EMDR Practice and Research* ,4:22-42

Consolidation, reconsolidation and EMDR, Shapiro's intuition.

- EMDR assists this natural process.
- Selecting the appropriate ***consolidated*** *target*. and NC
- Assisting the creation of adaptive imagery by PC, EMs, CIs > the ***re-consolidation***

Case Rani: Audio fragment-mismatch

- sound of a ‘singing bowl’ while imagining the sound of metal crushing her.
- Screaming metal sound replaced by bells.
- “I saw my car become smaller and disappear”

The mechanism of reconsolidation?

- If imagery and perception share a common “sketch pad”,
- ‘dual attention’ will overwhelm imagery with perception
- resulting in an updated LT memory.

Bottom up reprocessing

- While memory of crushing sound activated on sketchpad (top down)
- Auditory nerve stimulated (bottom up)
- and memory reconsolidated/reprocessed

Top Down Processing?

- A novel image of resolution would be developed in imagination,
- Imagination of a new script would replace the activated LTM of old script during EMs
- Healthy resolution/reconsolidation/ reprocessing occurs.

Imagery neurons in the human brain

- 9 intractable epilepsy pts implanted with chronic electrodes.
- shown pictures: imagined two of the pictures.
- a common substrate discovered for the processing of incoming visual information and visual recall

Kreiman, G., Koch,C., & Fried, I., (2000). Imagery neurons in the human brain. *Nature*, 408, 357-361

Top down and bottom up

- Movie clips vs mental replays of clips
- High density EEG assessing directionality: occipito–parietal-frontal
- first direct demonstration of a reversal of direction of cortical signal flow during mental imagery, as compared to perception. (Dentico. D. 2014)

Summary of Memory Reconsolidation

- When a LT emotional memory is activated there is an @ four hour window of plasticity.
- If the client creates/experiences the update:
- this updated memory can replace the emotion- encoded memory.

Memory R. summary cont. :

- But after the emotional (fear) memory is updated this novel evaluation of events
- can be interfered with during 4-5 hours
- and the new learning obliterated.

So when it doesn't work

- The updated learning may have been interfered with during those @ 4 hours
- The target may not match with symptoms
- The client has not accessed the dreaming mind/ brain, is not prepared - 'resourced'.

Part 2. Choosing what to "update"

- "Childhood events …encoded with survival mechanisms …that are inappropriate for adults."(Shapiro 2008)
- The focus of EMDR therapy is on the causative event(s)
- not so much on the resulting symptoms.

Causative Traumatic Memories

- How do traumatically stored events differ from a normal memory?
- The nature of those elusive “targets”.
- Van der Kolk and Bergmann

The Body Keeps Score 2014

- "In 1978 nothing in my psychiatric training prepared me to deal with my traumatized vets.
- I went to the library at VA and looked for books on war neuroses…
- 5 years after the last American soldier left Vietnam, there wasn't a single book. "

  Van der Kolk B. (2014) *The Body Keeps Score : Brain Mind and Body in the Healing of Trauma*. Viking

Bessel's proposal 1980

- "I made a proposal to the VA to study whether the memories of those suffering from PTSD differed from memories of others.
- "most of our patients were unable to make their past into a story that happened long ago.
- "We wanted to examine what was going on in the brain using brain scans. "

the response to his proposal…

- The opening line of the grant rejection in 1980…

- *"It has never been shown that PTSD is relevant to the mission of the Veterans Administration."*

Dissociation and the fragmentary nature of traumatic memories:

- "Extreme emotional arousal interferes with effective memory processing (hippocampus)
- Sensory and emotional fragmentation results thus …
- Containing the traumatic memories within distinct ego states."

Van der Kolk, BA.,& Fisler, R., (1995) Dissociation and the fragmentary nature of traumatic memories: Overview and explanatory study. *J. Traumatic Stress 8, no.4* : 505-25

A study comparing traumatic and normal memories

- 46 subjects haunted by memories of terror
- 29 childhood sexual abuse, 11 childhood physical assault.
- 6 misc (van der Kolk 1995)

Memories of high school graduation, wedding, births

- No olfactory, visual, auditory or sensory reliving
- No vivid dreams or flashbacks
- No periods of amnesia, complete narratives.

Traumatic memories: dissociated

- No narrative for the event initially
- fragmented as somato-sensory, olfactory, visual, auditory, tactile memories
- emotional felt bodily experiences (grief)
  (van der Kolk 1995)

The dissociated brain: Stan and Ute's brain scans: R. Lanius

- a woman beside them was burnt alive

- 3mos later Stan's right amygdyla activated: sympathetic hyperarousal: "I'm going to die".

- Ute scan, almost totally blank: hypoarousal. "I feel nothing".

Healing The Traumatized Self

- NWC: normal waking consciousness
- TRASC: *trauma related altered states of consciousness*
- 4 dimensions of consciousness:
  time, thought, body, emotion.

Frewen, P., Lanius, R., (2015) *Healing the traumatized self*. Norton

More on the traumatic target

- Intrusions of fragmented traumatic memories

- Psycho-physiological studies
  increased:
  - Heart rate
  - Skin conductance

  decreased:
  - Skin temperature
  - Heart rate variability

Bergmann, U., (2010) EMDR's Neurobiological mechanism of action: a survey of 20 years of searching. *Journal of EMDR Practice and Research* ,4:22-42

Summary of neuroscience of targets

- No narrative for the event initially. Not simple connected LTM.
- fragmented as somato-sensory, olfactory, visual, auditory, tactile memories.
- emotional experiences [ego states]

(van der Kolk 1995)

Using the fact of fragmentation

- when choosing a target, search for memories of sensory fragments such as sounds , tastes , smells, images of emotional (child) parts

- then: generate a mismatch (e.g. sound) while activating the traumatic memory fragment.

- e.g. imagine caring for the child ego image (ES).

Luke summary

- The hoarding of leaves etc. was a positive attempt to manage fear of being taken, to empower.
- but it didn't work very well.
- He needed a better reconsolidation/ resolution.

Luke summary cont.

- The target was being powerless, being taken …
- While the target was activated, during EMs the mismatch were the fragmented 4yo and 12 yo being together
- plus his creative, imaginary empowerment. (BREAK)

Part 3. Creativity

- How do we define and recognize creativity?
- How does it promote MR?
- How it is found throughout EMDR Therapy.

Creative imaginings may lead to healing naturally.

- Five year old Noam Saul, PS. 165, saw people jumping off the Twin Towers holding hands.
- drew a picture of the scene with a small black circle at the foot of the buildings.
- “a trampoline, so that the next time people have to jump they, will be safe.” (van der Kolk 2014)

Defining creativity:

- "The generation of ideas or products
- both novel (original, unusual) and
- useful, (valuable, helpful)."

Mumford, (2003) Creativity : Where have we been, where are we going? Taking stock of creativity research. *Creativity Research Journal* 15:107-120

Creativity and intelligence

- Having a high IQ is not equivalent to being highly creative. 120 OK.
- Creativity quotients measure divergent thinking.
- Scientific and artistic creativity,

Andreason, N. C.,(2014) Secrets of the creative brain. *Atlantic* 25 Jun 2014

Secrets of the creative brain

- "I don't write consciously – it is as if the muse sits on my shoulder and I slip into a state that is apart from reality." Neil Simon

- Creative people are better at making connections, seeing things in an original way

- Creative people show higher activation of their association cortices, whether scientists or artists.

  (*The Atlantic*, Andreason 2014)

The nature of creativity

- Convergent thinking involves aiming for a single correct solution to a problem. (car no go)
- Divergent thinking involves creative generation of multiple answers to a set problem. (how could a human fly?)
- Divergent thinking is sometimes used as a synonym for creativity in the psychological literature.

Alan Turing age 28, 1940, a memo:

- “ He is very clever but quite irresponsible and throws out a *mass of suggestions of all degrees of merit*.
- I have just, but only just. enough authority and ability to keep him and his ideas in some sort of order and discipline.
- But he is very nice about it all.” Dilly Knox

McKay, S., (2012)*The Secret Lives of Codebreakers, The men and women who cracked the enigma code at Bleachley Park*. Plume

Winston Churchill, 1915

- “Some of his ideas sound frankly a bit wacko. He wanted men to have special shields…
- He wanted them equipped with acetylene torches to cut barbed wire.
- His main interest was in moveable machine-gun cupolas that were capable of traversing ordinary obstacles.”

Johnson B., (2014) *The Churchill Factor, How one man made history*. Riverhead

Hypothesis: REM, EMDR, C.I., MR, rely on innate creativity

- The resolution of traumatically fragmented memories often relies on an unexpected association.
- Unexpected helpful associations are a characteristic of REM and EMDR.
- Good CIs and GIs utilize the same creative divergent thinking.

Shapiro 2001, on interweaves

- “at least half the time sets of eye movements are not sufficient, and processing will stop.

- clinicians will have to employ additional strategies … to re-stimulate it.”

Shapiro, F., (2001) Eye Movement Desensitization and Reprocessing. 2nd Ed New York : Guilford Press

When there are no resource memories:

- *resolving information* may be created in the imagination as well as by accessing memories of actual experiences. Safe P?
- Think of creating a play, you need a script, set directions, and actors
- This is a natural healing process.

Attachment Focused- EMDR: Laurel Parnell

- 'an emphasis on phase 2 , the preparation phase of the EMDR Protocol where calming imagery is developed in the early stages of therapy.
- In fact what we are doing is activating the client's creative imagination.
- Peaceful place with an ideal nurturer, a protector, and wise figure.'

Parnell, L., (2013) *Attachment focused EMDR, Healing relational trauma*. Norton

What they didn't get

- 'we also tap in positive memories, experiences, images of people to whom we are connected who comfort or empower.

- focusing and "tapping in" experiences of when he loved someone or something (and was loved by someone or something)

- This is activating the schema or memory (I am unlovable) and reconsolidating "I am loveable".

Other similar approaches

- Shirley Jean Schmidt develops Nurturing Adult Self, Protective Adult Self, and Spiritual Core Self.

- April Steele uses the adult self to nurture and protect the traumatized/neglected child ego state

- Both are utilizing dissociation and imagination to develop creative potential resolutions.

Dreaming mind/brain and imagination

- Do EMs access a neurological function that differs from Wake Mind or Normal Waking Consciousness?
- Is access to that state necessary for Memory reconsolidation?
- What other ways of accessing that state exist?

Stickgold's REM system model of EMDR: The dreaming mind /brain

- EMs activated parasympathetic (decreased HR, GSR, increased skin temperature)
- and inhibited sympathetic systems.
- Similar to REM sleep

Bergmann on Stickgold's REM model

- Reactivation of memories during REM sleep may create connections to alternatives to the learned information.
- If EMDR activates REM-brain processes…
- One would expect an increase in unexpected [connections] as in dreaming.

  (Stickgold in Bergmann, U., (2010) EMDR's Neurobiological mechanism of action: a survey of 20 years of searching. *Journal of EMDR Practice and Research* ,4:22-42

Unexpected association in a dream

- “The school goes into lock down.
  He takes Tanya and Norm hostage. I go into the janitor’s room and get a pane of glass.

- I throw it at him and it turns into a glass dome.
  It falls over him,

- and the police take him out like a fly in a water glass.”

The unexpected during EMs

- I open the door . The 10 yo is curled up . There are no walls. She is surprised but she's given up +++
- She's starting to think, "I have no clothes." I tell her I have some for her.
- I tell her I have 3 kids. She likes to sing and play piano. I update her to the present, she finds it cool.

Wake and sleep

	Waking	NREM	REM
Mental content	Logical, mix factual / creative	Logical, expected associations	Unexpected novel associations
Nor adrenaline	Variable	Medium to low	Near zero
Acetyl choline	Variable	Low	Very high
Expected associations	Strong,	Strong,	Weak,

(adapted from Stickgold 2002)

Comparing associative type in EMDR and dreams

10 consecutive client's dreams and EMDR sessions. 2007-2009

1.a 70 EMDR successful sessions
(suds < 50%)

b. 16 unsuccessful processing sessions

2. 81 dream reports. (Ferrie 2009)

EM/DM comparison of associations with target image:

	% unexpected	% expected
EM success	96	4
EM not success	12	88
Dream report	90	10

Healing dream: Rene age 50, bro T

- PCL 50: hyper, panic attacks, nightmares
- Adopted bro: enuresis, fires, cruel to animals
- Not believed. “I am bad”.

Dreamt resolution: session # 7. T: “the murdered cat” 8/10, 11y

- After last session, panic attack, then a dream: “Mat and I are walking. See a jaguar in a perfect ring of trees, scary,

- then in front of us jag, friendly, on its belly, lizard skin with a tattoo of open curtains to a beautiful view.”

- Woke: anxiety /panic cured. PCL 27 c/f 50. “I am feeling so solid.”

Comparing CBT and EMDR Therapy

- The automatic thought/ NC, and rational thought /PC are similar concepts
- MR: emotional memory NC and mismatch PC
- Emphasis on rational wake mind processes

EMDR Therapy

- EMDR matches the cognitive elements with an EM creative/ dream like component, that is *unique*.
- So the title “EMDR Therapy” is good because it
- focuses attention on the *unique*, unexpected EM component. Yes, there is something bizarre.

Facilitating creativity in EMDR

- EMs may access the natural creative process also found in dreaming. If not…
- We create unexpected interweaves that are potential resolutions.
- Ultimately the *client's own creativity must be accessed for a resolution to occur*.

Facilitating creativity in EMDR:

- Before EMs, in preparation phase, creative scripts may be formulated together. (PC)
- Besides CIs, often during EMs the client has an seemingly unexpected bizarre impulse, somatosensory, and violent,
- Go with that.

Corey 1st "this is so crazy I don't want to tell you"

- EM: peaceful place, beach, feel more relaxed.
- EM: D, Fetus tells me to eat it. 'Go with that'.
- EM: It says, "we will always be together and watch out for each other". I feel calmer.

Iris, showing MR and creativity during:

- Client's EM processing sets
- Dreams of the client.
- Therapist - Client interaction.

Iris history cont.

- "Prior therapy . We would go over and over the flashbacks/memories but they didn't go away and still bother me."
- I went for a year of exposure before I went on psychiatric drugs. They didn't work either"
- FB, a memory of him putting a gun in my mouth, could taste the metal, felt tiny.

11. TT sand castle/ screen

- T: the gun 10/10 (C.I. make him dust ? throw the gun into a forge?)
- "I (AES) throw the gun into a forge and it melts.
- 4yo gets bigger, she takes him and his wheel chair and throws him in. He turns to ash. She takes the gun and throws it in. It is all over 0/10."

13. PCL 20 c/f 47

- Called to say that she had felt tremendous relief. Session # 11. “I got rid of the terror. That was the greatest gift.
- I could appreciate beauty see the branches I have more confidence at work. (TRASC resolving?)
- I felt like doing cartwheels down the street.”

How would Adult Ego State handle the incident?

- TT: “AES gives her a hug, turns off the polisher
- TT: Little one laughs
- My back has been sore all week, I went to the hospital because of it. Now it is suddenly better”. [Trying for a resolution again]

Summary of Iris

- Shows processing fragmented sensations ,taste, smell, sound, tactile, visual imagery, child ES
- CES processes in Safe P with resources: beach, Nana, AES
- Targeting one fragment and process one per session so as not to interfere with LTM

The End?

- The ultimate resource, Induced ADC
  A. Botkin
- Cases of grief, ‘after death communication’? (ADC) for MR.
- “Doubt is not a pleasant condition, but certainty is absurd” - Voltaire

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Induced ADC: Characteristics

- Was experience similar to other's, e.g. deceased looks healthy?
- Was the experience unexpected, not memory?
- Was there a dramatic improvement that was maintained?

Botkin, A., (2005. 2014) *Induced After Death Communication* . Hampton Roads

2nd session

- I feel better, meditating - stuff about mom
- T: phone call, 'mom is dead'. Solar plexus
- EM: Beach, AES, Mom there busy, 9yo alone.
- EM: I take 9yo inside me.

4th and last session

- EM Beach: "I tell dead sister I love her.
- EM: Then everyone is there, living and dead, our family. I feel relief.
- Going to Europe to visit cousin, playing music in group. There is still more to learn."

Ilsa summary: 4 sessions

- 69 years of TRASC (trauma related altered states of consciousness)
- Improved by accessing natural process of MR
- Using activation of T then assisting EMDR process with ADC-resource.

Oliver 38. “I felt I died at 15.”

- PCL 74, nightmares, flashbacks, poor sleep, anxiety.
- “Age 15 dad ill, brain tumor, surgery, tubes, vegetative. Died when I was 33.
- FBs: post op, bloody bandages, coma, scared its so bad, heart broken.”

1st session

- EM : [CI], Beach: Dad won't face me. Doesn't believe he is dead. He looks good, no scar.
- EM: [CI], I tell Dad to think of his parents. They appear plus aunt and uncle (all deceased)
- I feel more relaxed.

2nd session, “I saw him like real.”

- EM: Beach. AES, CES, Dad, He looks at me and smiles.
- “Thank you for telling me I was dead.”
- Dad says,” you look good . Take care of mom.”

More 2nd session EM beach 15 yo

- EM: Dad said ‘he’ wasn’t in the chair. “Look at me now.”
- EM: CES jumps on his bike and does circles.
- EM: Dad says,’ the world is yours, good things are coming. I am with you always’.

Summary of Oliver

- By accessing image of deceased,
- and applying CI and creative EMD Reprocessing (reconsolidating).
- 23 yrs of prolonged grief resolved in 3 sessions. (Confirmed 1 yr later.)

Susan,48y, death of 18yo son

- Drinking excessively + 3 yrs psychiatric medication
- Married, 3 boys, Quin 18, died 3 years ago.
- PCL 62, FBs of Quin's death, nightmares, difficulty falling and staying asleep.

1st session

- EM: beach Caribbean. Quin there. I can feel sand between toes. He says, “why didn’t you bring me here before.?”
- He is not liking what I am doing with my life. I am destroying my marriage . It’s not his fault it is mine.
- He is always with me. “Take care of my brothers”

3rd. Not drinking

- EM: Beach: Quin is there.
- He has his arm around me. I see flashes of all the people at the wake.
- The casket is open but it doesn't look like him They won't let me touch him. I walk up to the casket I see spots of blood on the pillow. I say goodbye.

5th

- EM: Beach, waves, wind. Quin looks normal wearing a shirt we joked about. He tells me “I’ll be OK”.
- I am holding him back by grieving. He is glad I am getting off meds, ‘they are no good for you’.
- He walks away and turns to blow me a kiss and he’s gone. Will I see him again? He doesn’t answer.

6th and 7 th

- No drinking back at work. Husband is happy,
- T: police friend comes to the door 0/10
- Down to 75 mg venlaflaxine (SSRI), on it 3 years. skin crawling, aggitated about little things, insomnia, angry at everything totally out of character. Walked off the job .

9th 3 mos later, same nightmare 5-6xs

- Brad flipped my car. Breast lump, drinking again fell cut myself. On mirtazapine (neuroleptic).
- DM: I am watching my funeral. No one notices me there, I am trying to reach out to the kids.
- DM See 3 coffins, Quin, Brad and me.

11th, Dream

- Quin hitting the pole and his death.
- Quin is beside the car looking in at his body. His spirit form is healthy, no blood. The body is wrecked. At the funeral his spirit is next to us.
- Then I see my totaled car after Brad's accident. Brad is OK. Quin is smiling at me.

12th , sober off meds

- The dream showed me life going on after death as if life were important.
- At the same time I think what's the point I raised Quin and then he's killed.
- But then I think he's my guiding light, he is my higher power, not 'God', who may not exist.

A year later

- No alcohol since May 2014
- Working
- “The dream of Quin being with us after he died did it for me.”

Conclusions

- Memories pass through two states:
- Short term memory (STM) where memories are labile
- Over a few hours neurons synthesize new RNA and networks are consolidated as LTM (Nader 2003)

2. conclusions

- Long Term Memory can be updated (reconsolidated)
- During a labile state of reactivated memory:
- occurring in a window of @ 4 hours.

3. EMDR and Memory reconsolidation

- Occurs when the target memory is activated
- and during EMs, in imagination, a novel resolution occurs resulting in
- appropriate emotions emerging and improved function overall.

4. EMDR and MR and creativity

- The adaptive resolution occurs if the client's creativity is accessed.
- Hence anything which can promote this is good
- Divergent thinking, brain storming, is the key throughout the process of therapy.

5. When it doesn't work

- The updated learning may have been interfered with during those @ 4 hours
- targeting triggers not trauma fragments.
- dreaming mind/ brain not accessed,
  client is not prepared - 'resourced'

6. Memory reconsolidation & EMDR

- The unique combination of wake mind processes
- and a dream like induced creative state
- set EMDR apart from other therapies at this point in time.