Disclosures

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Trauma

- Trauma: acute adverse event
- Early life adversity affects brain development and increase the risk for later psychopathology (Nelson et al. 2025)

Trauma:
different perspectives

- Exposure to an event objectively deemed to be traumatic, regardless of the consequences

- An event that was perceived to be traumatic and is associated with negative emotional and behavioral sequelae

Trauma- and stressor-related disorders
(DSM 5)

- Posttraumatic stress disorder (PTSD)
- Acute stress disorder
- Reactive attachment disorder
- Disinhibited social engagement disorder
- Adjustment disorders

Posttraumatic stress disorder (PTSD)
> 6 years of age

A. Exposure to actual or threatened death, serious injury, or sexual violence
   - Directly experience
   - Witnessing trauma in person
   - Learning that trauma occurred to family/close friend
   - Repeated or extreme exposure to aversive details of trauma

Exposure through the media (TV, movies, photos, etc) does not apply

Posttraumatic stress disorder (PTSD)
> 6 years of age

B. One or more intrusion symptoms
- recurrent, intrusive memories and/or dreams
- dissociative reactions (flashbacks), etc

C. Persistent avoidance of stimuli associated with trauma

D. Cognitive and mood alterations
- inability to remember (dissociative amnesia)
- cognitive distortions, etc.

E. Arousal and reactivity alterations linked to the trauma
- hypervigilance
- exaggerated startle response
- sleep disturbances

Posttraumatic stress disorder (PTSD)
≤6 years of age

A. Exposure to actual or threatened death, serious injury, or sexual violence
   - Directly experience
   - Witnessing trauma in person
   - Learning that trauma occurred to family/close friend
   - Repeated or extreme exposure to aversive details of trauma

Exposure through the media (TV, movies, photos, etc) does not apply

Posttraumatic stress disorder (PTSD)
≤6 years of age

B. One or more intrusion symptoms

- recurrent, intrusive memories and/or dreams
- dissociative reactions (flashbacks), etc

C. Persistent avoidance of stimuli associated with trauma and/or Cognitive and mood alterations

- fear, guilt, sadness, shame, confusion
- social withdrawal, etc.

D. Arousal and reactivity alterations linked to the trauma

- hypervigilance
- exaggerated startle response
- sleep disturbances

Posttraumatic stress disorder (PTSD)

Duration: more than 1 month

There can dissociative symptoms:

- depersonalization
- derealization

Dissociative symptoms (DSM-5)

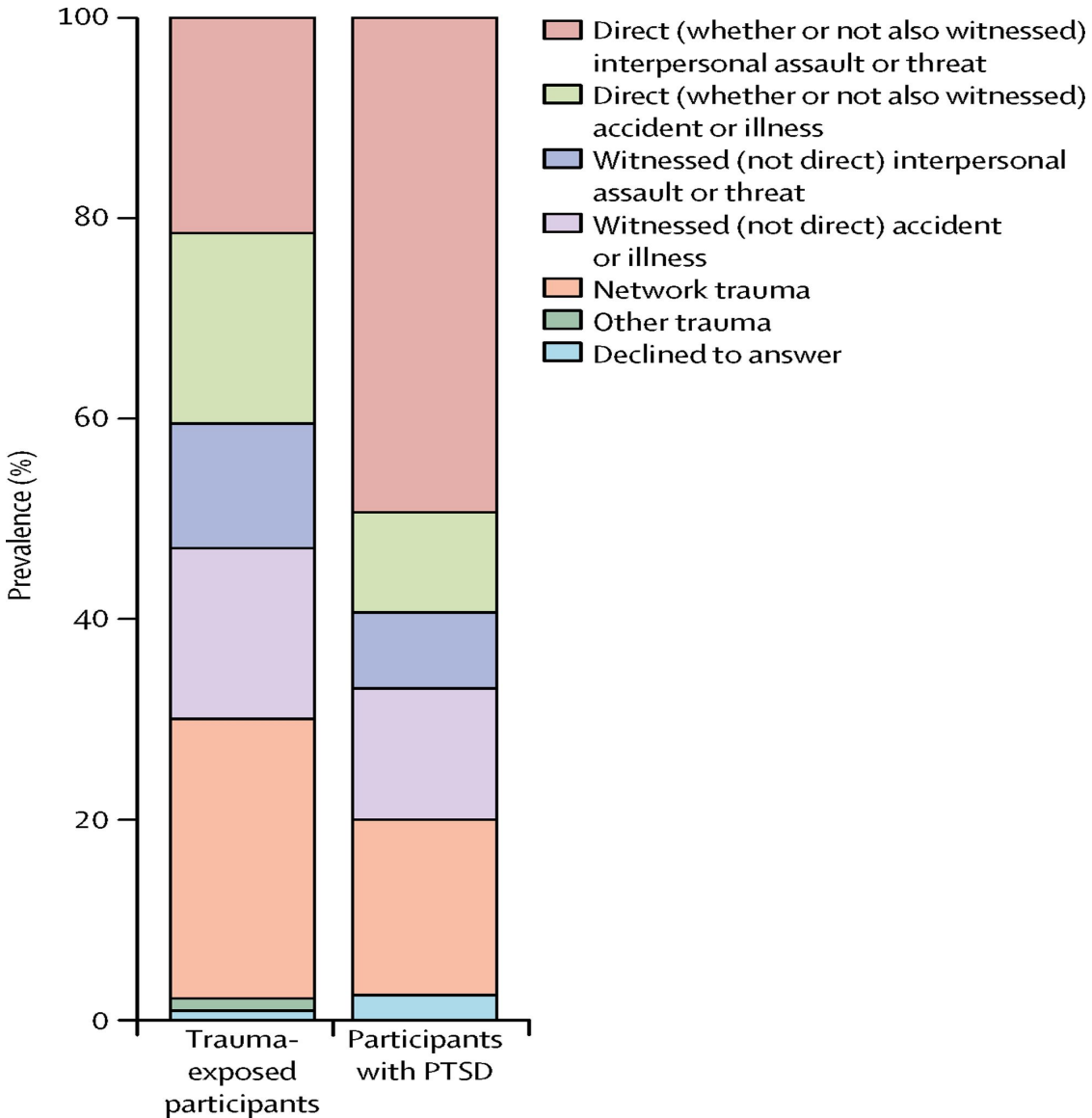
- Depersonalization
  - Persistent or recurrent feeling of being detached from own body or mental processes (e.g., like in a dream-state; sense of unreality of self or body; feeling of time moving slowly)

- Derealization
  - Persistent or recurrent experiences of unreality of surroundings

PTSD after a trauma in the general population
(Lewis SJ et al. Lancet Psychiatry 2019)

- In about 25% of those exposed to the trauma
- The type of trauma is important:
  - The worst is direct physical interpersonal attack
  - Worse if the trauma is repeated over time

From Lewis SJ et al. 2019



PTSD in children and adolescents (Visser et al. 2025)

- Most trauma-exposed children and adolescents do not develop PTSD
- But a significant proportion do
  - 20% under DSM-IV criteria
  - 12% under DSM-5 criteria
  - Higher risk for girls and those exposed to interpersonal trauma.

Trauma and PTSD: estimated life prevalence by age 18

- 31% were exposed to a trauma
- 7% developed PTSD
  - 20% received mental health care

Ref.

Lewis SJ, Arseneault L, Caspi A et al. The epidemiology of trauma and post-traumatic stress disorder in a representative cohort of young people in England and Wales. Lancet Psychiatry 2019;6:247-56. N=2064

Trauma- and stressor-related disorders
(DSM 5)

- Posttraumatic stress disorder (PTSD)

- Acute stress disorder
- Reactive attachment disorder
- Disinhibited social engagement disorder
- Adjustment disorders

Acute stress disorder

- Criteria like those for PTSD
  - Symptoms of fear, intrusion, negative mood, dissociation, and arousal that begin within one month after a traumatic event. For the diagnosis: at least 9 symptoms, with significant functional impairment

- Duration: 3-30 days after trauma exposure

Reactive attachment disorder

- The child has experienced extremely insufficient care:
  - Social neglect or deprivation with persistent lack of basic emotional needs of comfort, stimulation, and affection
  - Repeated changes of primary caregivers that inferfere with forming stable attachments
  - Other living conditions that reduced opportunities to form selective attachments
- Inhibited, emotionally withdrawn behavior towards adult caregivers
- Social and emotional disturbances

- Evident before 5 years of age
- Duration: more than 12 months

Disinhibited social engagement disorder

- The child has experienced extremely insufficient care:
  - Social neglect or deprivation with persistent lack of basic emotional needs of comfort, stimulation, and affection
  - Repeated changes of primary caregivers that inferfere with forming stable attachments
  - Other living conditions that reduced opportunities to form selective attachments
- Overly familiar with strangers
- Lack of checking back with caregiver when venturing unfamiliar settings

❖ Duration: more than 12 months

Adjustment disorders

- Emotional or behavioral symptoms in response to a stressor within 3 months of the exposure
- Marked, out of proportion distress
- Significant functional impairment

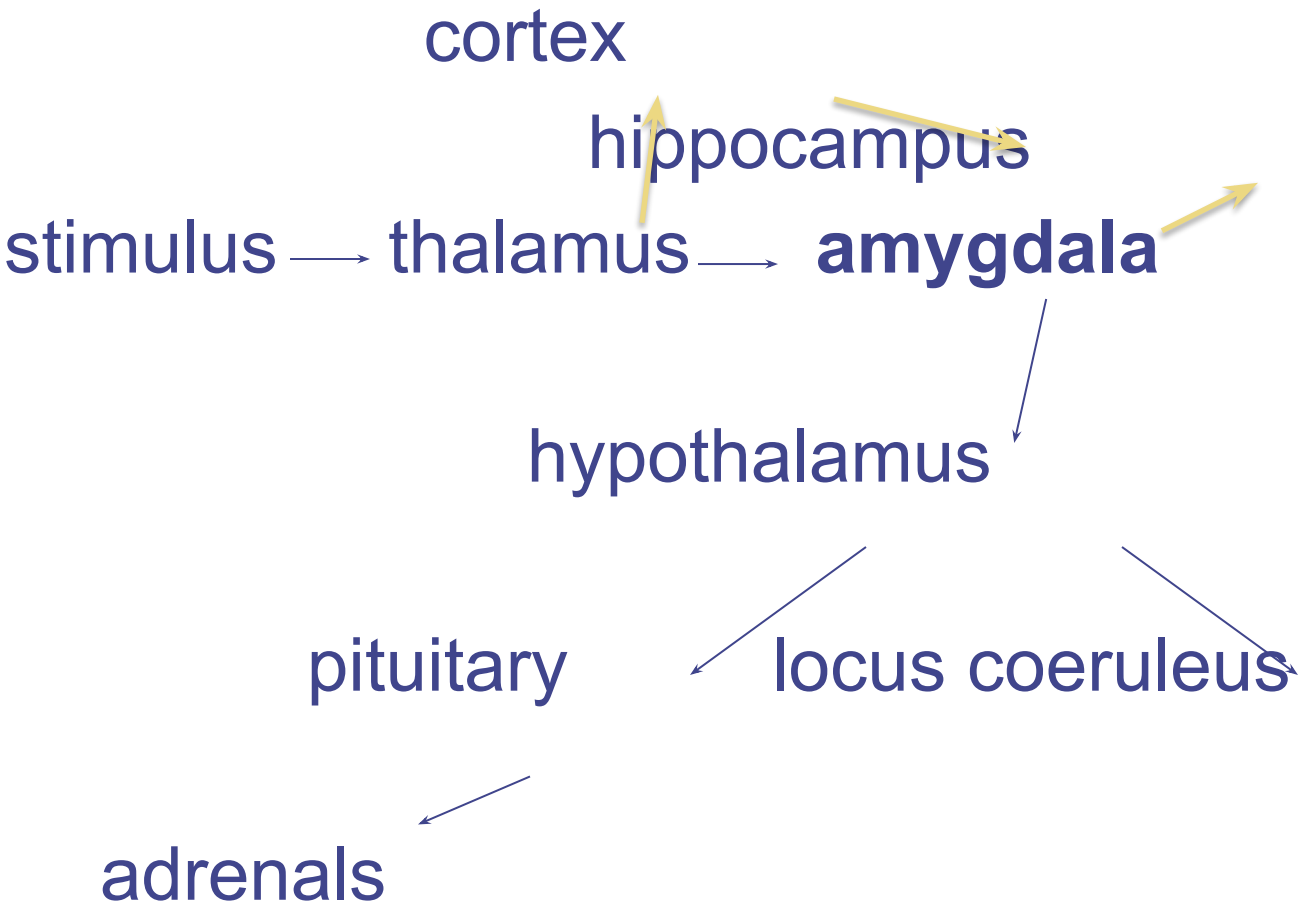
- Does not last more than 6 months from the stressor

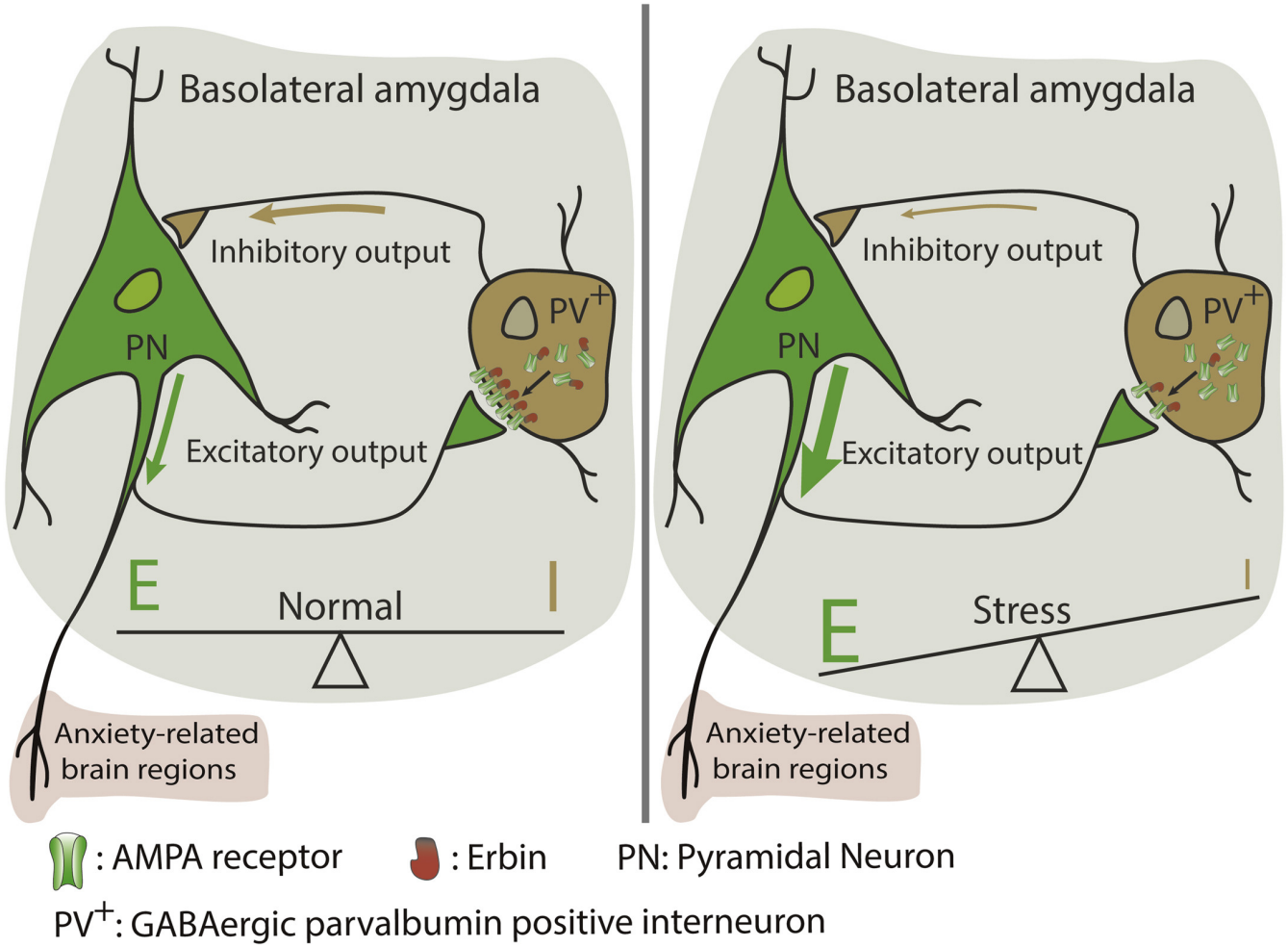
Post-Traumatic Stress Disorder (PTSD) (DSM-5)

- Neurobiology:
  - Activation of the amygdala by trauma-related cues (Stevens JS et al. Biol Psychiatry 2017)
  - Reduced recruitment of the brain areas involved in emotion regulation (vmPFC, dlPFC)in exposure to trauma-related cues (Rauch et al 2006)

- Treatment:
  - CBT (about 12 sessions)
    - vmPFC activation during exposure and the resulting downregulation of the amygdala are key factors of PE therapy (Stojek et al., 2018).
  - Eye Movement Desensitization and Reprocessing (EMDR)

The circuitry of fear





Alexandrova et al. Biological Psychiatry 2020

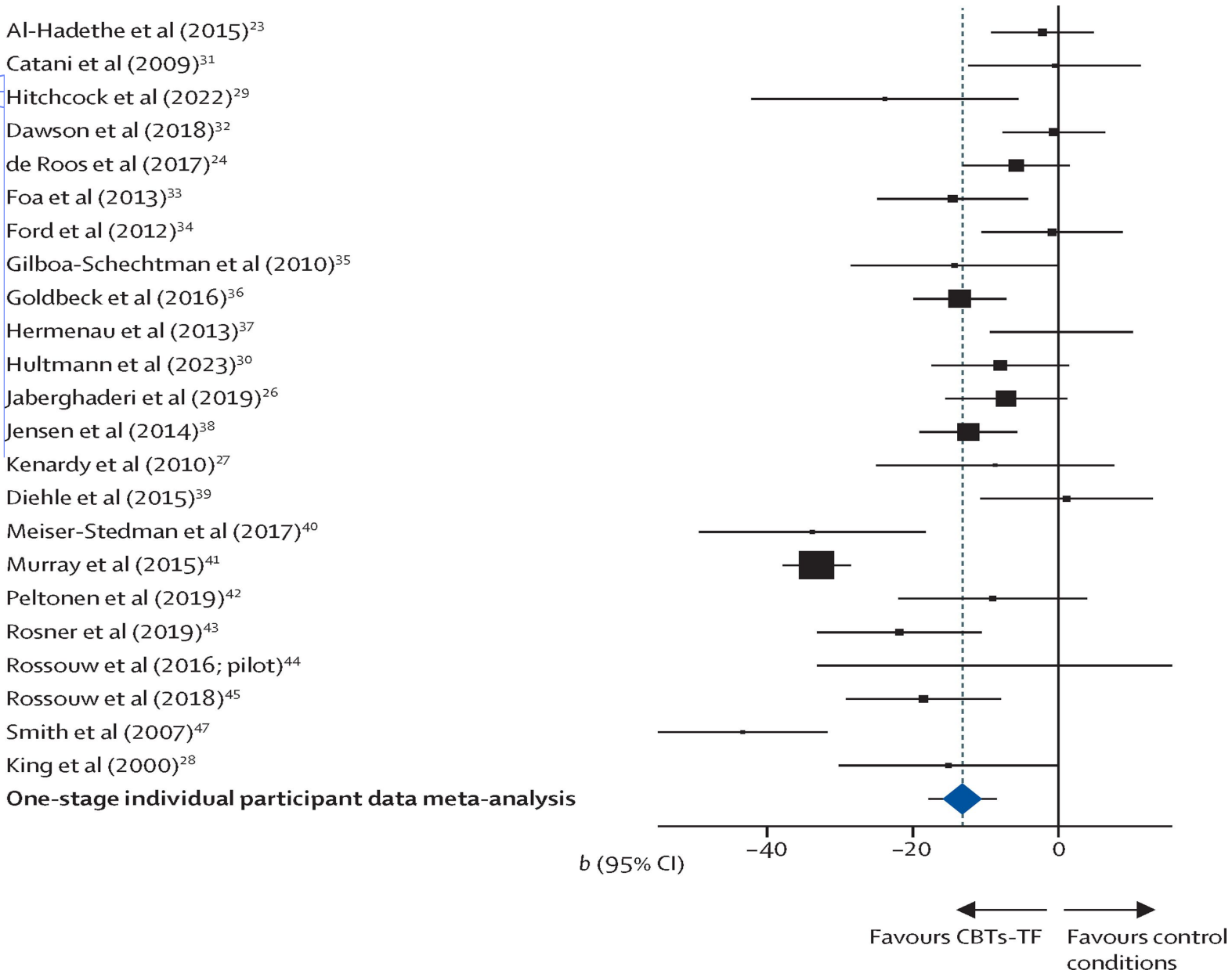
Treatment of PTSD

- Treatment:
  - CBT (about 12 sessions)
    - vmPFC activation during exposure and the resulting downregulation of the amygdala (Stojek et al., 2018).
  - Eye Movement Desensitization and Reprocessing (EMDR)

National Institute for Health and Care Excellence. Guideline 116: Post-traumatic stress disorder. London: National Institute for Health and Care Excellence, 2018

Trauma-focused CBT (meta-analysis by De Hann et al Lancet Child Adolesc Health 2024)

De Hanne et al. 2024



Eye Movement Desensitization and Reprocessing (EMDR)

- Patient is instructed to keep the most disturbing image, the negative feelings, beliefs, emotions, and the body sensations associated with the trauma in mind, while following an alternating bilateral stimulation (e.g., right-left hand movements, bilateral fingers tapping, or bilateral auditory stimuli) from the therapist

- Symptom improvement, usually in 6–8 sessions

- The postulated mechanisms of action: *Suppression of the activity of fear-encoding cells in the basolateral amygdala through an inhibitory circuit connecting the superior colliculus with mediodorsal thalamus (Baek et al 2019*)

Mechanism of EMDR (Holmes 2019)