IN-SYNC PSYCHOTHERAPY:

The Path to Trauma Recovery by

Integration of “Top-down,” “Bottom-up,” and “Through the side door” techniques

Goals of Treatment

I am your “guide” towards learning about yourself. I will teach you the information and the techniques (called “psychoeducation”) which create the path for achieving change. In simple explanation, this path consists of releasing you from unnecessary suffering and pain which arises from a self-identity which is “old and outworn” and which prevents change. “Old and Outworn” includes habits and ideas that were developed by your brain for your protection, but which are fundamentally flawed as descriptions of reality.

You may have certain ideas of what you want to achieve through your treatment. If your insurance company is paying for your treatment, they will require “documentation” of these goals and the progress we are making towards achieving those goals. As you will understand when “mindful awareness” is developed, those “goals” come from the part of your brain which will be a first area to change with therapy techniques. The “goals” of the payment provider will be the first thing that we set aside to help you make changes in your life, resolve pain you are experiencing, and open your “self” to love and be loved. Neither you nor I know what your true goals are until your “self-identity” has freedom to choose.

Top-Down Techniques

These techniques resolve trauma symptoms by working with the functions of the dorsolateral prefrontal cortex, the area of the brain most responsible for logic and reason. “Top-Down” processing presumes that something similar to a boss-employee relationship exists between the prefrontal cortex (the cognitive thinking center of the brain) and the limbic system (the feeling centers of the brain).

These techniques consist of traditional talk-based psychotherapy and most cognitively-oriented therapies.  They explore the memories of the trauma. Over time, these techniques reshape a person’s physiological and emotional responses in the present to triggers or memories to past trauma experiences.

Enhanced cognitive regulation enables you to alter the relevance of current environmental “stimuli”, such as:

 Perceived and actual threats

 Trauma triggers and reminders

 Conflict

 Stressors

These techniques include training in executive function skills such as perspective taking, reason, problem-solving and decision-making, and the capacity for impulse control. These skills are important for altering defenses such as OCD and other belief systems which reside in the prefrontal cortex (residing as an “encapsulated self-identity state”). However, these techniques are not effective by themselves as this training remains stuck in the prefrontal cortex and does not reach the emotion regulating centers of the brain.

This “information stuckness” occurs because the trauma activating portions of the brain are stronger and will over-ride the cognitive controls. When the body’s physiological alarm system is activated, the prefrontal cortex “goes dark.” The “fight or flight” response of the sensorimotor survival system will not allow your conscious mind to access the executive function skills. This “shut-down” occurs even if, in reality, there is no present danger. “Old and Outworn” patterns that are learned from the past for survival get activated and over-ride new cognitive learning.

Bottom-Up Techniques

Your body nervous system is developed to send 80% of survival information from body to head. These “Bottom-Up” techniques are “somatically-driven” (body-based) techniques which directly access the limbic system of the brain. This is the feeling center of the brain, which is connected to sensory receptors located throughout the body.

Our Implicit Memory (sensory memory) functions are dominant from birth until age 3 and are related to the brain amygdala, which functions at birth. Our earliest preverbal memories are neither verbal nor stored as images. Instead, they exist as motor patterns and sensations. They are blueprints of our earliest relationships represented by psychophysiological arousal and emotion. These memories provide the foundation for a “felt sense of self.” Preverbal Memories consist of our earliest attachment memories that exist prior to age three.

Other brain structures (hippocampus, prefrontal cortex) necessary for explicit verbal memories develop later. Traumatic stress can impair the brain structures involved with nonverbal explicit memory in which later (after age 3) memories can be stored as fragments of disconnected sensory and bodily experiences. This “explicit memory” is knowledge of facts, time, and place and provides basis for a verbal narrative that helps us develop a coherent sense of self across time.

During psychotherapy, the “body memories” (consisting of visceral responses associated with the trauma) are regulated and adjusted through activities such as:

 Exercise

 Rhythmic movement

 Progressive Relaxation

 Deep (diaphragmatic) breathing

 Synchrony between breathing and heart rate

You will learn various techniques to increase your sensory awareness:

1. First, to increase “Exteroception” which is awareness of your five senses of seeing, hearing, tasting, touching, smelling.
2. Second, to increase your awareness of your “Interoception” which is awareness of your internal sensory experiences of temperature, hunger, thirst, sleepiness, alertness, tension, pain, restlessness, and emotions.
3. Third, to increase “Proprioception” which is awareness of your sensory feedback about your body as related to gravity and the balance vestibular system (of inner ear and body joints) about the balance and position of your body.

The integration of all these sensory systems has been termed “Neuroception” which occurs without conscious awareness and is part of the dysfunctional aspect of chronic PTSD. This nervous system activity determines whether a situation or people are safe, dangerous, or life threatening. In making this determination, it uses cues in your body, in your external environment, and in your relationships.

“Through the Side Door” (Horizontal) techniques

These “Horizontal” techniques are mind-body integrated interventions which connect the rational and emotional brain systems through the medial prefrontal cortex (sometimes called “the side door”). It involves accessing the limbic system through conscious awareness of “neuroception” messages. “Neuroception” awareness allows you to integrate your body sensations, cognitive thoughts, and emotional feelings. Healing “mindfulness” techniques activate the process of integration of the ANS (body autonomic nervous system) and the CNS (mind central nervous system).

Your learning will activate both the implicit and explicit memory systems. Your first experience is via psycho-education (Western-style of “explicit memory hard work”). But the implicit learning involves actually “doing and experiencing” the mindful training techniques (Natural-Growth-style of “effort-less change”). In nature, the mind’s learning process is natural, dynamic, relaxed, flowing, and spontaneous. We do not “try hard to control the mind” but rather to gain skills to “let it be” as we regain the natural state into which we were born.

With conscious awareness of implicit learning, you will be able to determine if there is a “mismatch” in your defensive reactions (anxiety, depression, OCD, etc.) to a situation. You will learn how to change your automatic reactions and how to handle emotional flooding which prevents “grounding and safety” responses.

Techniques which use “the side door” focus on sensory motor regulation and integration of proprioception. Proprioception is our awareness of our body’s position in space, which is activated by the flexing of muscles and stretching of tendons. It is one of the first senses which develops in utero and continuously develops after birth until full physical growth has been achieved.

You will be taught how to integrate Progressive Relaxation techniques (proprioception awareness of muscle flexing and tensing) with Deep Breathing techniques (limbic system calming awareness) in order to apply the top-down information when the traumatic reactions occur. In this way, your brain will reset thinking and feeling centers to release the trauma effects on your body and brain.

The integration of Progressive Relaxation and Deep Breathing activates the neuroplasticity function of the brain. Neuroplasticity refers to the lifelong capacity of the brain to change and rewire itself in response to new learning and new experience. This occurs through the process termed “synaptogenesis” (also called “neurogenesis”) which is the creation of new neurons and new connections between neurons.

During the Progressive Relaxation process, there is an increase in blood supply to the insula brain area.  There are four functionally distinct regions in the human insula: 1) a sensorimotor region located in the mid-posterior insula; 2) a central-olfactogustatory region; 3) a socio-emotional region in the anterior-ventral insula; and 4) a cognitive anterior-dorsal region. This increased oxygenated (with deep breathing) blood supply has an overall effect of increasing “mindfulness” of Neuroception and bodily sensory connections which pass through the entire insula area.

The process which occurs during Deep Breathing: the diaphragm is activated and begins a process which creates gamma waves which reach to the brain stem medulla and continues upwards to involve the neocortex (frontal, parietal, and temporal area). These areas are activated for cognitive function: memory, attention, sensory perception, problem-solving, and language processes. Gamma is between 30 and 44 (Hz) and is the only frequency group found in every part of the brain. When the brain needs to simultaneously process information from different areas, gamma consolidates the required areas.  When Gamma is activated, peak performance mental abilities come out. These increased abilities are not hindered by your cognitively pre-conceived expectations of the experience. The experience is always unique to you and to the situational moment. The Deep Breathing integration completes the “mindfulness” healing cycle of psychotherapy.

There are other ways that the medial prefrontal cortex can be reached, which is through theater, storytelling, and the visual arts. These techniques draw upon powerful cultural healing rituals and symbolism deeply rooted in society which transcends or circumvents the limits of logical thinking. As you progress in your psychotherapy, you will be guided in integration of these techniques with the Progressive Relaxation and Deep Breathing process.

When you have gained self-regulation, then you can achieve the same healing and calming state with Guided Kinesthetic Motor and Sensory Imagery, which is a “mindfulness” re-creation of your sensory memories of the entire integrated training. This is your final goal for stress adaptation. Whenever stress in encountered, in a brief moment via Imagery, you will be able to self-regulate for maximum adaptability to the situation, without any interference from past trauma neural networks.

Assignments/Homework

Throughout your psychotherapy, you will be given various assignments. Each homework (to be done in-between telehealth sessions) will address one of the above approaches. The speed of progress depends upon your own unique challenges of trauma. There are no specified goals, deadlines, or method of manifestation. However, the successful integration of all these areas of trauma work (top-down, bottom-up, horizontal) will be impacted by the completion of the assignments.