



Art O'Malley

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Biography

Art O'Malley has worked as a consultant child and adolescent Psychiatrist from 2004 and am accredited as an EMDR consultant from 2008. I have also trained in sensorimotor psychotherapy. I have been a member of the UK and Ireland EMDR Association since 2002 and was a member of the European Conference organizing committee for the London Conference and the Child and Adolescent Committee. I have presented at their AGMs in Glasgow, Manchester, Dublin and at the European conferences in Paris and London. I have presently widely in the fields of trauma, neglect and the developing brain, attachment disorders, personality disorders, emotional dysregulation in ADHD and ASD diagnosis and management. I first presented on this model at the ISSTD 28th Annual conference in Montreal November 2011. Recent articles on the clinical effectiveness of BART psychotherapy have been published to complement the book, The Art of BART which was published by Karnac books in London in 2015 and is available in print and as an eBook from Amazon and Routledge. The updated version of the book, "Sensorimotor Focused EMDR for Psychotherapy: A New Paradigm for Peak Performance will soon be published by Taylor and Francis (Routledge).

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HOW THE GUT MICROBIOTA COMMUNICATES WITH THE CNS THROUGH NEURAL, ENDOCRINE AND IMMUNE PATHWAYS

The enteric nervous system (ENS) or gutbrain has 30 different neurotransmitters and ninety percent of the body's serotonin as well as fifty percent of its dopamine. It also has the gut microbiome and taste receptors which sense 'sweetness' on the tongue and levels of glucose in the bloodstream. These taste receptors regulate insulin and are a good example of how the ENS really acts as our gutbrain and is capable of independent action. The processing of the gut instinct or gut reaction to incidents is a prerequisite for sensorimotor focused eye movement desensitisation and reprocessing for psychotherapy and peak performance. This talk presents research by John F Cryan and Timothy G Dinan which shows how the gut microbiota communicates with the CNS through neural, endocrine and immune pathways. This provides scientific evidence for an influencing role in the regulation of anxiety, mood, cognition and pain. The microbiota are integrated into the illustrated gutbrain axis and impact on the brain in states from satiety to stress. A range of mechanisms have been proposed by which gut flora affect the CNS: altering composition of the gut flora- they can compete for dietary ingredients such as growth substrates, they can produce vitamins, reduce inflammation and stimulate innate immune responses. All these can change gut-brain signalling, Immune activation- the immune system interacts bidirectionally with the CNS. Also indirectly the gut flora affects the immune system altering cytokine levels. These are both pro and anti inflammatory and directly impact brain function, Vagus Nerve- as illustrated below this regulates bronchial constriction, heart rate and gut motility. About eighty percent of nerve fibres are sensory, conveying sensory information about the body organs to the CNS. Many of the effects of gut flora are dependent on vagal activity. The mechanisms of vagal afferent activation by gut microbionics have yet to be elucidated, Metabolism of tryptophan- this essential amino acid is a precursor of serotonin. This metabolic pathway becomes dysregulated in many brain and gastrointestinal tract disorders. Two key enzymes involved in the metabolism are activated by inflammatory mediators and corticosteroids, Microbial metabolites- Gut flora are essential in the production of bile acids, choline and short chain fatty acids. Complex carbohydrates are digested and fermented in the colon by gut microorganisms into neuroactive short chain fatty acids and Microbial neurometabolites- these neurotransmitters act on the enteric nervous system and may have anti-nociceptive properties. Bacterial cell wall sugars-these may

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modulate neural signalling or act on afferent axons. Knowledge of all these mechanisms of interaction of the gut enteric nervous system on the central nervous system lends credence to my hypothesis that reprocessing of the gut's emotional response can help to reduce any dysregulation of the gastrointestinal system. Also continuing reprocessing of distressing sensations in relation to trauma at the level of the stomach can be signalled to the heart and brain via the vagus nerve. This will enable digestion and metabolism of these sensations at a cognitive level.

