

# INTEROCEPTION INTERVENTIONS for School & Mental Health Occupational Therapy P. 1

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# INTEROCEPTION P. 2

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- **INTEROCEPTION:** Unmyelinated fibers conveying primarily unconscious internal body state information to the insular cortex (e.g., pain, hunger, thirst, needing to go the bathroom, and affective light touch) for maintaining homeostasis, and serving as the foundation for emotions (Craig, 2015)
- **Interoceptive Awareness**-Each person's unique conscious ability to identify, access, and respond to their internal body signals (Price & Hooven, 2018)
- **Interoceptive Awareness is more frequently impaired** in individuals with Autism, developmental disabilities, PTSD, chronic pain, Anorexia, Depression & Anxiety (DuBois et al., 2017; Khalsa et al., 2018; Mahler, 2017).

# Interoceptive Awareness Assess & TX P.3

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- Interoceptive awareness assessment can be done using the Multidimensional Assessment of Interoceptive Awareness 2 MAIA-2  
<https://osher.ucsf.edu/sites/osher.ucsf.edu/files/inlinefiles/MAIA-2.pdf>
- Mindful Awareness in Body-oriented Therapy “MABT” intervention uses individualized hands on touch, mindfulness, and verbal reflection to facilitate interoceptive awareness as well as homework involving self-touch and noticing
- MABT significantly improved substance abuse recovery, PTSD symptoms, chronic pain, interoceptive awareness, trigger recognition, and (physiological measures of) emotion regulation

(Khalsa et al., 2018; Price & Hooven, 2018)

# Interoceptive Awareness & Sensory Processing P. 4

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- Interoceptive awareness and sensory processing are both atypical in Autism Spectrum Disorder and appear to contribute to its symptoms and relationship to problematic behavior (Miller & Collins, 2012; DuBois et al., 2016).
- Interoceptive awareness & sensory processing difficulties are significantly associated with behavior problems, suggesting the need for multidisciplinary interventions and updating of sensory processing theory (DuBois et al., 2017).

# Interoceptive Awareness Tx P. 5

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1. Teach interoceptive awareness-MABT, SI
2. Body oriented mindfulness-
3. Yoga-
4. Massage/Body Work- QST (QiGong Sensory Treatment)
5. OT Areas- Peds, SI, Adult/Peds Chronic Pain, Mental Health

# FAB HAND, BIRD, 4-4-6-2 BREATHE P. 6

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★ HAND BREATHE: TAKE 3 DEEP BREATHS

IN *STOMACH GOES OUT, FINGERS OPEN WIDE*; BREATHE  
OUT *STOMACH GOES IN FIST THUMB (Adi Mudra), DOUBLY SLOW*

★ BIRD BREATHE-TAKE 3 DEEP BREATHS

WINGS UP *BREATHE IN*

WINGS DOWN *BREATHE OUT*

★ Tense & Relax Muscles-Face, Shoulders, Hands

★ FOCUS on FEET/HANDS (Singh et al., 2011) –

★ 4-4-6-2 Breathing (Brown & Gerberg, 2012)-

# Best Clinical Resources Pt. 1 P. 7

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# Best Clinical Resources Pt.2 P. 8

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# **Sensory Modulation Disorders P. 9**

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**1. Sensory Modulation Disorders**-Difficulty regulating sensory registration to respond to take in functionally important environmental information and screen out functionally irrelevant input. 2-5 year olds with PDD had significantly greater hypo-reactivity or hyper-reactivity with self-regulation difficulties (Ventola et al., 2014; Silva & Schalock, 2011). Assessed by Sensory Processing Measure: Preschool (2-5 yrs.), Home or Classroom (5-12 years) or Sensory Profile.

**a. Sensory Overresponsivity-(Sensory Sensitive/Hyper-reactivity)-** Seen in over half of youth with Autism Spectrum Disorder, related to neurophysiologically heightened attention to irrelevant sensory information (Green et al., 2016) and decreased amygdala & sensory cortex habituation (Green et al., 2015)

**b. Sensory Underresponsivity- (Low Registration/Hypo-reactivity)** do not notice sensory input, habituate quickly

**c. Sensory Seeking-** actively seek out sensory input

**d. Sensory Avoiding-** actively avoid sensory input

(Watling et al., 2011; Schaaf & Mailloux, 2015)

# FAB Pressure Touch Research P. 10

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- Qigong Sensory Treatment with Autism Spectrum Disorders (ASD) resulted in significantly improved behavior, language, and sensory modulation regardless if hyper-responsive, hypo-responsive, or both in preschoolers (Bodison & Parham, 2018) and 6-12 year olds (Silva et al., 2013)
- Literature reviews found moderate pressure massage is the greatest research supported Sensory-based intervention for reducing behavior problems, 3 months tx twice weekly for 15 min. (Yunus et al., 2015)
- Wilbarger brushing protocol and clinical reasoning brushing equally improved school performance significantly in 2 K old students with ASD using the School Function Assessment (Benson et al., 2011)

# **SENSORY DISCRIMINATION DISORDERS & TX Strategies P. 11**

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**2. Sensory Discrimination Disorders-difficulty distinguishing, interpreting, and organizing sensory information for functional use, contributing to disorganization and school difficulties. Sensory Discrimination Disorders can be for interoception sensory input e.g., hunger (Miller & Collins, 2012; Watling et al., 2011)**

## **Graded Trauma-informed Treatment Options:**

- 1. Buzzer/Thumper:**
- 2. Traction:**
- 3. Tapping:**
- 4. Pressure/Compression: Awareness of front-back, top-bottom of body through movement or touch**
- 5. Wizard hands:**
- 6. Visualization body scan:**
- 7. Light interoceptive Touch: X marks the spot**

# **BACK X & SPINE CRAWL P. 12**

**X MARKS THE SPOT** *X fist on back, slow & light*

**WITH A DOT DOT DOT** *3 dots with your fist*

**AND A LINE LINE LINE** *3 horizontal lines*

**AND A QUESTION MARK** *? on entire back*

**“CRACK AN EGG ON YOUR HEAD** *fist egg*

**LET THE YOKE RUN DOWN”** *finger yoke (2 X)*

**CREEPY CRAWLIES UP YOUR SPINE**

*spine crawl with knuckles both sides spine*

**CREEPY CRAWLIES DOWN**

*palms down both sides spine*