

## INTEROCEPTION – The 8<sup>th</sup> Sensory sense!

Interoception is how we sense our internal state – the feelings we have inside our bodies:

- How we feel emotions – recognising when we are getting angry, becoming angry easily
- Hunger
- Thirst
- Nausea
- Fullness
- The need to use the bathroom
- Nervous / anxious

Nerve receptors within our internal organs, bones, muscles and skin send this information to the brain. Our brain then interprets this information and uses it to tell us how we feel. Our interoceptive system helps our bodies to stay in an optimal balance, known as Homeostasis. For example, if we feel cold, we put on a jumper, if we feel thirsty, we get a drink to restore balance to our bodies.

In addition to controlling all these sensory inputs, the interoceptive system also helps us to control our emotions.

How does the Interoceptive System affect our emotions?

Emotions are linked to physical sensations in our bodies. For example, when we feel nervous, we may feel like we have butterflies in our stomach, when we have to talk in public, or when we get angry, we can feel our heart beat increasing, our muscles may tighten and we can start to get hot.

Interoception is recognising these sensations. Our ability to read our own physical signs is directly related to how well we can identify and self – regulate our emotional states. For example, if you can feel yourself getting tense from anger, you could take some deep breaths and slow down.

### INTEROCEPTION AND SENSORY PROCESSING

Your child may have difficulty modulating this type of sensory input. They may be over or under-responsive to Interoceptive inputs.

#### **Over-Responsive (Hypersensitive)**

- Intense reactions to hunger or needing to use the bathroom. They may even describe hunger as being painful.
- Struggles with focus and attention (because they're preoccupied with internal stimuli)
- Extreme anxiety over minor dilemmas
- Frequently feels nauseous
- Uses the bathroom frequently, unexplained by another medical condition

## Under-Responsive (Hyposensitive)

- Extremely high pain tolerance
- Late toilet training
- Doesn't feel when they need the bathroom – accidents and/or constipation
- Doesn't feel hungry / thirsty
- Can't tell when they are full after eating /may overeat
- May not react to being hot or cold

Your child may have a **discriminative** problem with this system, meaning they may have a vague sense of an input but not be able to accurately identify it's meaning. For example, they may not be sure if they are hungry, need to go to the toilet or are about to be sick. This confusion can make your child anxious because they do not know what their body needs. This can lead your child becoming overwhelmed by emotion and can often result in a negative way, such as, aggression, meltdown or may laugh inappropriately.

### Consider This:

We know that feeling angry causes your heart to race. Fear also causes your heart to race. But – we also have other physical reactions to those emotions, which is why we are able to tell the difference between them.

If your child has poor interoceptive awareness, they may notice *only* the heart racing, and miss those other cues in their bodies. Then – they may react with anger in situations where that emotion doesn't fit – and **it's because they can't tell what they're feeling**.

Listed are some activities to help develop a body awareness and teach children how to draw their attention to things happening inside their bodies.

By improving interoception we may reduce meltdowns, challenging behaviours and improve self-regulation.

**1/ Use exercise** as an "Experiment". Cycling, climbing, yoga, high intensity workouts

The exercise needs to be intense. Short, intensive bursts provide better results than longer durations of exercises with less impact. For example, intensive 5-10 minute workout, ideally first thing in a morning before school, and/or after school to reduce after school meltdowns.

The goal is to get your child to **exert** themselves and begin to sweat. Draw attention to all of the sensations they may be feeling. For example, can they feel their heart racing, deep breathing, wet forehead and increased body temperature.



You may need to give your child a choice of words to match the feeling initially until they start to recognise the connection.

After approx. 5 minutes, ask your child how they feel again – everything should have returned to normal.

**2/ Hand stretches.** Some children may not notice the difference between tense muscles and resting muscles. Since muscle tension is a common sign of stress building, it is important to be able to recognise this cue and learn to relax.

Simple hand stretches may help your child to recognise the different sensations when muscles are tensed.

- Sit comfortably and rest your hands on your knee
- Lift your hands up and stretch all your fingers open as far as you can – hold stretch for 30 seconds
- Put your hands back on your knee
- Ask your child where they felt the tension in their hands when their fingers were stretched.

### 3/ Find your pulse

Help your child find their pulse with their hand and use a timer to count the number of pulses felt in 1 minute. Ask your child to write down the number of pulses before and after, and again after 5 minutes resting.

This can help your child understand the connection between heart rate and arousal levels.



### 4/ Yoga

Yoga has been proven to reduce stress, improve emotional wellbeing and improve body awareness.

With younger children try different animal poses.



**I am an elephant.**  
WIDE-LEGGED STANDING FORWARD BEND



**I am a crocodile.**  
PLANK POSE



**I am a bear.**  
DOWNWARD-FACING DOG POSE



**I am a tiger.**  
CAT POSE



**I am a hippo.**  
CHILD'S POSE

## 5/ Map Your Feelings

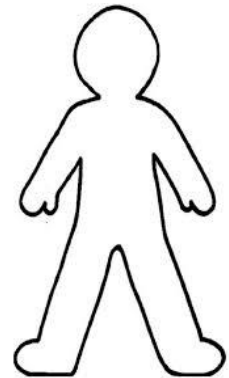
Help to identify the different sensations happening in your body, when you feel a certain way by marking them on a body map.

There are two options when making a body map:

1/ Use a large roll of paper and get your child to lie down and trace around their whole body. You can then start to colour, label draw different sensations and what emotions they are linked to. Make sure to draw all body parts so it is not just an outline or



2/ Print off a blank body chart (Google images)



Over time this will help your child to use their feelings maps to identify what emotions they are currently feeling as they begin to notice patterns.

For example, after a while doing body maps your child may begin to notice their face feels hot when they are angry or that their hands shake when they are scared.

### Example of body chart check in

## Body Awareness Activities

These are good starting activities before getting into the emotional aspects of Interoception.

- Point to different body parts on your child's chart and have them wiggle that body part on their actual body. This shows you that your child understands their chart and how it is connected to their body.
- Play a game of Simon Says using the chart. Use actions like clench your fists, breath really hard, touch your heart, etc. Ask them to point to the body parts on the chart they used for each action.
- Turn their chart into a self-portrait, getting them to draw all of their body parts on their chart so it's not just an outline. If they can spell, they may label the parts as well, if not pictures are fine.
- Point to a body part on their body check chart and ask them how it feels right now. For example, eyes: they could be itchy, sleepy, awake, dry, watery, etc.
- Play activities such as, Simon says "clench your fists, breathe really hard, touch your heart" etc. Ask your child to point to the body part on the chart that they used for each action.

## **Identifying feelings and emotion Activities**

- Ask your child to draw their feelings. Use a different colour for each feeling and ask your child to colour or draw where they feel those feelings in their body. A good one to start with is hunger because your body signals hunger by your stomach growling. It will show you if they understand what you're asking or not. Examples of anger could be coloured in Red (Red hands if hands feel tight), Blue for sadness, Green for happiness (where do they feel this emotion)
- Hang their body chart on their bedroom door and use it to prompt your child to check in on their body and their feelings regularly. For example, if they have been on the trampoline, had a warm bath, after eating, get them to show you on the body chart where they feel those feelings. They may identify that their heart is beating fast, feel sweat on their forehead following exercise, feel fullness in their tummy after eating or warm skin, wrinkly fingers after a bath.
- Once your child is comfortable identifying positive experiences on their body chart you can start to explore more negative ones. Start by pointing out things you can observe and encourage them to show you what they are feeling. For example, "your hands are shaking and your heart is beating fast, are you scared?"

**Over time children should become more aware of the messages their body sends them and what those messages mean so they can deal with them sooner and improve self-regulation.**

Adapted from Understood.Org