

# Module 2: Interoceptive Awareness: The Body-Emotion Connection

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# Introduction



# Outline

The goal of this module is to help caregivers of children with histories of trauma understand how trauma can disrupt the connections between the body and emotions, particularly in relation to hunger and fullness.

Interoception is the sense that allows us to detect and understand internal bodily sensations and plays a fundamental role in guiding us through the world.

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Interoceptive Awareness (IA)

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Atypical IA

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IA, Attachment, and Self Regulation

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IA and Trauma

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General Strategies for Dysregulation and Interoception

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Strategies for Hunger, Fullness, and Mealtime



# What is Interoception?

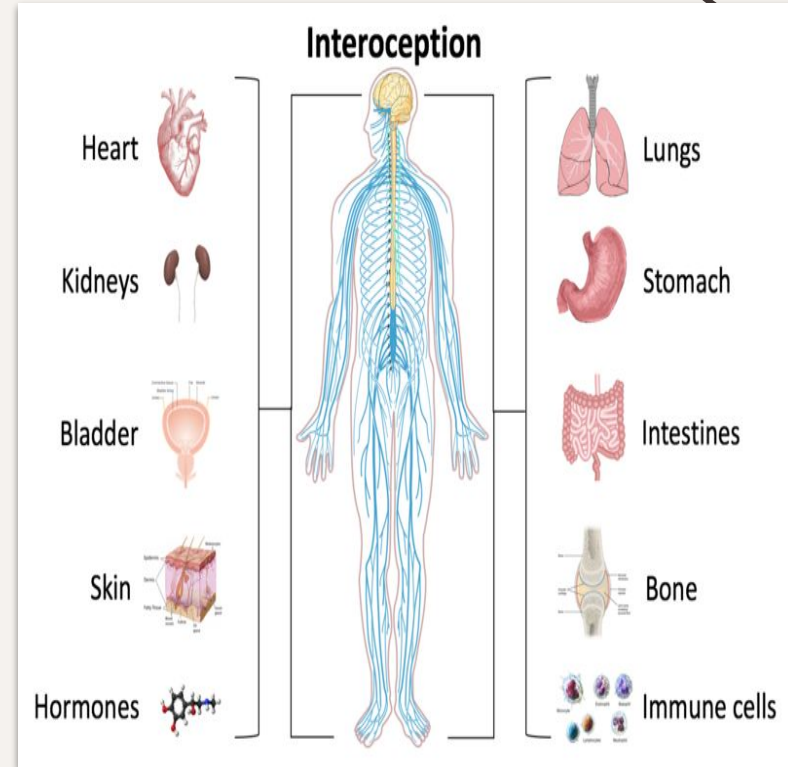
# Interoception

## What is it?

Interoception is the sensory system made up of tiny sensors scattered all over the body. These sensors pick up messages (body signals) from different parts of our body and send them to our brain through special pathways. These sensors, pathways, and the brain work together to create our interoceptive sense, helping us feel what's happening inside us.

Interoception helps us process body signals allowing us to experience a wide array of emotions

- **Affective Emotions**- Feelings related to our moods and reactions to the world around us (relaxation, anger, anxiety, joy, and sadness)
- **Homeostatic Emotions**- Emotions that drive us to fulfill our essential needs like hunger, thirst, illness, pain, and sleep

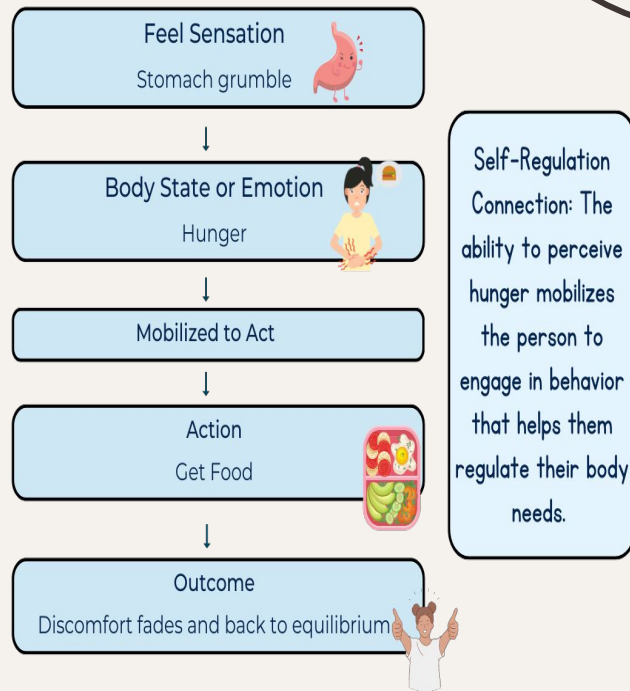


# Interoceptive Awareness

**Interoceptive Awareness (IA)** is the ability to notice and connect body signals to our emotions, and prompts us to regulate our actions with our body's needs (i.e eating when hungry).

It's not just about feeling sensations such as hungry and full or happy and sad, it's about understanding them and responding appropriately.

IA is how good we are at noticing and understanding these body signals. IA helps your child use this sense to figure out how they are doing physically and emotionally, helping them to answer questions like, "How am I feeling right now?"





# Explicit and Implicit Processes of Interoception

## **Implicit Interoception**

Automatic and unconscious processes that happen in our body without us actively thinking about them

- Drop in blood pressure
- Increased heart rate

When we unconsciously sense a threat, real or perceived, a series of protective changes kick in to prepare our body for fight, flight, or freeze

## **Explicit Interoception or Interoceptive Awareness**

Conscious and cognitive understanding of our bodily signals and forms the foundation of all our emotional experiences

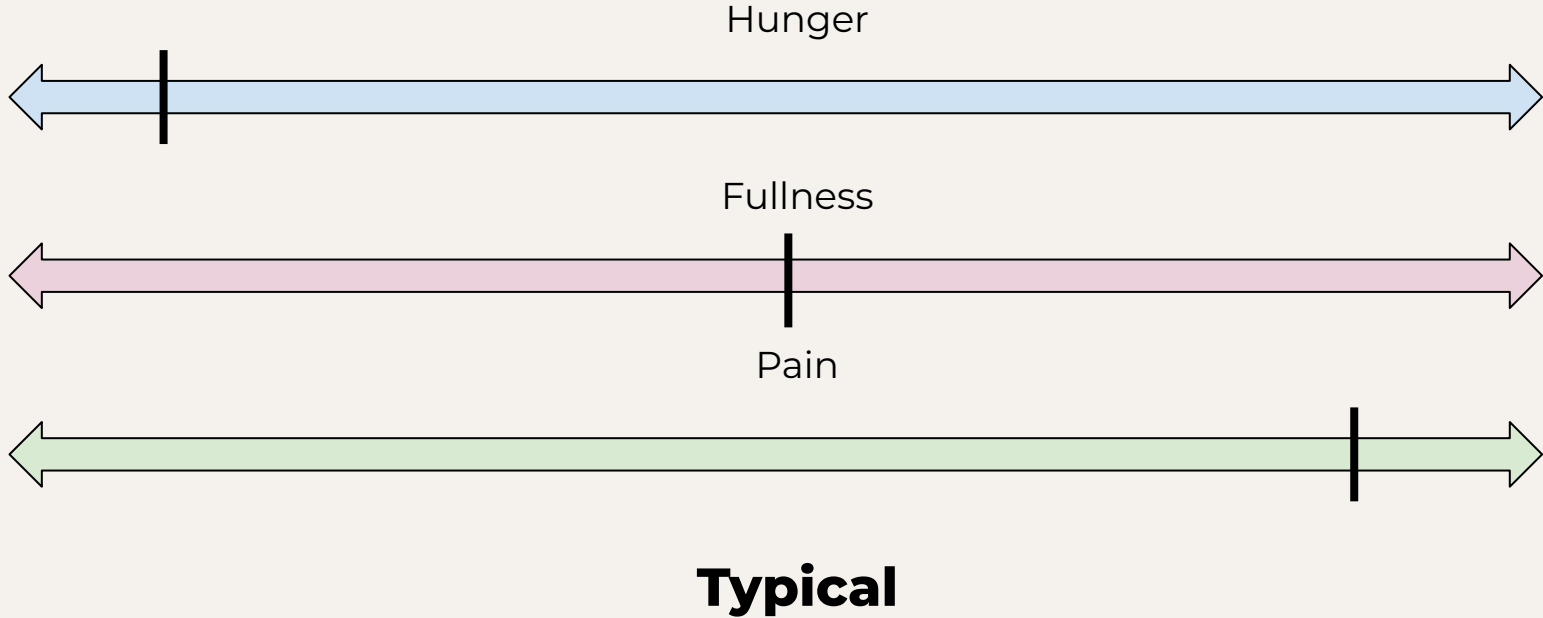
The brain uses interoceptive signals as cues to recognize and interpret our emotional states

- Awareness of hunger
- Fullness
- Temperature
- Pain
- Emotional Sensations

# Sliding Scale of IA

**Hyposensitive  
(atypical)**

**Hypersensitive  
(atypical)**







# Atypical Interoceptive Awareness

# Atypical IA

When someone has atypical interoceptive awareness, it means they face challenges in accurately identifying and understanding various emotions.

This difficulty can lead to a range of challenges such as:

1. Difficulty being able to clearly determine how they feel
2. Struggling to recognize a general sense of comfort or discomfort without pinpointing specific emotions
3. Delayed or absent urge for action
4. Difficulty with emotional regulation
5. Difficulty with self regulation and using coping strategies
6. Rely heavily on external cues or guidance from others



# Atypical IA

In individuals with atypical interoceptive awareness, there may be a disruption or alteration in how they perceive, interpret, or respond to internal bodily cues

1. Hypersensitivity or Hyposensitivity
  - a. Hypersensitivity- amplified or heightened awareness of internal sensations
  - b. Hyposensitivity- diminished or reduced awareness of internal bodily sensations
2. Inconsistent perception
3. Misinterpretation of signals
4. Difficulty regulating emotions and behaviors





# IA, Attachment, and Self Regulation



# IA and Attachment

Attachment is the emotional bond between a child and their caregiver, and is a collaborative and reciprocal process.

Our interoceptive processes are linked to the way we connect and bond with others.

In typical children not impacted by trauma, IA is developed in a supportive environment through co-regulation, guidance, and support from nurturing caregiver.

In children with histories of trauma, this learning process can be disrupted, making it harder for them to connect what they're feeling inside with appropriate actions and in turn affects their ability to self regulate and understand their needs.

- getting upset and yelling when they're hungry
- or internalizing behaviors, like oversleeping

# IA and Self Regulation

*Interoceptive awareness allows an individual to move from co-regulation to self regulation.*

To achieve self-regulation, one must be able to notice bodily signals, connect them to emotions, and regulate their actions accordingly.

Self-regulation is a skill that helps children manage their emotions and behavior on their own

When kids can self-regulate, they can:

1. calm themselves down when they're upset
2. focus on tasks
3. and take appropriate steps like asking for help before becoming dysregulated

Interoceptive awareness is the bridge that helps children move from needing a lot of help (co-regulation) to doing things on their own (self-regulation)

Caregivers Role:

- Support your child as they learn this skill
- Guidance for recognizing and responding to body signal
- Regulation looks different on every child





# IA and Trauma

# IA and Trauma

Children with histories of trauma, such as physical, emotional, or sexual abuse, neglect, or exposure to domestic violence, often experience disruptions in their interoceptive awareness.

## Hypervigilance and Heightened Arousal

- a. Anxiety, fear, or a persistent state of "fight or flight"
- b. Overly attuned to internal bodily sensations, constantly scanning for signs of threat or danger



The Brain's **Limbic System** plays a role in how children learn and store memories, like how a particular person, place, or stimulus makes them feel, and these memories guide their automatic responses and interactions in future situations.

Example: A child who endured physical abuse in their early years

- a. Emotion and Memory Processing: fear, stress, helplessness
- b. Stored Interoceptive Memories: increased heart rate, shortness of breath, heightened sense of pain
- c. Future Reactions: As the child grows and encounters situations similar to the trauma, the stored interoceptive memories can be triggered (I.e a sudden loud noise or aggressive gesture triggers their flight or fright and often leads to an exaggerated and maladaptive responses)



# IA and Trauma

## Difficulty Identifying and Labeling Emotions and Body Sensations

Trauma can cause a dissociation between bodily sensations and conscious awareness, making it difficult for children to connect these cues to appropriate actions such as understanding stress or hunger cues and choosing appropriate action



Children with trauma histories tend to externalize their distress which may be a reflection of their difficulties in regulating and expressing emotions in a more controlled manner

Externalizing behaviors:

- Hitting
- Kicking
- Yelling



# Strategies

# Self-Regulation Strategies

Helping a child with difficulty in interoception and self-regulation involves a combination of proactive and reactive strategies

**Proactive Strategies-** aims to prevent or minimize challenges before they occur

- Educate yourself and your child about interoception and self-regulation
- Create a structured routine (use visual timers and/or visual schedules)
- Create a sensory friendly environment
- Promote healthy eating habits
- Practice emotional regulation through mindfulness and calming techniques and through use of social stories and role playing

**Reactive Strategies-** implemented in response to specific situations or behaviors

- Create a calm down corner
- Validate and empathize
- Model self-regulation
- Communicate and reflect
  - Offer a “redo”





# Coping Strategies for Dysregulation

## Tips for using coping strategies

- Wait to try a new activity/strategy when your child is calm and regulated
- Do not try a new activity in a time of dysregulation. Create and find opportunities for frequent small bursts of regulation activities together to figure out what works and to practice
- If your child is experiencing dysregulation don't say “use your strategies that you were taught” because it's already too late. Instead, using coregulation, participate in coping strategies and activities with your child
- Be mindful when picking activities, pick an activity that will be easy to stop doing, you want the activity to be engaging enough to help regulate your child but not one that will be hard to stop or transition away from
- Write down effective strategies on a separate list to use during times of anxiety and practice them over and over so when it comes to a “melt down” the activity will be habit/routine

*Overtime and with **lots** of practice and appropriate, supportive modeling and coregulation, your child will begin to implement coping strategies independently*



# Coping Strategies for Dysregulation

## Coping Skills Lists

1. [Here is a list of coping skill ideas that I put together](#)
2. [50 calming activities using each of the senses | Connected Families](#)
3. [100 Simple Calm Down Strategies for Kids {Free Printable List Included!} | And Next Comes L](#)
4. [The Coping Skills Toolbox](#)

## Social Stories

1. [The Meltdown Monster](#)
2. [Social Story Templates - Download Instructions.pdf](#)
3. [Deep Breathing Social Story.pdf](#)
4. [Calming Corner Social Story.pdf](#)
5. [Calming Story.pdf](#)
6. [Social Stories for Managing Anger - Watson Institute](#)

Things included on these lists include sensory and movement coping activities, and strategies such as going to a quiet comforting space, or going for a walk. It's up to you and your child to figure out what works.

**What works for one child may not work for another**

# Strategies for Interoception

## Implicit Strategies

Remember implicit interoception is the unconscious or automatic awareness of our bodily sensations. It's not something we have to actively think about or put into words

Providing support to promote homeostatic regulation through...

1. Providing regular and balanced meal times
2. Setting consistent bedtimes
3. Ensuring the child stays hydrated
4. And by providing structured activities to help regulate the child's biological rhythms
5. You can also implement calming techniques such as deep breathing, gentle touch, or verbal reassurance



# Strategies for Interoception

## Explicit Strategies

Explicit interoception is when we are consciously aware of our bodily sensations. For example we are using explicit interoception when we say “I’m hungry,” or “i’m tired,” or “my heart is racing”

## Body Mindfulness

- Traditional vs adapted mindfulness

**Kelly Mahler** <https://www.kelly-mahler.com/>

## Department for Education in South Australia

- [Interoception and Communication parent and caregiver booklet](#)
- [Ready to learn | Interoception kit](#)

## IA Builders

- Yoga and Exercise with Body Awareness
  - [KidsYogaStories - YouTube](#)
  - [Cosmic Kids Yoga - YouTube](#)
- Visual Body Check Chart
  - [Visual Body Check Chart](#)
- Interactive Language Development
  - [Interoception Bingo](#)
- Sensory Exploration Stations
  - [38 Easy-To-Set-Up Sensory Stations for Kids - Empowered Parents](#)
- Playful Breathing Exercises
  - [23 Playful Breathing Activities for Kids](#)

# Yoga and Exercise



Ready to learn | Interoception kit

## OCEAN YOGA

**I am a jellyfish**  
STANDING FORWARD BEND

**I am a locust**  
LOCUST POSE

**I am a dolphin**  
DOLPHIN POSE

**I am a cat**  
TABLE TOP POSE

**I am a tortoise**  
TORTOISE POSE

## CALM DOWN YOGA for kids

**I am a warrior**  
WARRIOR 1 POSE

**I am like a tree**  
TREE POSE

**I am like a chair**  
CHAIR POSE

**I am like a downward dog**  
DOWNWARD DOG POSE

**I am like a superhero**  
HERO POSE

## SUPERHERO YOGA

**I am brave.**  
WARRIOR 1 POSE

**I am strong.**  
WARRIOR 2 POSE

**I am peaceful.**  
PEACEFUL WARRIOR POSE

**I am kind.**  
WARRIOR 3 POSE

**I am a superhero!**  
HALF MOON POSE

© Kids Yoga Stories



[KidsYogaStories - YouTube](#)

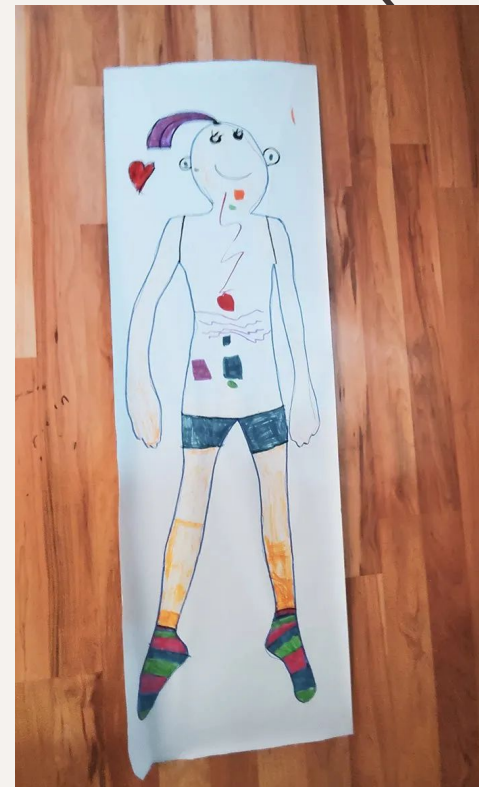
[Cosmic Kids Yoga - YouTube](#)



# Body Check Chart



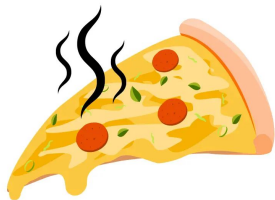
Making a 'Body Check Chart'



Body Check Activity for Kids - Identifying Emotions

# Breathing Exercises

## TAKE A PIZZA BREATH



IMAGINE A DELICIOUS SLICE OF PIZZA IN FRONT OF YOU. THEN NOTICE ITS COLOUR, TEXTURE, AND SMELL.

TAKE A DEEP BREATH IN WHILE COUNTING TO FIVE, AND FEELING THE PIZZA'S WARMTH.

NEXT SLOWLY EXHALE WHILE COUNTING TO FIVE. AS YOU BREATHE OUT, IMAGINE THE WARMTH OF THE PIZZA SLOWLY SPREADING THROUGHOUT YOUR BODY.

CONTINUE TAKING PIZZA BREATHS AND IMAGINING THE WARMTH OF THE PIZZA FOR 2 - 4 MORE BREATHS.

LET YOUR TENSION MELT LIKE CHEESE.

Pizza Breaths - Calm Ahoy Kids

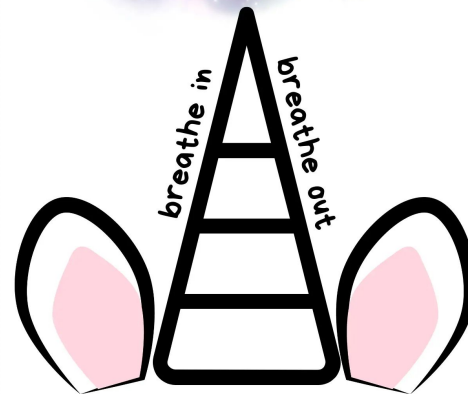
## Snail Breaths



Point to the black dot on the outside of the snail's shell. Then as you breathe in, trace the spiral until you reach the middle black dot. As you breathe out trace your finger back.

Slow Snail Breathing Activity Calm Ahoy Kids

## UNICORN HORN BREATHS



© CALM AHOY KIDS

Magical Unicorn Breathing for Kids

# Sensory Exploration Stations



Sensory Bins for Toddlers

38 Easy-To-Set-Up Sensory Stations  
for Kids - Empowered Parents



# Food and Mealtime Strategies

Children with histories of trauma, the ability to recognize when they are hungry or when they are full may be impacted. They might feel hunger or fullness more intensely or may have difficulty sensing it all together



## General Mealtime Strategies

1. Ensure your child feels safe and secure
2. Remove distractions (turn off the tv, put away phones, clear clutter/toys from the table)
3. Offer consistent and balanced meals. A general rule is to provide something to eat and drink every 2-3 hours
4. Introduce a wide variety of nutritious foods
5. Avoid using food as punishment or as a reward
6. Eat slower. It takes the brain approximately 20 minutes to register fullness
  - a. Use visual timers or apps to slow down eating (FINT-food ingestion timer, 80 bites, time your bites)

# Food and Mealtime Strategies

## General Mealtime Strategies Continued...

7. Avoid pressuring child to eat more or less and avoid using the rule that they must clear their plate before leaving the table
8. Let your child serve themselves using a “portion control plate”



[Amazon.com: Health Beet Choose MyPlate Portion Plate for Kids. \(4 pack\) Toddlers - Kids Nutrition Plates with Dividers from](#)

9. Talk about how they are feeling before and after a meal. Use a hunger scale to help connect their feelings with a visual reference

- [The Right Way To Use A Hunger Fullness Scale - Colleen Christensen Nutrition](#)
- [How Hungry Am I? | Health Powered Kids](#)
- [The Hunger Fullness Scale for Kids - BeeKay Nutrition](#)

## HUNGER FULLNESS SCALE FOR KIDS

[www.bee kaynutrition.com](http://www.bee kaynutrition.com)



1- Painfully hungry  
dizzy, nauseous, physically ill



2- extremely hungry  
irritable (“hangry”), headache



3- very hungry  
trouble focusing, growling stomach, low energy



4- hungry  
thinking about food and ready to eat



5-neutral



6- mild fullness  
starting to fill, but not yet satisfied



7-comfortable fullness  
satisfied and content



8- a little too full  
not quite pleasant, slightly uncomfortable



9- very full  
uncomfortable and stuffed



10- Painfully full  
nauseous, physically ill



# Types of Hunger

## Physical Signs of Hunger

- Tummy sounds- stomach growling or gurgling
- Empty or hollow feeling in stomach, throat or mouth
- Feeling weak or dizzy- you child may feel weak, shaky, or lightheaded
- Headache or difficulty concentrating
- Grumpiness or irritability- when hungry they may be easily upset or frustrated
- Dry mouth

## Other Types of Hunger

- **Mouth Hunger**- The desire to chew or eat due to oral stimulation. Try chewing gum (if its age appropriate), crunchy foods, or non food items like toys designed for chewing
  - ARK Therapeutic- Chews
- **Sight or Smell Hunger**- Hunger in response to the sight or smell of food
- **Emotional Hunger**- Urge to eat in response to emotional triggers, such as stress, anxiety, sadness, loneliness, or even happiness. Try engaging in stimulating activities or hobbies, deep breathing, physical exercise such as riding a bike or going on a walk to divert attention away from food
- **Thirst Hunger**- Sometimes thirst is misinterpreted as hunger. Stay properly hydrated throughout the day. Try providing a glass of water and wait 10-15 minutes to see if this “hunger” goes away
- **Sleep Hunger**- When your child has not had enough quality sleep, their body may crave more food to compensate for the lack of energy. Do something to wake the body up like exercising or by splashing cold water on their face



# Mindful Activities

*\*When completing these activities or activities similar to these, ask your child the following: if they have ever felt this way before and when, could this be a link to one of their emotions, is their body comfortable or uncomfortable, what they could do to change the way their body feels right now, try it and describe if it worked, and what emotion they were feeling during activity*

## Activities:

- Practicing pushing your belly out to simulate feeling full
- Lay on a yoga ball to feel pressure on your belly or lie on floor and superman
- Point out when someone's tummy growls or the child's did
- Discuss how belly feels before and after every meal
- Move belly in and out as fast as you can
- Put your hand on your belly and take deep breaths filling the belly with air, holding it for a few seconds and releasing
- Lightly tap the stomach with your hand and lightly rub the belly with your hand noticing how that feels
- Ask your child what is something you can do to make your belly feel (empty, full, tight, sore, nauseous, etc.)



# Resources

## **Dysregulation strategies**

- [Coping Skills Ideas](#)
- [50 calming activities using each of the senses | Connected Families](#)
- [100 Simple Calm Down Strategies for Kids {Free Printable List Included!} | And Next Comes L](#)
- [The Coping Skills Toolbox](#)

## **Social Stories**

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- [Calming Story.pdf](#)
- [Social Stories for Managing Anger - Watson Institute](#)





# Resources

## IA Builders

- [My Interoception Workbook: A Guide for Adolescents, Teens and Adults - Kelly Mahler](#)
- [The Interoception Curriculum: A Step-by-Step Guide to Developing Mindful Self-Regulation - Kelly Mahler](#)
- [Interoception](#)
- [Interoception and Communication parent and caregiver booklet](#)
- [Ready to learn | Interoception kit](#)



# Resources

## **Additional Resources**

Visual Schedule/Timers

- [Free Printable Daily Visual Schedule | And Next Comes L - Hyperlexia Resources](#)

Visual Body Check Chart

- [Making a 'Body Check Chart'](#)

Body Bingo

- [Interoception Bingo \(K to 1st grade\)- linking body signals to feelings - games](#)

Sensory Station

- [38 Easy-To-Set-Up Sensory Stations for Kids - Empowered Parents](#)

Hunger Scale

- [The Right Way To Use A Hunger Fullness Scale - Colleen Christensen Nutrition](#)
- [How Hungry Am I? | Health Powered Kids](#)
- [The Hunger Fullness Scale for Kids - BeeKay Nutrition](#)

Breathing Exercises

- <https://calmahoykids.co.uk/2021/11/09/playful-breathing-activities-for-kids/>

# Thanks

Please scan the QR code or return to the main module page to access the link to answer a few short questions. Please take a moment to complete the survey and share your insights. Your feedback will play a significant role in enhancing this education program. Thank you for your active participation!



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