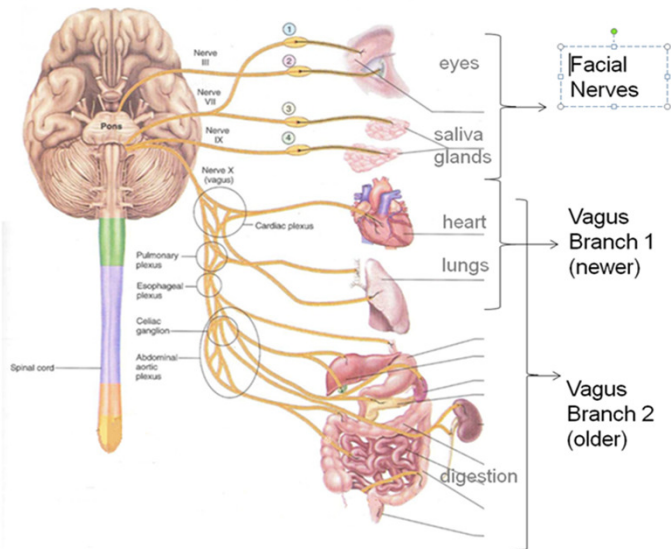


# Neuroception and Polyvagal Theory



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## The Vagus Nerve



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'Neuroception' means *detection without awareness*  
It is how our nervous system takes in sensory information:

1. From inside our bodies
2. From outside our bodies
3. Between us (relationally)

**First comes Neuroception:**  
*Happening underneath our awareness, so we can't choose it or notice it happening*

**Then comes Perception:**  
*We begin to make meaning of our body's nervous system response*

**Then comes Discernment:**  
*In this moment, in this place, with these people, is this the level of response needed?*

**From the cortex down**

**Psychological processes:**  
Thoughts  
Imagination  
Beliefs

**From the outside in**  
External senses/  
Awareness of body in space:  
Special senses  
Vibration, touch  
Proprioception

**From the inside up**  
'Internal milieu'/  
**Interception:**  
Pain, temperature  
ANS afferents  
Fluid borne chemical signals

Labels: Right cerebral hemisphere, Thalamus, Optic chiasm, Optic nerve, Right cingulate gyrus, Left cingulate gyrus, Corpus collusum, Hippocampus, Amygdala, Cerebellum, Brain stem, Spinal cord.

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## How our nervous system protects us, according to Porges

**Social Engagement System**

- Our Social Engagement System is engaged with the neuroception\* of safety
- Facial expression, vocalization, listening
- Fosters calm behavioural states by inhibiting the influence of the sympathetic nervous system on the

**Mobilization**

- Fight or Flight
- Active Freeze
- Activated in moderate to extreme danger

**Immobilization**

- Collapse or submission
- Death feigning, behavioral shutdown
- Increased pain threshold
- Conserves metabolic resources
- Activated in life threatening situations

\* Neuroception = the way our neural circuits, rapidly and implicitly, distinguish if situations or people are safe or dangerous

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## Mobilization in safety.....danger

Access to Social Engagement System



No access to Social Engagement System



Play



Fight or Flight or Active Freeze

Neuroception of Safety



Neuroception of Danger



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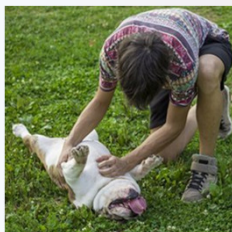
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## Immobilization in safety.....danger

Access to Social Engagement System



No access to Social Engagement System



Inhibiting movement for pro-social reasons eg. Childbirth, nursing, reproductive behaviours, and the establishment of social bonds eg. being hugged.  
Finding pleasure in stillness.

Submission or Collapse

Neuroception of Safety



Neuroception of Danger



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## Protective Response can present as:

### Mobilised Responses

(fight, flight, active freeze):

- Hypervigilant
- Edgy/jumpy
- Irritable – easily annoyed
- Poor recovery from distraction
- ‘silly’, loud, over-excitement
- Unsettled, restless
- Outbursts, aggression
- Defensive, taking things personally
- Inflexible, ‘controlling’
- Sensitive to sensory input

### Immobilised Responses

(collapse, withdraw, dissociate):

- Flat, numb affect
- Disengaged, disinterested
- Withdrawn
- Frequent “boredom”
- Lethargic, unmotivated
- Disconnected from peers
- Primitive self-soothing
- Hygiene issues
- Wetting or soiling
- Low appetite

Discuss



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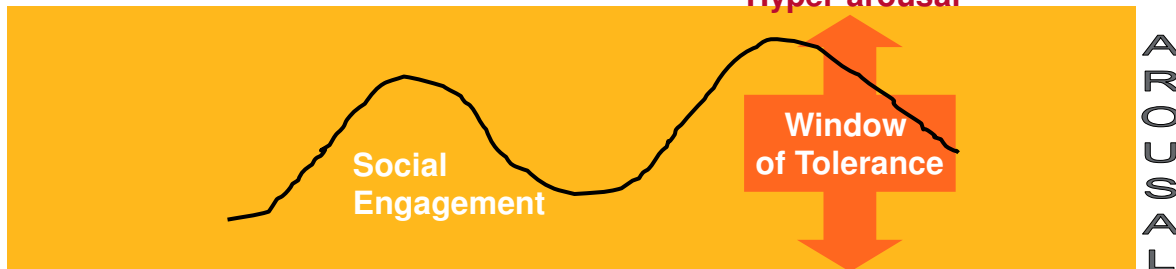
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## Window of Tolerance: Regulated Arousal

**Fight or Flight** hyper-vigilant, action-orientated, impulsive, emotionally flooded, reactive, defensive, self-destructive

**Freeze** Physically immobilized, frozen, tense musculature

**Sympathetic Hyper-arousal**



**Submit** Collapsed, weak, defeated, flat affect, numb, empty, helpless, hopeless

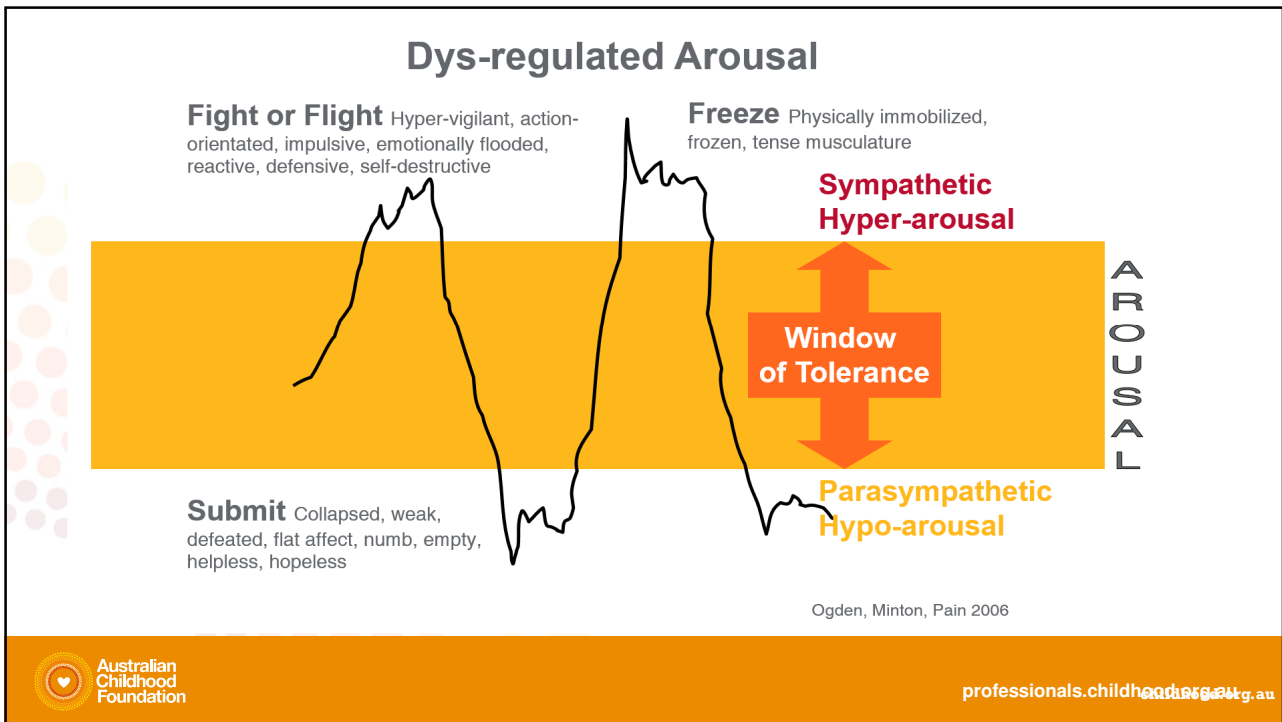
**Parasympathetic Hypo-arousal**



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### Deb Dana's Autonomic Ladder

**Ventral Vagal** → **Neuroception of Safety:** *social, engaged, connected to self and others*

**Sympathetic** → **Neuroception of Threat/Danger/Unease:** *mobilised, alert, fight, flight, active freeze*

**Dorsal Vagal** → **Neuroception of Life Threat:** *immobilised, shut down, disconnected, collapse*

Remember: Neuroception means 'detection without awareness'

**We are always somewhere on our ladder**

We are always connecting with others through our nervous system.

Where are you on your ladder right now?

- Moving toward
- Moving away
- Standing up against
- Disconnected

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