Affective Capabilities and Vulnerabilities of the Hospitalized Infant

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“That which touches the heart is engraved in the memory”
- Voltaire

Objectives

* Upon completion of this workshop participants will:
  1. List the primary sensory afferents innervating human skin and their associated neural pathway
  2. Explain the difference between emotions and feelings
  3. Describe neuroception
  4. Identify 2 caregiving activities that will benefit from this new knowledge

https://www.youtube.com/watch?v=cnUNBR1XWRQ
Neuroanatomy of Emotion

Organs of Emotion

Discriminative Versus Affective Touch

Sensory Afferent Nerves

<table>
<thead>
<tr>
<th>Receptor Type</th>
<th>Modality</th>
<th>Conduction Velocity</th>
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<tbody>
<tr>
<td>A β Fiber Group</td>
<td></td>
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<tr>
<td>Low-threshold mechanoreceptors</td>
<td>Discriminative Touch</td>
<td>60 ms⁻¹</td>
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<td>A δ Fiber Group</td>
<td></td>
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<tr>
<td>Nociceptors</td>
<td>Pain</td>
<td>12 ms⁻¹</td>
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<tr>
<td>Cool receptors</td>
<td>Temperature</td>
<td>-</td>
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<tr>
<td>C Fiber Group</td>
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<tr>
<td>Nociceptors</td>
<td>Pain</td>
<td>&lt; 2 ms⁻¹</td>
</tr>
<tr>
<td>Warm &amp; cool receptors</td>
<td>Temperature</td>
<td>&lt; 2 ms⁻¹</td>
</tr>
<tr>
<td>Itch receptors</td>
<td>Itch</td>
<td>&lt; 1 ms⁻¹</td>
</tr>
<tr>
<td>Low-threshold mechanoreceptors (CT)</td>
<td>Emotional Touch</td>
<td>&lt; 2 ms⁻¹</td>
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</tbody>
</table>
Schematic model of affective and sensory-discriminative pathways for dynamic touch in hairy skin. CT afferents show an inverted U curve, while Ab afferent discharge increases linearly with velocity. Within cortex, reciprocal connections between posterior insula and secondary somatosensory cortex may allow mutual modulation of affective- and sensory-related processing.

Morrison et al. 2010

“C-tactile system is not there to sense the physical world, it’s there to feel the physical world... It’s coding something very important, particularly during early development.”

McLean 2012
“Emotions are what make us human. Make us real. The word ‘emotion’ stands for energy in motion. Be truthful about your emotions, and use your mind and emotions in your favor, not against yourself.”

— Robert Kiyosaki, Rich Dad, Poor Dad

https://www.youtube.com/watch?v=apzXGEbZht0

Emotions and Feeling

I hate when you make me look like an idiot
What is the functional or adaptive significance of a given emotion?

“... an emotion consists of a very well orchestrated set of alterations in the body that has, as a general purpose, making life more survivable by taking care of a danger, of taking care of an opportunity, either/or, or something in between... To feel an emotion... is very simply the process of perceiving what is going on in the organs when you are in the throws of an emotion, and that is achieved by a collection of structures, some of which are in the brain stem, and some of which are in the cerebral cortex, namely the insular cortex along with a host of other structures.” — Antonio Damasio

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What happens in the Vagus doesn't stay in the Vagus!

"...when the heart is affected it reacts on the brain; and the state of the brain again reacts through the pneumo-gastric (vagus) nerve on the heart; so that under any excitement there will be much mutual action and reaction between these, the two most important organs of the body." Darwin

Polyvagal Theory

Stress - Fear

Susceptibility to Fear
"...attachment-related patterns contribute to the organization of biological pathways in the brain and body that underlie emotion regulation capacities and mental representations of the self and others."
“It is an absolute human certainty that no one can know his own beauty or perceive a sense of his own worth until it has been reflected back to him in the mirror of another loving, caring human being.” — John Joseph Powell

“Could a greater miracle take place than for us to look through each others’ eyes for an instant?” — Henry David Thoreau

“Rule #1 Do No Harm” — The Once-ler, Dr. Seuss’ The Lorax

“I know it may seem small and insignificant, but it’s not about what it is, it’s about what it can become” — The Once-ler, Dr. Seuss’ The Lorax
References

- Fraley, R.C., Roisman, G.I., & Haltigan, J.D. (2013). The legacy of early experiences in development: formalizing alternative models of how early experiences are carried forward over time. *Developmental Psychology*, 49(1), 109-126.

References


Endorsed by NANN with recommendations by Susan Ludwig, Carole Kenner & Heidelise Als!
Translate, Transcend, Transform