NeuroProtective NICU Care

Creating a Healing Environment
- flexed • aligned • contained • comfortable

Sheri Kimmey, MSN, RN-NIC, NDCS

Disclosures

I'm a NICU Nurse
What's your Superpower?

NCC Codes

- RNC-NIC: Physiology and Pathophysiology (Code 2) = 1.5 hours

Objectives

- Describe the 7 Neuroprotective Core Measures and how they can provide structure and organization to the Neuroprotective Care you provide at the bedside.
- Describe the difference between neuroprotection and neuroplasticity.
- Describe the importance of parent involvement for long term outcomes.
- Identify 3 non-pharmacologic strategies to minimize stress and pain.
YOU make the difference!

“Too often we underestimate the power of a touch, a smile, a kind word, a listening ear, an honest compliment, or the smallest act of caring, all of which have the potential to turn a life around.”

~ Leo Buscaglia

7 Core Measures

1. The Healing Environment
2. Partnering With Families
3. Positioning and Handling
4. Safeguarding Sleep
5. Minimizing Stress and Pain
6. Protecting Skin
7. Optimizing Nutrition

Preparing For Home

It’s doesn’t matter what bells and whistles your hospital has. Nothing can replace the importance of mom or dad’s chest.

Creating a Healing Environment

Neuroprotection
- Strategies to prevent neuronal cell death

Neuroplasticity
- Ability of the brain to form/change synaptic neural connections in response to stimuli
Creating a Healing Environment

- **The Physical Environment**
  - Maintain an environment that promotes healing and protects the brain
    - Space
    - Privacy
    - Safety

- **The Sensory Environment**
  - Maintain an environment that promotes healing and protects the brain including the family as the central role
    - Temperature
    - Touch
    - Proprioception
    - Smell/Taste
    - Sound/Noise
    - Light

Environmental sensory insults can result in lifelong alterations in brain development

Creating a Healing Environment

Partnering With Families

- Facilitate early, frequent and prolonged skin to skin
- Include parents in cares
- Communicate infant’s medical and developmental needs in a culturally appropriate manner

“the family has the greatest influence over an infant’s health and wellbeing. Compassionately delivered family-integrated care, with zero separation, where skin-to-skin contact is the norm, is the ideal model of care to encourage normal development, attachment and bonding, and empower parents to be equal partners on the caregiving team.”

Creating a Healing Environment

- Developmental Coordination Disorder
- Anxiety Disorders
- Post Traumatic Stress
- Autism
- Visual spatial problems
- Widespread white matter changes
- Neurotic/introverted
- ADD/ADHD

Negative experiences have a greater effect on one’s psychologic state and processes than do neutral or positive experiences
Positioning and Handling
- Plan cares to provide minimal stress
- Support infant during every caregiving interaction
- Maintain Flexed, Aligned, Contained, Comfortable position
- Use appropriate prone support to ensure flexed shoulders and hips
- Swaddled bathing
- Promote hand to mouth

Safeguarding Sleep
- Use incubators covers
- Provide tummy time for infants that are back to sleep
- Give infants time to arouse whenever possible

Minimizing Stress and Pain
- Provide individualized care
- Provide non-pharmacologic support
  - positioning
  - containment
  - swaddling
  - pacifier
- Encourage parents to provide containment during cares

Protecting Skin
- Swaddled bathing
- Provide appropriate positioning products
- Minimize use of adhesives when possible
Optimizing Nutrition

- Minimize negative oral experiences
- Oral care using breast milk
- Follow infant driven feeding guidelines
- Educate parents on feeding cues

Preparing for Home

Reading List

- Developmental Care of Newborns and Infants, 2nd Edition
- The Neonatal Integrative Developmental Care Model: Seven Neuroprotective Core Measures for Family-Centered Developmental Care Leslie Altimier & Raylene M. Phillips
- Core Measures for Developmentally Supportive Care in Neonatal Intensive Care Units: Theory, Precedence and Practice

Websites/app

- TIPS - http://www.developmentaltips.com/
- https://www.zerotothree.org/
- https://pathways.org/
- subscribe-babytalk@listserv.unc.edu
- Vroom

YOU make the difference!
References


Critical periods of brain development

- 3rd trimester

Madison, MacKenzie & Matthew

Owen & Joel