



Partnering to Improve Health Care Quality  
for Mothers and Babies

# NON-PHARMACOLOGIC MANAGEMENT

NAS Initiative Webinar

May 21, 2019

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# Innovative Strategies For Non-Pharmacologic Management of The NAS Infant



Diane Allen  
OTR/L, NTMTC, CNT

- This speaker has no conflicts of interests to report



# Learning objectives

- Verbalize 4 non-pharmacologic techniques used with infants
- Verbalize goals of non-pharmacologic techniques
- Verbalize 2 techniques to modify the environment of the NICU
- Verbalize 2 emerging non-pharmacologic techniques

# Why are these techniques important?

## 7 Core Measures of Neuroprotective care



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Altimier, L. Phillips R. The Neonatal Integrative Developmental Care Model: Advanced Clinical Applications of the seven core measures for Neuroprotective Family centered Developmental Care. *Nursing Reviews* 16(2016)230-244

# 7 core measures

- Protected sleep
- Healing environment
- Protecting skin
- Minimize pain and stress
- Optimize nutrition
- Positioning and Handling
  - Containment, Alignment, S2S, Swaddle bath
- Family Centered Care
  - Do with-include-mentor

Altimier, L. Phillips R. The Neonatal Integrative Developmental Care Model: Advanced Clinical Applications of the seven core measures for Neuroprotective Family centered Developmental Care. *Nursing Reviews* 16(2016)230-244

Jeanson, Elizabeth. Pain: A Undeniable Indicator for Caregiver Intervention. Creative Therapy Consultants. On –Line Education.



- Non-pharmacologic care is defined as....

# Non-pharmacologic Techniques

- Modification of the Environment
- Neuroprotective Care
- Breastfeeding
- Neuropromotion
- Vertical Rocking
- Swaddle Bath
- Infant massage and Therapeutic Touch
- Skin to Skin/Kangaroo Care

# Goals of Non-pharmacologic Intervention

- To decrease symptoms of withdrawal
- To promote family centered care
- To reduce length of stay
- To prevent abnormal development or sequelae
- To decrease need and length of pharmacologic intervention

# Modification of the Environment

- Decrease noise
- Decrease light
- Rooming in
- Mother as primary caregiver
- Swaddle
- Cuddlers
- NNS



Dow, Kimberly. Et al. Neonatal Abstinence Syndrome Clinical Practice For Ontario. *Popul Ther Clinical Pharmacol*. Vol 19(3):e488-e506.

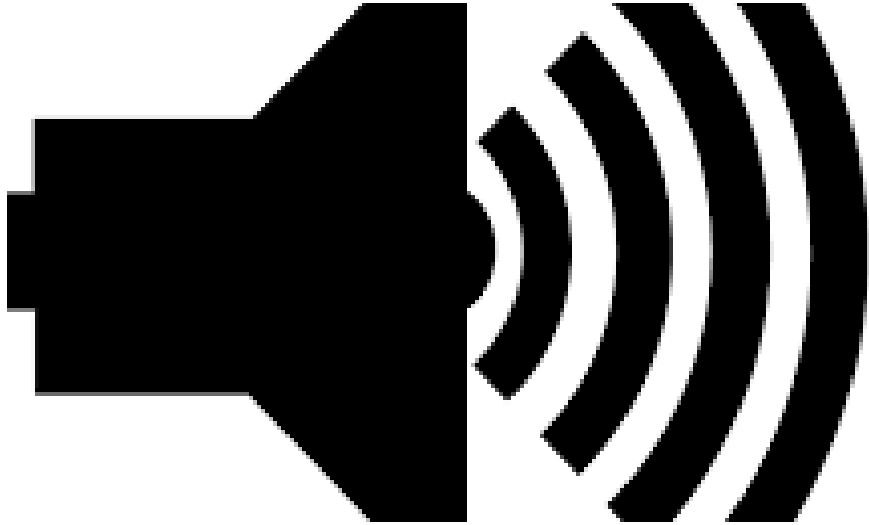
Grossman, M. et al. A novel Approach to -----with Neonatal Abstinence Syndrome. *Hospital Pediatrics*. Jan 2018; 5: 1----1-4.

Ryan, G. et al. Nonpharmacological Management of Neonatal Abstinence Syndrome: A review of the Literature. *J Maternal Fetal Neonatal Med*. 2019 May, 32(10), 735-740. doi:10.1080/147670582014.144180 E pub 2018 Jan 8.

Sublet, J. Neonatal Abstinence syndrome: Therapeutic Interventions. Lippincott Williams & Wilkins. March/April. 2013. 38/2, 102-107.

Maguire, Denise. Care of the infant with Neonatal Abstinence Syndrome. *Strength of Evidence*. 2014. *J perinatal Neonatal Nursing*. Vol. 28(3). 204-211.

# Sound and Light



Weitzman, K.A. Neonatal Touch and Massage Certification. Creative Therapy Consultants. On Line Education.  
Vetro, Danielle. The Creation and Implementation of A Medical Music Therapy Program At Providence Alaska Medical Center. FSU. 2016.Thesis.  
Wachman, E. Lahav, A. The Effects of Noise on Preterm Infants in the NICU. Arch Dis Child Fetal Neonatal Ed (2010). Doi:10.1336.adc.2019.182014.

# Rooming in and Parent as the Primary Caregiver



Google image

Grossman MR, Lipshaw MJ, Osborn RR, Berkwitt AK. "A novel approach to assessing infants with neonatal abstinence syndrome." *Hospital Pediatrics*. Jan 2018; 8(1):1-6.

# Swaddle



# Cuddlers





# Neuroprotective Care

- Approach of the infant
- 2-person clustered care
- Rubbing versus patting to elicit a burp

Grisham L, Kane M. "A new approach to NAS: home in 6 days." Presented at National Perinatal Association, accessed at [http://www.nationalperinatal.org/resources/Documents/2018%20Conference/Thursday/A3%20-%20Grisham%20and%20Kane%20-%20A%20New%20Approach%20to%20NAS%20-%20Home%20in%20Six%20Days\\_NPA.pdf](http://www.nationalperinatal.org/resources/Documents/2018%20Conference/Thursday/A3%20-%20Grisham%20and%20Kane%20-%20A%20New%20Approach%20to%20NAS%20-%20Home%20in%20Six%20Days_NPA.pdf)

Grossman MR, Lipshaw MJ, Osborn RR, Berkwitz AK. "A novel approach to assessing infants with neonatal abstinence syndrome. *Hospital Pediatrics*. Jan 2018; 8(1):1-6.

Maguire , Denise. Care of the infant with Neonatal Abstinence Syndrome. Strength of Evidence. 2014. J perinatal Neonatal Nursing. Vol.28(3). 204

# 2 Person Approach



# 1 Person Approach



# Breastfeeding



Pixabay.com

Cleveland, L.M. Nurturing care of Mother-Infant Dyads Impacted by Opioid Use. .  
Creative Therapy Consultants. On –line Education.

# Neuropromotion

- Developmental Stimulation
- Tummy Time
- Sensory Play
- Interaction



Google image

# Vertical Rocking



Trager, Angela L.(2016) The Role of the Developmental Therapy Team in the Non-pharmacologic management of the Infant with NAS. April 25, 2016. Cleveland Clinic. Ohio Perinatal Quality Collaborative. Files.

Google  
images

# Swaddle Bath



[https://youtu.be/d\\_w4Hg0VI5c?  
t=10s](https://youtu.be/d_w4Hg0VI5c?t=10s)

Video. News CH.4 Denver. Newborn Swaddle Bath is Far Cry From traditional first Bath. CBS.Denver.  
Waitzman, K.A. (Producer & Director). (2012). Swaddle Bathing for Parents. United States: Creative Therapy Consultants.

# Infant/Neonatal Massage



Flicker.com

Hanson, Kayla. Nurses Perspective on Neonatal massage Therapy in the Neonatal Intensive Care Unit. Senior Thesis. Liberty University. Spring 2013.

Ramsey, T. An infant's First massage in the NICU: A case report. *Newborn and Infant Nursing Reviews*, Vol 1,4(December), 2001:229-234

Waitzman, K.A. Listening Touch massage. Creative Therapy Consultants. On-Line Education



# Benefits of Massage

- Increased digestion
- Improved tone
- Decreased stress behaviors
- Positive Parent/Infant interaction
- Decreased cortisol level
- Increased weight gain

# Contradictions of massage

- Infection
- Bleeding Disorders
- Photo Therapy
- Skin Disorders
- Medical instability
- Fever

# Barriers To massage

- Time Concerns
- “Minimal touch” is best
- Lack of education
- Lack of knowledge of how to perform massage

# Types of Oils Used

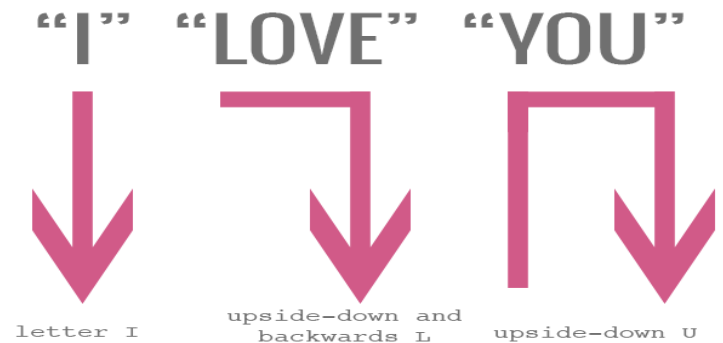
- Grape Seed Oil
- Mineral Oil
- Coconut Oil



Pixabay.com

Amazing Benefits of Grape Seed Oil for Babies. [www.massage-education.com/benefits-of-grape-seed-oil.html](http://www.massage-education.com/benefits-of-grape-seed-oil.html). Parenting Healthy Babies.com  
Vaivre-Douret, L., et al. The effect of multimodal stimulation and cutaneous application of vegetable oils on neonatal development in preterm infants: A randomized controlled trial. J Child Care, health and Development. 35, 1, 96-105.

# Video of ILU Massage



[www.reallyareyouserious.com](http://www.reallyareyouserious.com)

# Video Of Massage



# Skin To Skin/Kangaroo Care

Google images



Cleveland, Lisa M. Nurturing of Mother-Infant Dyads Impacted by Opioid Use. Creative Therapy consultants. Lecture. On Line Education.

Dow, Kimberly. Et al. Neonatal Abstinence Syndrome Clinical Practice For Ontario. Popul Ther Clinical Pharmacol. Vol 19(3):e488-e506.

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[http://www.nationalperinatal.org/resources/Documents/2018%20Conference/Thursday/A3%20-%20Grisham%20and%20Kane%20-%20A%20New%20Approach%20to%20NAS%20-%20Home%20in%20Six%20Days\\_NPA.pdf](http://www.nationalperinatal.org/resources/Documents/2018%20Conference/Thursday/A3%20-%20Grisham%20and%20Kane%20-%20A%20New%20Approach%20to%20NAS%20-%20Home%20in%20Six%20Days_NPA.pdf)

Grossman MR, Lipshaw MJ, Osborn RR, Berkwitz AK. "A novel approach to assessing infants with neonatal abstinence syndrome. *Hospital Pediatrics*. Jan 2018; 8(1):1-6.

Waitzman, K.A. Infant-Driven caregiving. Creative therapy Consultants. On-line Education.

# Emerging Non-Pharmacologic Techniques

- Aromatherapy
- Accupuncture
- Non-oscillating waterbed
- Vibroactile Stimulation
- Neonatal Hydrotherapy



Maguire , Denise. Care of the infant with Neonatal Abstinence Syndrome. Strength of Evidence. 2014. J perinatal Neonatal Nursing. Vol.28(3). 204-211.

Raith,W. et al. Laser Acupuncture for Neonatal Abstinence Syndrome: A Randomized Controlled Trial. Pediatrics.2015;136;876.

Sublet, J. Neonatal Abstinence syndrome: Therapeutic Interventions. Lippincott Williams &Wilkins. March/April. 2013.38/2, 102-107.

Zuarte, I, et al. (2017). PLOS ONE 12(4):eo175981. <https://doi.org/10.1371/Journal.pone.0175981>.



# Neonatal Hydrotherapy



<https://youtu.be/oAOu0kIL60c?t=1m40s>

Hydrotherapy In The NICU. Sharp Mary Birch Uses The Healing Power of Water To Help The Tiniest Patients.  
[www.sharp.com/news](http://www.sharp.com/news). YouTube.com

In Conclusion.....

Non-Pharmacologic Intervention:

Warrants More Research

Minimal Costs

Numerous benefits

Maguire , Denise. Care of the infant with Neonatal Abstinence Syndrome. Strength of Evidence. 2014. J perinatal Neonatal Nursing. Vol.28(3). 204-211.

Rait,W. et al. Laser Acupuncture for Neonatal Abstinence Syndrome: A Randomized Controlled Trial. Pediatrics.2015;136;876.

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Zuarte, I, et al. (2017). PLOS ONE 12(4):eo175981. <https://doi.org/10.1371/Journal.pone.0175981>.

Questions?

Contact Information:

[Dianeallen@tgh.org](mailto:Dianeallen@tgh.org)

813-844-8979





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# Q & A

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