



# MOTHER-INFANT DYAD AND BREASTFEEDING

Joanna Chambers, MD  
Associate Professor of Clinical Psychiatry and OB/GYN  
Indiana University School of Medicine



# Mother-Infant Dyad

- What soothes baby (and Mom):

## Attachment

- Skin-to-skin contact
- Breastfeeding
- Contact with parents
- Rooming-In

Infants with  
NAS:

---

Rooming-in decreases  
morphine by 50%

---

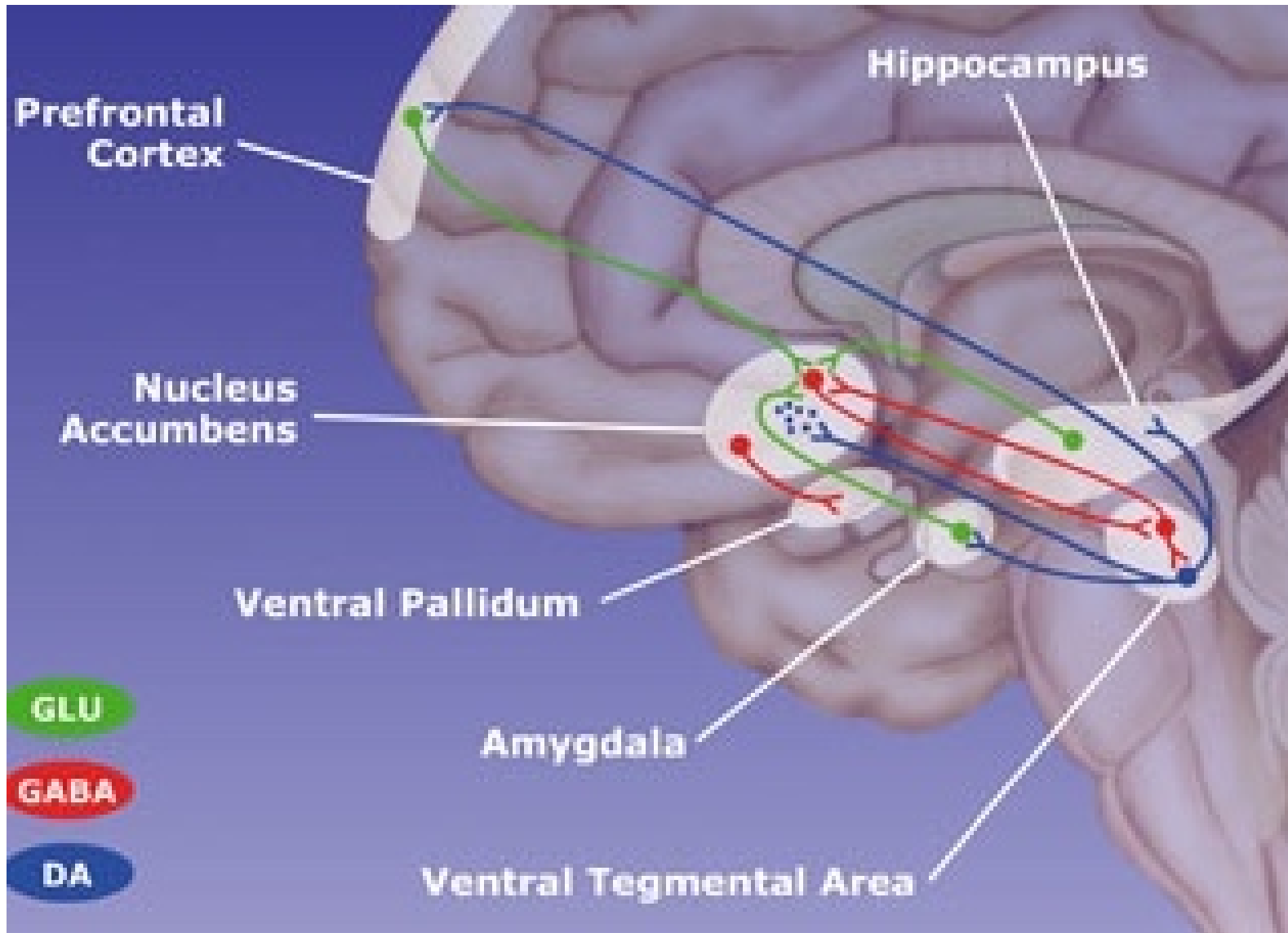
Rooming-in decreases  
length of stay by 50%

---

Skin-to-skin contact is  
of primary importance!



HOW DOES THIS  
HAPPEN?



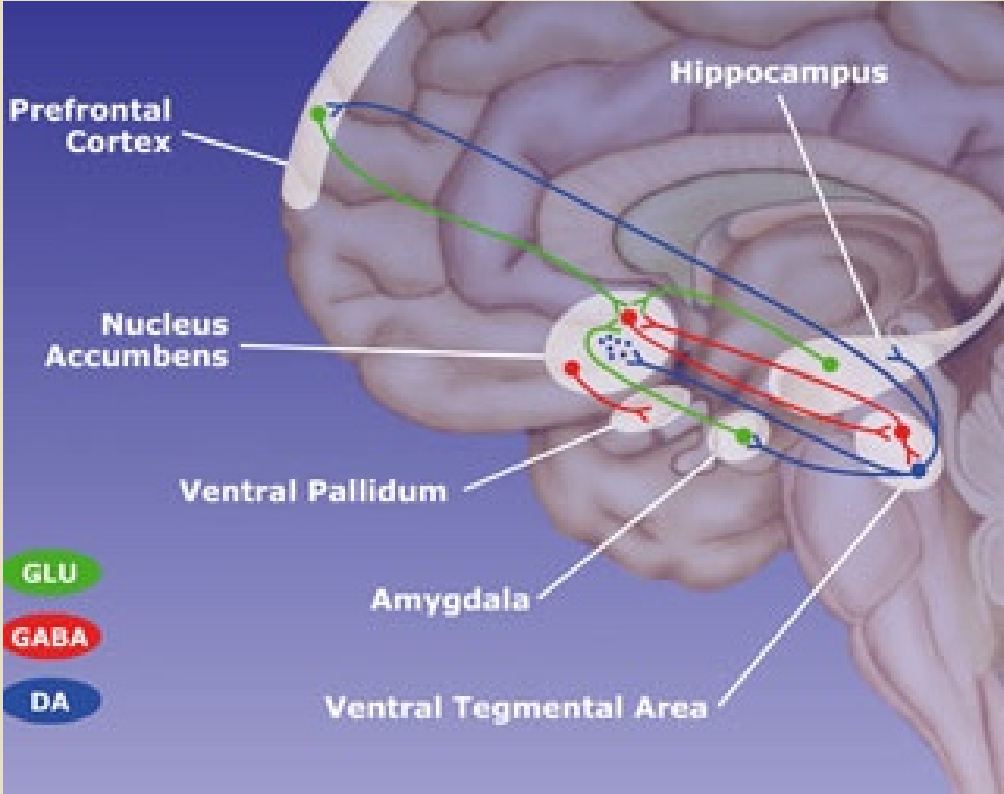
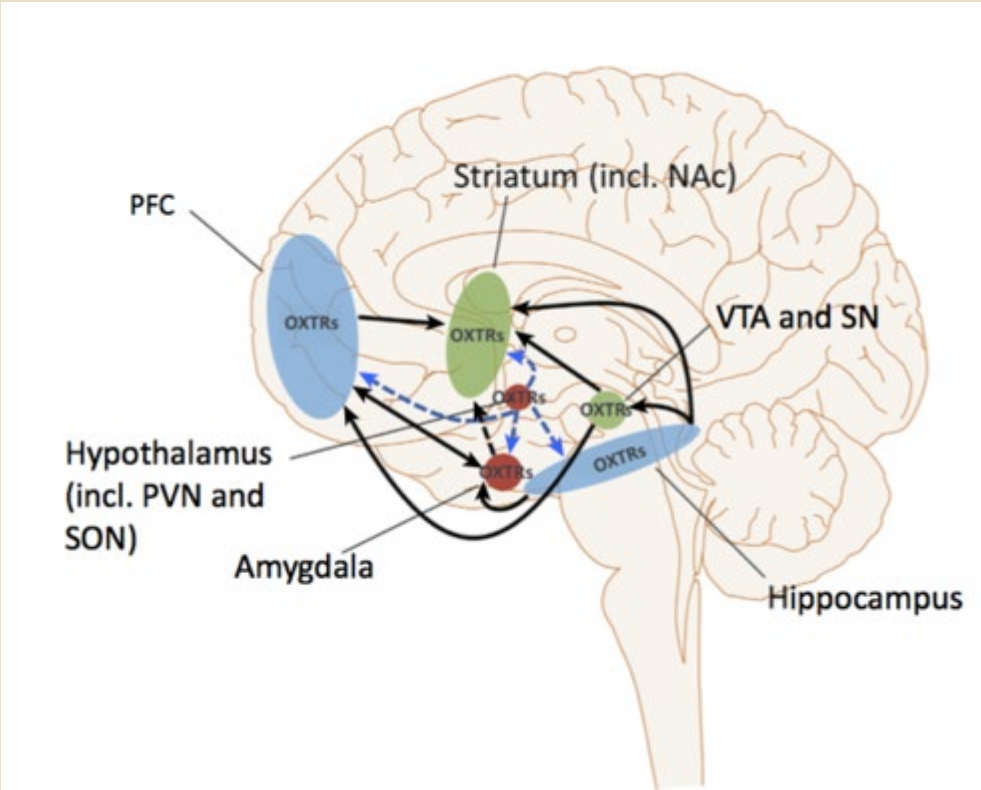
## Neurodevelopment

- Cortisol
- Oxytocin

# Oxytocin: The Attachment Hormone

- **Oxytocin:**
  - Decreases cortisol
  - Decreases neurotoxicity to developing brain regions
  - Eases sympathetic nervous system
  - Regulates immune system
  - Allows parent to soothe infant
  - Decreases drug use and cravings in mammals

# Oxytocin Receptors and Addiction



# Addiction in Pregnancy: An intergenerational story

- Attachment Insecurity (ages 0-2)
- Adverse Childhood Experiences (ages 0-18)





# Adverse Childhood Experiences:

Approximately 45% of women with SUD have a history of sexual abuse.

# Adverse Childhood Experiences

- History of **verbal, physical, and sexual abuse** increase likelihood of:
  - Smoking
  - EtOH use
  - Illicit drug use
- Increasing number of ACE events:
  - Substance use begins at an earlier age
  - Consequences are worse (psychosis, homelessness, etc.)

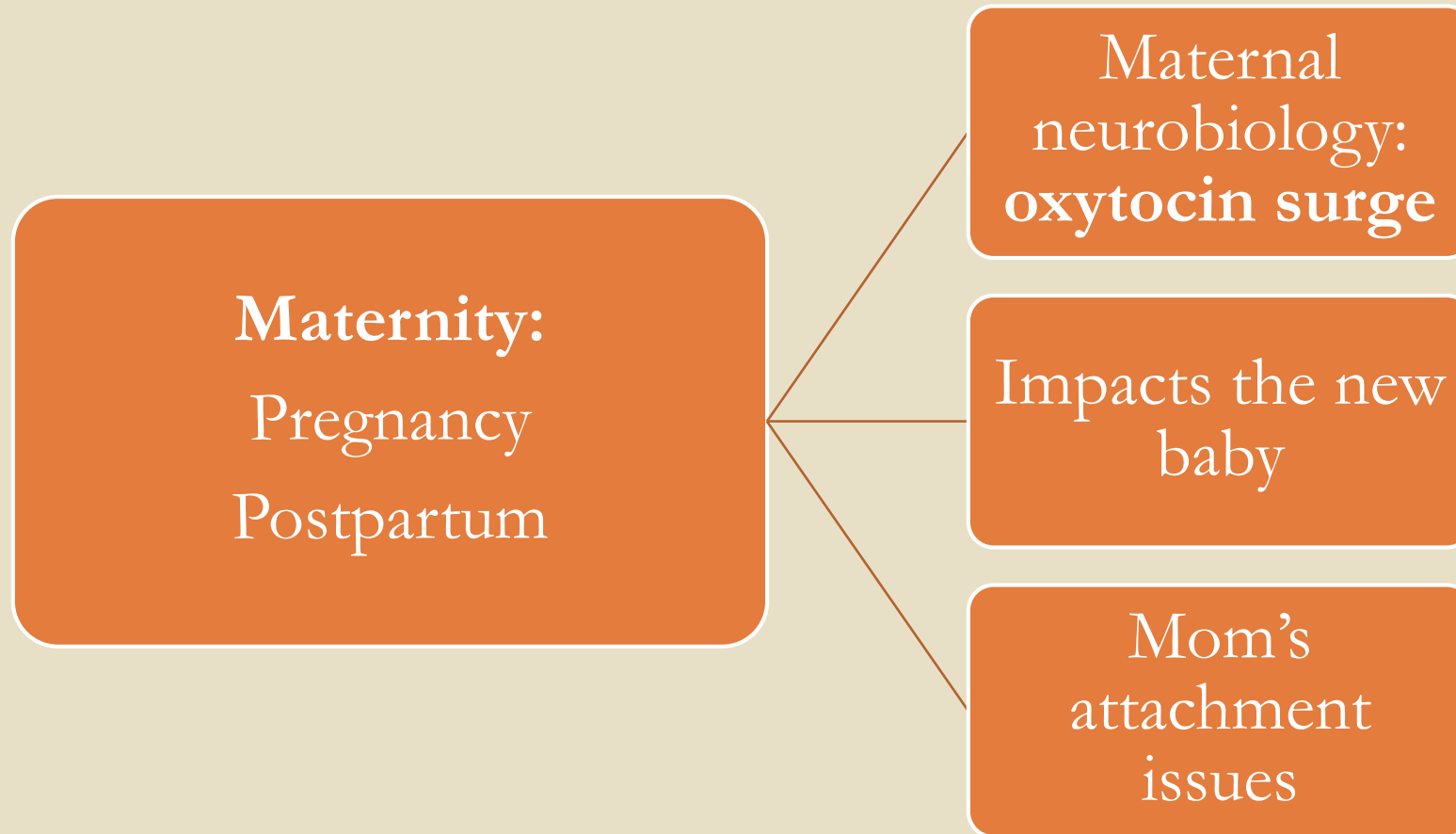
Lower in women  
with a history of  
child abuse

Lower in mothers  
with insecure  
attachment

Lower in chronic  
opioid use

**Oxytocin**

# When to Intervene:



“It is difficult to show love when *you* were never shown love as a child.”

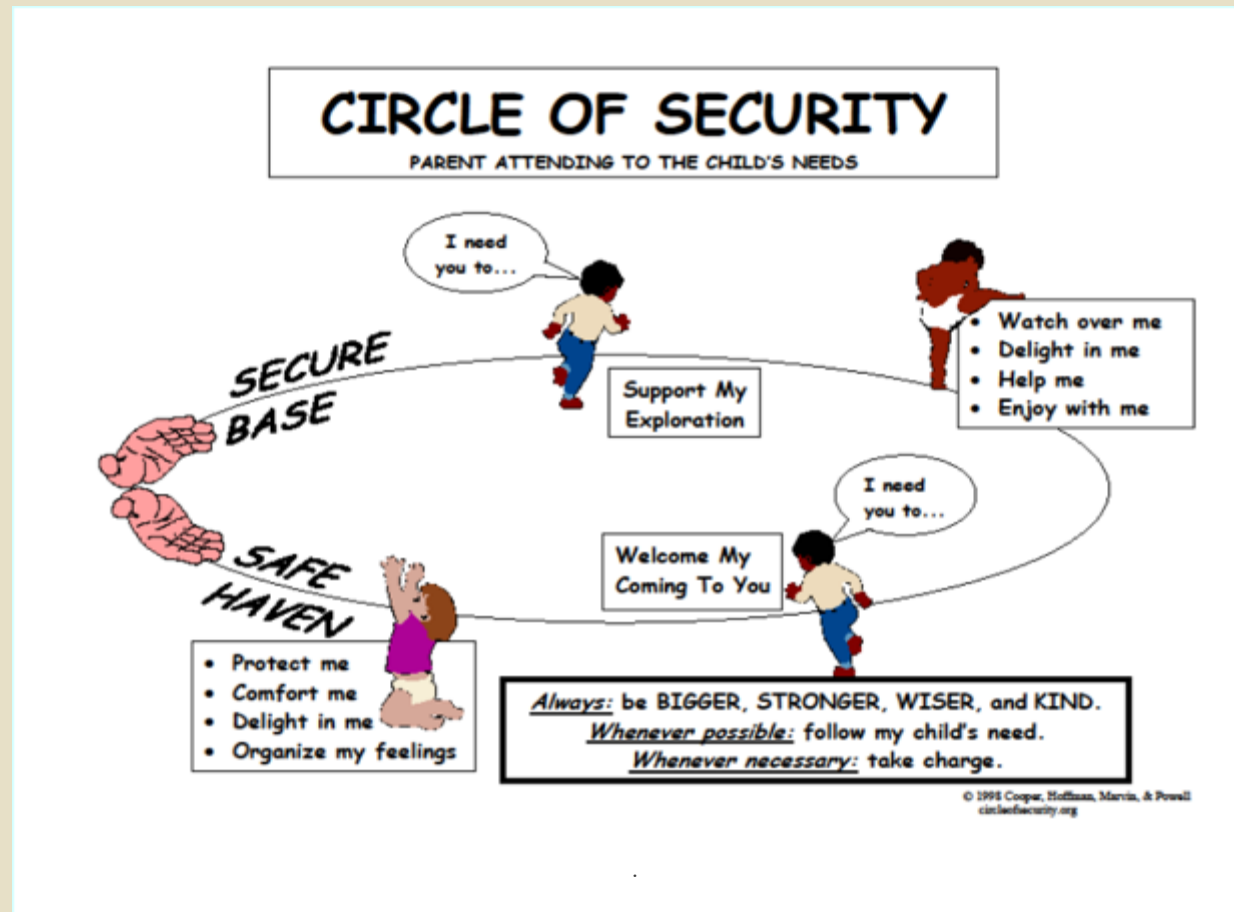
-Postpartum Mother with Opioid Use Disorder

# Treatment of mother and baby: Integration is key!



- Attachment therapy:
  - Enhance mother-infant attachment
  - Enhance attachment of mother to therapist
  - Enhance neurodevelopment of infant
  - Redirect reward system toward attachment (rather than drug)

# Circle of Security: Attachment Therapy





# BREASTFEEDING



# Positive Impacts on Breastfeeding

4 significant factors that positively impacted breastfeeding:

- 1) a mother's intent to breastfeed prenatally
- 2) a mother's history of childhood maltreatment
- 3) mother's attendance at breastfeeding education class prenatally
- 4) mother having a partner

# Breastfeeding Success

- Other factors that improved mother's breastfeeding success:
  - mother's **attachment** history
  - mother's **psychosocial** factors such as:
    - self-efficacy
    - psychological adjustment
    - body image
    - motivation
    - confidence

# Negative Impacts

4 significant factors that negatively impact breastfeeding:

- 1) a mother's history of Post-Traumatic Stress Disorder (PTSD)
- 2) a mother's history of Major Depressive Disorder (MDD)
- 3) a mother's education status (less than high school education)
- 4) mothers who are African American.

# Breastfeeding recommendations



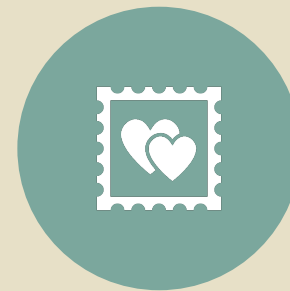
Be sensitive to high possibility of trauma



Engage mom in discussions about breastfeeding:  
fears, hopes, concerns, feelings



Respect her decisions and support them



Encourage attachment (skin-to-skin) behaviors and engage mom if she is not breastfeeding

# Summary

---

Mothers with substance use disorders are more likely to have a history of child abuse and insecure attachment.

---

Her history will play a role in her ability to help care for her infant.

---

Attaching to her infant is the best treatment for NAS and may be protective against relapse

---

Breastfeeding is good, but attachment is more important.

# References

- Ainsworth, M. D. S., & Bell, S. M. (1970). *Child Development*, 41, 49-67.
- Akman, i., et al. 2008. *Journal of Paediatrics and Child Health*. 44: 369.
- Caspers, K et al. *Substance Abuse Treatment, Prevention, and Policy*. 2006; 1:32.
- De Jager, E. et al. 2013. *Midwifery*. 29:506.
- De Jager, E. et al. 2015. *Midwifery*. 31:103.
- Eagen-Torkko, M., et al. 2017. *JOGNN*. 46: 465.
- Elfgren, C. et al. 2017. *Journal of Human Lactation*. 33(1): 119.
- Fowler, JC et al. *Am J Addict*. 2013; 22:14.
- Heim, C. *Mol. Psych*. 2009.14:954.
- Hoffman, K., Marvin, R., Powell, G. *J Consulting and Clin Psych*. 2006.74 (6):1017.
- Islam, M.J., et al. 2018. *Child Abuse and Neglect*. 86:290.
- Jalal, M. et al. 2017. *Electronic Physicians*. 9(1): 3561.
- Jansson, L.M., Velez, M.L., and Butz, A.M. 2017. *JOGNN*. 46: 480.
- Kassel, J. et al. *Addictive Beh*. 2007; 32:1164.
- Sarnayia, Z and Kovacs, GI. *Pharm, Biochem, and Beh*. 2014; 119:3.
- Sorbo, M.F., et al. 2015. *BMJ Open* 5:e009240.
- Strathearn, L. et al. *Neuropsychopharm*. 2009.34:2655.
- Ukah, U.V., et al. 2016. *Breastfeeding Medicine*. 11(10): 544.
- Zarse, E. et al. *Cogent Medicine*. 2019. 06:1581447