



Welcome
Special Kids, Special Care
NICU Consortium Meeting
10-25-17

A special thank you to our grantors and sponsors



Newborn Hope for their support of our *Safe Sleep Going Home* Program that provides newborn wearable sleep sacs to the NICU for parents and our *Family Support Grants* Program.




University Hills Rotary for their support of the *Safe Sleep Going Home* Program



HCP – Colorado Department of Public Health and Environment, Program for Children with Special Health Care Needs for their continued support of the NICU Consortium Educational Meetings /Webinar





Break
Announcements and Updates


Upcoming Educational Events

Beginning Rhythms & Keys to Caregiving: Supporting Infants and Families At-risk

November 2 – 3, 2017 8:30 am to 9:30 am
ARC – Centennial Colorado

November 15-16, 2017 8:30 am to 9:30 am
Summit County - Frisco


Links to register on the Special Kids, Special Care Website
www.specialcare@sk-sc.org



Home Follow up for
Babies with
Neonatal Abstinence Syndrome (NAS)

Sharon Langendoerfer, MD
October 25, 2017


Neonatal Abstinence Syndrome
NAS




- Clinical symptoms of withdrawal from the body's physiologic dependence on opiate/opioid/narcotic or other
- **NOT** "Addiction" (= behaviors due to physical dependence)
- Abstinence/withdrawal symptoms worsen when off the drug
 - Opioids/narcotics affect Central & Autonomic Nervous Systems and GI Tract
- Direct drug effects (toxicity) usually decrease off the drug
 - Mainly nervous system symptoms

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Opiates/Opioids/Narcotics




- Opiates: alkaloid compounds found in opium (poppy)
 - Morphine & codeine
- Opioids: all substances, natural and synthetic, which bind to opioid receptors (mainly in nervous system & GI tract)
 - oxycodone, hydrocodone, fentanyl, heroin, methadone, buprenorphine, etc.
 - includes antagonists (naloxone = Narcan, naltrexone)
- "Narcotics": no longer used as medical term


A FIGHTING CHANCE FOR EVERY BABY

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In utero exposures that may cause symptoms after birth



- Opioids/narcotics → withdrawal symptoms, CNS + GI
 - Sx at birth may be due to BOTH direct and withdrawal.
- Barbiturates/benzodiazepines → withdrawal sx, CNS
- Cocaine, methamphetamine → direct drug effects on CNS
- Nicotine → ? withdrawal? + " " " " "
- Antidepressants → " " " " "
- Antipsychotics → ? withdrawal sx?
- Alcohol: rare withdrawal at birth BUT MOST DANGEROUS!!
 - Life-long serious impairments!
- Combinations may ^ symptoms of NAS

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Causes of NAS



- NOT caused by cocaine, amphetamines, marijuana (stop ASAP!)
- Few caused by non-opioids = barbiturates, tobacco, benzos, alcohol
- Most caused by opioids/narcotics:
 - Prescribed pain med (started before or during pregnancy)
 - Prescription misuse
 - » *Many teens start with others' left-over pain pills !!*
 - MAT = Med. Ass't'd Treatment (M'done, Buprenorphine)
 - Heroin/street Fentanyl
 - Polydrug use is COMMON (Tobacco+Alcohol+Opioids+other)
 - *TakeMedsSeriously.org

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Growing Problem!



- Nationwide epidemic of opioid addiction and overdose deaths
 - 2.5million Amn's ≥ 12 yo abused/dependent on opioids 2012*
 - Rx Overdose Deaths \wedge x4, 1999- \rightarrow 2010 = 16,651
 - Colo: 2015: Rx 259. 2016: All opioid 6% less; Heroin \wedge 23%
 - Pregnant & on opioids ≥ 1 mo: \wedge x4, 1998- \rightarrow 2008 =10/1000**
- USA: NAS increased x5 from 2009-2012
- Colorado: NAS increased from 132 in 2010 to 342 in 2015 = 2.0 \rightarrow 3.6/1000 live births***
- *Volkow, Frieden, et al 2014 NEJM 370:2063
- **Chasnoff: Webinar 8/23/2017
- ***Heroin in Colorado, April 2017, CDPHE data

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Understanding Mothers' Situations: Public's & Prescribers' awareness



- Anyone may get mild withdrawal sx after ≥ 10 da opioids
 - for whip-lash, back pain, post-op new joint + rehab PT
- Physicians trained to aggressively treat pain x last 20 yrs.
- Now increasing Prescriber Education about non-opioid options!!
 - Other meds: NSAIDs + acetaminophen, others for nerve pain
 - PT, chiropractic, massage, meditation, yoga, acupuncture

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Understanding Mothers' Situations: Reasons for Opioid Addiction



- ALL SES groups get Rx's (teens for ankle sprains!) \rightarrow
- Tolerance to prescribed doses \rightarrow increasing amounts \rightarrow
- Providers limit Rx's \rightarrow use others' Rx's or street drugs
- Rx Cost \rightarrow heroin is cheaper
- Susceptibility to addiction:
 - Often related to ACEs (Adverse Childhood Experiences) "What all has happened to you?"
 - Experiences as adult: traumatic events, poverty, IPV= (Intimate Partner Violence)* (coping or coercion)
- Google: IPV & Women's Subst. Abuse & Recovery

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Adverse Childhood Experiences ACEs* & ACE Science*



- 10: physical, emotional, sexual abuse, physical or emotional neglect, addicted or depressed family member, parent sep/divorce, family member incarcerated, witness mother abused
 - ACE = 4/10 \rightarrow 2x heart & cancer risk, 7x alcohol risk, 12x attempt suicide, more chronic pain & meds
 - ACE $\geq 5/10$ \rightarrow 7-10x drug use risk
- Outside home: racism, witness violence, bullying, fam deported, unsafe nbrhd, homeless, in foster care or justice system, war zone, multiple moves, witness other family abuse, school problems
- ASK about ACEs + food security, safe housing, transport'n, jobs
- *ACE Studies: Google: Felitti VJ, Anda RF, et al 5/1998 Am J Preventive Med

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Addiction = "Ritualized Compulsive Comfort-Seeking"*



- NORMAL & PREDICTABLE RESPONSE TO ACEs and adverse events in adulthood
 - Post-traumatic stress is common
 - Hypervigilance after stress is normal
- Seeking comfort from (=coping with) anxiety, depression, hopelessness, fear, anger, frustration, AND withdrawal sx
- STOP the stigma and discrimination!
- Dr Daniel Sumrok, Cntr for Addiction Sciences, University of Tennessee (google title)

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Neonatal Abstinence Syndrome



- Infrequently caused by non-opioids = barbiturates, nicotine, benzodiazepines, rarely by alcohol
- Most caused by opioids/narcotics (dose NOT predictive)
 - Prescribed pain Rx (started before or during preg)
 - Prescription misuse
 - Left-over pain pills in bathroom medicine cabinets!!
 - MAT (methadone or buprenorphine)
 - Heroin + polydrug use, smoking

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Neonatal Abstinence Syndrome



- "NAS is a predictable, treatable and time-limited side effect of Medication Assisted Treatment" (MAT)*
- Acute symptoms ONSET birth - 72 hrs (rarely later)
 - Improve with treatment over 2-6 wks
 - Milder Sx may persist for 6-7 months (at home)
- NO clear-cut LONG-TERM EFFECTS of NAS or its treatment EXCEPT stigma of mis-labeling!*
- *Dr. Kaylin Klie, Denver Substance Treatment Svcs.
- **Nat'l Rx Drug Abuse & Heroin Summit, 2013

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ALCOHOL is MUCH WORSE!



- Alcohol exposure (FASD) affects ALL 3 parts of INFORMATION PROCESSING (life-long):
 - Neurocognitive Functioning
 - I.Q., memory, learning disorders
 - Adaptive Functioning (*most distinguishes FASD)
 - Applying info to daily living, current situation
 - Self-regulation (also affected by other substances)
 - Behavioral regulation (focus/attention); sensory processing (hypersensitive); emotional regulat'n
 - *Dr. Ira Chasnoff (google re FASD)

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NAS Symptoms - Neuro



- Opioid receptors mainly in brain, spinal cord & GI tract
Receptor changes cause symptoms.
- Irritable and hypersensitive to environment:
 - Easily becomes agitated
 - Excessive, high-pitched crying, difficult to console
- Tremors at rest, tense muscles, excess Moro reflex, myotonic jerks, seizures (uncommon, mild)
- Poor sleep!
- Sweating, mottled skin, yawning, stuffy nose, sneezing, rapid breathing, low grade fever = Autonomic NS (?vs illness?)
- Skin irritation from rubbing chin, elbows, knees

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NAS Symptoms - GI



- Difficulty feeding: needs frequent, small feeds, on demand, breast or formula
- May need ^ calories/oz, fortified breast milk or formula
- Hyperactive, un-coordinated, sporadic gut motility → feels hungry → frantic sucking, un-coordinated swallowing → may gag or choke, stops sucking
- Swallows air → excess burping & gas
- Spitting up or vomiting → replace lost calories & water
- Diarrhea → replace lost calories & water
- Abdominal cramps are painful!

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GOALS of Managing Symptoms of NAS



- Eat & Sleep normally (Follow Safe Sleep guidelines)*
- Gain weight normally = adequate kcal, with minimal regurgitation or loose stools
- Consolable within 10 minutes
- Interact normally with caregivers, feel the love! (alert at times without belly cramps or other pain or distress)
- Minimal hypersensitivity to environmental stimuli (avoid melt downs)
- Happy Baby grows to be Happy Child!
- *google: Safe Sleep for your baby CDPHE

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NAS - Coping with the Hypersensitive Nervous System



- Senses are all exaggerated and frightening.
- What Baby sees, hears and feels:
 - Lamp or overhead light looks like Strobe light!
 - Setting glass bottle on kitchen table = firecracker!
 - Patting may feel like being hit and jolted.
 - Clothes or gentle rubbing may make skin hurt.
 - Smiling face too close may look like a scary mask!
- → difficult to concentrate on eating, playing, resting

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Managing Symptoms of NAS PREVENTION (for the Hypersensitive Nervous System)



- “Read your Baby”: look for early signs of distress. Responding to his cues teaches: “You are loved!”*
*www.howtoreadyourbaby.org/pipe
- OBSERVE what your baby is seeing & hearing:
 - e.g. You look down at baby to feed; baby looks up at bright light above you??
 - e.g. Over your shoulder baby sees & hears sibs playing or fighting, TV flashing & blaring, cars passing window.
- → Soothing Environment: low light, no loud noises, avoid abrupt movements or changes
- AVOID WHAT MAKES HIM SCREAM.

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Managing Symptoms of NAS PREVENTION



- SWADDLING prevents auto-stim from Moro, tremors
 - NOTE: Suffocation risk if able to roll over in bed*
- Pacifier when not hungry
- Gentle rocking, not bouncing, WATCH what baby prefers
 - ? oscillating bed, swing? gradual ^ tolerance for mov’t?
- Eye contact only when baby wants (smile without voice?)
- Soft voice only when baby wants (^ as tolerated)
- Only soft clothing: no seams & frills; turn inside out; WATCH which ones hurt; important for toddlers!
- *google: Safe sleep for your baby CDPHE
 - Try turning inside out. WATCH which clothes hurt.
 - Important to toddlers!

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Managing Symptoms of NAS PREVENTION



- Diapers & changing: plastic edges may hurt ==> cloth?
- No cold baby wipes! Warm, gentle cleaning, ?warm running water and bare hand?
- Baths should not make baby cry!
 - No goose bumps ==> small closed room, no drafts, soothing temp of room and water
 - Baby’s choice: bare hands vs soft cloth
 - Slow & gentle ==> need comfortable position for caregiver

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Managing Symptoms of NAS PREVENTION



- Leaving the house:
 - Have a back-up plan about where? how long?
 - Read your baby’s cues for early signs of distress.
 - Limit number of admirers & handlers as tolerated.
 - Cover baby carrier in stores as needed.

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Managing “Melt downs”*



- Care for yourself - to stay calm and think clearly.
- Review events just before Melt down: Look for “triggers” → may prevent the next one.
- Look for signs of illness or fever, new symptoms.
- Look for hunger, thirst, need to burp, diaper, too hot or cold, other reason for pain or distress.
- Try what usually works.
- Hold baby close (\pm swaddled) & rock (side-side or up-down), walk, sing or talk gently, try pacifier, rattle, toy.
- Noise: music, vacuum cleaner, clothes dryer
- *FussyBabyNetworkColorado.org, 877-6-CRYCARE

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Managing "Melt downs" Dr. Harvey Karp's 5 S's



- "4th trimester" of womb sensations - snug holding, soft touch, uterine blood flow sound, jiggly motion → 'calming reflex'
- Swaddle - arms snug, straight at sides, hips & legs loose
- Side-stomach position - over your arm or shoulder
- Shush - loud, behind ear (in utero is louder than vacuum clnr.)
- Swing - jiggling, fast tiny motions ≤ 1". NEVER SHAKE!
- Suck - pacifier or clean finger
- www.happiestbaby.com (SNOO bed)

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Managing "Melt downs"* Never Shake a Baby!



- "If nothing works, it is ok to leave baby in a safe place like a crib or infant seat and take time to calm down. Leave the room. Close the door. Take a few deep breaths. Call a friend or family member."
- Crying "too long" (>30-40min) is common in normal healthy babies without prenatal exposures.
 - "Colic" = crying >3hr/da, ≥3da/wk, x >3wks
 - May ^ til 4-5 mo. old (but usually lessens after 2 mo old)
 - Crying for no apparent reason, more in evenings
- Extremely puzzling, frustrating and exhausting!
- *FussyBabyNetworkColorado.org 877-6-CRYCARE
- Families First 1-800-CHILDREN, 1-800-LAS FAMILIAS

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Newest (Old) Trends in Managing Symptoms of NAS



- Newborn Care: *
 - Good Prenatal Mom/Family Education about NAS/SEN
 - Breast feed ASAP after birth (if possible)
 - Rooming In if possible: Mom/Family/Staff consoles baby 24/7
 - Avoid 'Obs Unit' of babies crying together!
 - Use Non-Pharmacologic therapies for symptoms!
 - Assess only Eating, Sleeping & Consolability re: need for medication
 - Use Morphine only prn and wean as tolerated (rapid)
- *Grossman, Peds V139: 73, June 2017

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Newest (Old) Trends in Management of NAS Symptoms



- Wean off Methadone at home with Mom or other caretakers
- Requires well trained and dedicated team!
 - Prenatal education/preparation & trust-building
 - Prenatal & on-going assessment for safety at home!
 - 24/7 phone-available knowledgeable staff
 - Close specialty clinic follow-up early + develop. referrals
 - Long-term medical home F/U, devel. services as needed

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NICU Consortium Educational Meeting

2018 NICU Consortium Educational Meetings
9:00 am to 11:30 am


January 31, 2018

April 25, 2018

July 25, 2018

October 31, 2018

www.specialkids-specialcare.org
specialkids@sk-sc.org



Special Kids, Special Care Sign Up

- ❖ For info about either of these program send Barbara an e-mail at: specialcare@sk-sc.org
 - ❖ NICU Outreach: Safe Sleep Going Home Program: Wearable Sleep Sac Blanket Requests
 - ❖ Family Support Grant - Applications for newborn cribs, respite care, lactation consultation, or other health support services needed by families
- ❖ To receive announcement about future NICU Consortium Meetings, the newsletter, or other information, please sign up on the website
 - ❖ Website: www.specialkids-specialcare.org

