

Opioid-Dependent Newborns Get New Treatment: Mom Instead of Morphine

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By Dana G. Smith

Experts in Humboldt County changed the way they treat newborns dependent on opioids. The babies spend less time in the neonatal unit and receive less medication. The team includes, left to right, Carrie Griffin, DO, Candy Stockton, MD, and Susan Johnson, RN. Photo: Shaun Walker

When babies are born dependent on opioids, typically they are whisked away from their mothers, put into the neonatal intensive care unit (NICU), dosed with morphine to get them through withdrawal, and gradually weaned off the drug—a process that can take weeks.

Research now suggests that this long-established standard of care may be the worst way to care for a newborn with opioid dependency, or neonatal abstinence syndrome (NAS). The NICU is busy, noisy, and bright, filled with beeping machines, other crying babies, and bustling nurses. Infants are fed not when they're hungry but e

very three hours on a schedule. When they cry, there may be no one to hold them if the nurses are busy attending to other babies. And when they finally can sleep, they may be awakened to be poked and prodded for medical tests and treatments.

A new initiative is turning NAS treatment on its head with a shockingly simple concept: treat the baby like a baby and the mom like a mom. Keep the baby and the mother together. Keep the baby out of the NICU. And don't give the baby opioids unless absolutely necessary.

This approach is known as "Eat, Sleep, Console," meaning let the babies eat and sleep when they want and console them when they cry. With this protocol, hospitals treating members of Partnership HealthPlan of California

— a Northern California Medi-Cal managed care organization — reduced the average hospitalization of babies with NAS from 18 days to 11 days. Partnership said that in just the first three months of implementing the new approach, it saved \$389,000. Studies at other institutions have shown newborns experience no adverse effects from this new protocol.

When the Standard of Care Is Wrong



St. Joseph Hospital in Eureka, California, has adopted new protocols for treating newborns with opioid dependency. Photo: Shaun Walker

To anyone who's taken care of an infant, Eat, Sleep, Console may sound obvious, but to physicians and nurses who treat babies with NAS, it's a revolutionary departure from decades of practice recommended by experts.

"Taking these babies from their moms and putting them in a nursery where it's noisy and lights are on has always seemed a little counterintuitive to what's best for them," said Susan Johnson, RNC, the NICU clinical coordinator at St. Joseph Hospital in Eureka. "But it was what the standard was and what we were told to do."

Since the 1970s, the standard of care for NAS has been pharmacologic therapy — typically methadone or morphine — guided by the Finnegan Neonatal Abstinence Scoring System. The Finnegan system tests for symptoms of opioid withdrawal, such as shaking, fever, sweating, high-pitched crying, gastrointestinal problems, sneezing, and yawning. Babies are assessed every three hours, and if they score eight or more on the Finnegan three times in a row, they are given medication. Once they're on the drug, it takes three to four weeks to wean them off, during which time they must remain in the hospital.

The problem is, many of the signs of opioid withdrawal look like typical newborn behaviors. "It really pathologizes a lot of the symptoms that are

normal in any given newborn,” said Carrie Griffin, DO, a family medicine physician in Humboldt County who specializes in perinatal substance use and treats moms and babies. “All babies yawn, all babies have some amount of a tremble response. And what happens is, when we know that there’s been opioid exposure in utero, it’s a different lens through which we’re looking at these babies.”

Learning That Mom Is Medicine

Eat, Sleep, Console gets rid of the subjective Finnegan scoring system and only gives weight to a newborn’s essential functions. Can the baby drink an ounce of milk? Sleep for an hour undisturbed? Be consoled within 10 minutes? If the baby is functioning normally, then regardless of opioid exposure in the womb, the withdrawal isn’t severe enough to warrant treatment with drugs.

The protocol was developed by Matthew Grossman, MD, an assistant professor of pediatrics at Yale School of Medicine. While caring for babies with NAS, he noticed that the infant’s environment — and particularly whether the infant was kept with its mother — had more impact on how quickly the baby was released from the hospital than the pharmacologic treatment did. So instead of automatically turning to opioids, Grossman decided that the first-line treatment would be the mom.

It turns out that when the babies are given mom instead of morphine, they do better. With Eat, Sleep, Console, the average length of stay for infants born with NAS at Yale New Haven Children’s Hospital dropped from 22 days to 4 days. What’s more, only 12% of newborns treated with Eat, Sleep, Console required opioids compared with 62% of babies scored using the Finnegan model. These changes cut the cost of care per infant by more than 70%.

Watch this presentation about Eat, Sleep, Console by Yale pediatrician Matt Grossman, MD.

A Mother’s Touch

Nicole Merschdorf was one of the first women to go through the new protocol with her daughter Penny Lou at Mad River Community Hospital in Arcata, California. Merschdorf had been using intravenous drugs for five years, and

she was on buprenorphine to treat her addiction when the baby was delivered. Buprenorphine is a first-line treatment for opioid addiction, and while it can lead to NAS in babies born to pregnant women taking the medication, the NAS is usually less severe. Buprenorphine helps the women maintain a more stable life without experiencing withdrawal and cravings while in treatment.

When Penny Lou was born, she showed signs of NAS, like restlessness, jerkiness, sneezing, and overactive sucking. But Merschdorf said that as soon as she did skin-to-skin contact with her baby, “It was really all the difference in the world,” she said. “She’d be fussing in her bassinet, and as soon as you picked her up and she felt a body, she’d instantly be soothed.”

Merschdorf and her daughter were able to stay in a private room in the nursery for seven days before Penny Lou was deemed healthy enough to go home. The baby girl required only a single dose of morphine on the second day. The one-off treatment — another departure from the Finnegan model — was enough to get her through the worst of her withdrawal without requiring a full course of the drug. Now Penny Lou is a happy, healthy six-month-old baby.

“When the baby is born, there’s a massive amount of guilt and regret,” Merschdorf said. “But the doctors and nurses are there to help you. And getting the best medical treatment for your child is what’s going to be best for them in the long run.”

Changing Clinicians’ Minds

In rural Humboldt County along California’s northern coast, more than 10% of newborns are diagnosed with NAS, the second highest rate in the state. Griffin, the family medicine physician, has spearheaded the rollout of Eat, Sleep, Console in several Humboldt hospitals, including St. Joseph Hospital and Mad River Community Hospital. Since the program started, most of the babies have gone home after four days, and Penny Lou was the only one who required pharmacologic treatment.

Most babies and children would rather be cuddled by their parents when they’re feeling sick than have somebody sedate them and make them sleep through the symptoms. —Candy Stockton, MD

Griffin said that while she is excited by their initial success, she’s still working to get buy-in from all the care providers. “There’s been a lot of resistance from

pediatricians here because they feel like the babies are suffering, and we're not doing anything to mitigate it," she said. "It is hard to unwind those years of training and assessing and clinical pattern development and reorient around the idea that this is a healthy baby. The baby is experiencing withdrawal from the substance, but if we support them as we would want to support any newborn, they do really well."

To help get more of the doctors and nurses on board, Griffin and Candy Stockton, MD, a family physician at the Humboldt Independent Practice Association and head of the county's perinatal substance use task force, have been trying to reframe what the true source of suffering is for these children.

"Most babies and children would rather be cuddled by their parents when they're feeling sick than have somebody sedate them and make them sleep through the symptoms," Stockton said. "Putting the baby in a brightly lit, noisy, chaotic environment in the neonatal intensive care unit, separating them from their parents and caregivers to provide this care — all of those things are more traumatic to an infant who doesn't understand what's happening than it is for them to be a little shaky with a little bit of nausea and some muscle aches."

Education Is Key

This type of clinician education is critical as Partnership HealthPlan of California works to get more hospitals to roll out Eat, Sleep, Console. The initiative began with a one-day conference on maternal opioid use in October 2018, at which Grossman presented the protocol. His talk had a dramatic and immediate effect on many of the care providers at the 22 hospitals in Partnership's network. While the average reduction in length of stay was from 18 to 11 days, the hospitals that were most committed to Eat, Sleep, Console got their average stay down to just 4 days. As more hospitals adopt the program, the average length of stay is likely to continue dropping.

"Education is usually not your strongest way of making change happen on a massive scale," said Robert Moore, MD, Partnership's chief medical officer. "But the evidence is so overwhelming that when doctors heard a single presentation [on Eat, Sleep, Console], we saw this big change."

Partnership is collaborating with the [California Maternal Quality Care Collaborative](#) to continue education around the new protocol, concentrating on four rural Northern California jurisdictions that have been particularly hard-hit

by the opioid crisis: Humboldt, Lake, Mendocino, and Shasta Counties. As more providers learn about the treatment, Moore hopes hospitalization times and health care costs will continue to drop as this improved approach to neonatal abstinence syndrome takes hold.

“Keeping the knowledge out there is going to be really important,” Moore said. “Ultimately, learning more on the ground — how are they thinking about these barriers, what are their plans to address the barriers — and keeping that dialog alive is going to be helpful.”

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