

**Umbilical Cord Tissue  
Collection and Testing**

**ARUP**<sup>®</sup> LABORATORIES

Every  
baby  
comes  
into this  
world with  
one—and it  
holds vital clues.



I kept telling myself, "I'll stop before the baby is born."

During her pregnancy, April\* was prescribed OxyContin after a shoulder surgery. She had a history of addiction before her pregnancy and became addicted to opioids. When the prescription ran out, she started seeking out other painkillers. "The only reason I got help was because of my kids. I didn't care enough about myself to do it just for me."

\*Not her real name



"I consider us to be very much a part of the care team to get the mother and the baby the help that they need."

Gwen McMillin, PhD, DABCC (CC,TC),  
FADLM, ARUP Laboratories,  
Medical Director, Clinical Toxicology and  
Scientific Director, Mass Spectrometry

ARUP was one of the first national reference laboratories to offer neonatal drug testing in umbilical cord tissue (since 2012). Its scientists continually improve on the test's efficacy and the variety of drugs and drug metabolites the test can detect. **“There is a push for universal cord collection—it is a very practical way to go,” says Dr. McMillin**, PhD, ARUP Laboratories Medical Director, Clinical Toxicology and Scientific Director, Mas Spectrometry. She is recognized internationally for her work in this area.

### **Advantages of collecting and testing cord tissue vs. meconium:**

**Faster confirmation of drug exposure and treatment.** The cord tissue is collected right after birth, and every baby has an umbilical cord. Hospitals can send the tissue straight to the lab or store it for up to three weeks. Cord collection requires less time and staff attention and fewer logistics than meconium collection.

**More objective and standardized.** Universal collection removes the burden of potential biases and investigative efforts from the shoulders of the healthcare and social services providers.

**Alcohol exposure testing.** Ethyl glucuronide testing is available in umbilical cord tissue.

**Fewer labeling and handling mistakes.** One cord collection per birth, per room, requires fewer logistics. Meconium collection might involve several collections for many children in the nursery or NICU. Also, a meconium sample can be incomplete or lost if a baby gets transferred to another hospital (common in rural areas).

“Moms really want to do the right thing for their babies—this gives many women the motivation they need to seek treatment. It is an opportune time to treat their addiction.”

Julie Shakib, DO, MS, MPH,  
Medical Director, Well Baby  
and Intermediate Care Nursery,  
University of Utah Health







The Well Baby and Intermediate Care Nursery team at the University of Utah uses a standardized scoring system to identify infants withdrawing from opioids. If they see symptoms or know that the mother has a history of drug use, they send the cord to ARUP for testing. Cords are refrigerated and stored for a week. "As a team, we work with moms and really emphasize the importance of identifying if their baby is at risk as soon as possible," says Medical Director Julie Shakib. "Many have experienced withdrawal themselves and don't want their babies to go through it. They want their babies to have happy, successful lives."





To learn more about ARUP's  
newborn drug tests, visit:

**[aruplab.com/newborn-drug-testing](https://aruplab.com/newborn-drug-testing)**



*A nonprofit enterprise of the University of Utah  
and its Department of Pathology*

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