



Better health through
laboratory medicine.

Topic: The Laboratory's Role in Drug Monitoring for Pain Management

Date: Wednesday, June 15, 2016

Q&A SESSION 7 Time: 2:45PM-2:55PM	
Gwendolyn McMillin	Hello, I'd be happy to answer questions that you may have about my presentation
Chetan Soni	Do you know How many laboratory is testing for Meconium and or U-cord?
Karla Walker	Is there a difference in detection windows between meconium and cord tissue?
Tatiana Souslova	Is there any PT available for meconium and cord testing?
Gwendolyn McMillin	More laboratories test for meconium than cord, but I do not know the overall numbers - I would guess less than 20 in the US
Gwendolyn McMillin	I am not aware of PT for meconium and cord testing right now although some reference laboratories that perform testing exchange samples with other laboratories
Donna Coy	Regarding medications given during birth, do you think it is possible they could be detected in meconium, potentially from urine contamination or otherwise?
Gwendolyn McMillin	Detection windows depend very much on the quality of the specimen submitted for testing, the specific drug analytes of interest, and the performance characteristics of the testing. Many studies have shown that detection of 3rd trimester use is good for most drugs, but that detection of 2nd trimester use is poor for both specimen types
Tatiana Souslova	When you validate a method to what do you compare it? Is it a spiked samples?
Gwendolyn McMillin	Medications given during birth can be detected in both meconium and cord. Commonly benzodiazepines (e.g. midazolam and lorazepam) and opioids (e.g. fentanyl, meperidine and morphine) delivered during delivery are detected in both specimen types
Gwendolyn McMillin	Ideally validations include both authentic samples and spiked samples prepared in drug-free specimen. Qualitative

Cheryl Haskins	Is there a high degree of appropriate specimen submissions, or specimen suitability, for umbilical tissue drug screening in your facility?
Gwendolyn McMillin	Many tests report only qualitative results due to challenges in acquiring previously characterized samples, matrix effects associated with these sample types and limitations in value of quantitative results
Emily Ryan	Do you have any advice on where to acquire known PT samples for validation? I've contacted CAP and they don't have any samples.
Gwendolyn McMillin	Specimen submissions that we receive at my laboratory are appropriate for testing; we have had very few specimens that were inadequate or inappropriate for testing.
Gwendolyn McMillin	The CAP does offer a sample exchange program, although I do not know if they have had requests for meconium and cord. I would encourage anyone interested in a meconium and/or cord PT program to contact the CAP's Toxicology Resource Committee for consideration
Robert Buco	Hi Gwen, thanks for the informative presentation. Interesting work. I was wondering if you could share your opinion on the likelihood that newborn screening programs, currently largely based on heel-stick blood specimens, would be expanded to include testing for drug exposure? You mentioned it was not currently mandated; if you gazed into your crystal ball, do you think it will be at some time?
Emily Ryan	Additionally do you have any tips and tricks for thorough homogenization of umbilical cord tissue?
Gwendolyn McMillin	I think DBS-based testing for newborns is interesting and would be feasible, but would only reflect very recent drug exposures and may detect drugs administered during delivery. Meconium and cord have been shown to detect chronic exposures that are likely to contribute to NAS or other forms of acute withdrawal
Gwendolyn McMillin	There are several commercial tools available for homogenization, but it is a significant challenge with umbilical cord tissue. Buffer to tissue ratio, time of homogenization, extent of tissue agitation are all variables to consider, and minimizing heating of the tissue are all important considerations.
Gwendolyn McMillin	Thank-you for your questions and comments!