# Best Practice for Neonatal Drug Screening

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## Background

Maternal opiate use has increased significantly resulting in an increased rate of neonatal abstinence syndrome (Casper and Arbour, 2013)

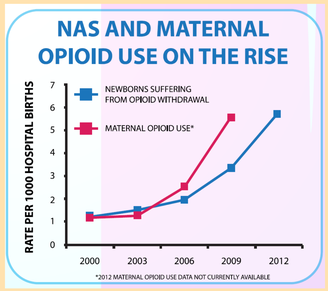
- 15% of births in the United States are affected by prenatal alcohol and drug exposure (NCSACW, 2017)
- Early detection in neonates exposed to illicit substances assists to effectively care and treat withdrawal symptoms (Casper & Arbour, 2013)
- Current methods of collecting toxicology samples from newborns include: urine, meconium, umbilical cord, and hair sampling (Casper and Arbour, 2013)

**Population:** Neonates

**Intervention:** Drug testing

**Comparison:** Meconium vs umbilical cord drug screening

**Outcome:** Determine best practice




https://www.drugabuse.gov/related-topics/trends-statistics/infographics/dramatic-increases-in-maternal-opioid-use-neonatal-abstinence-syndrome

## Objectives

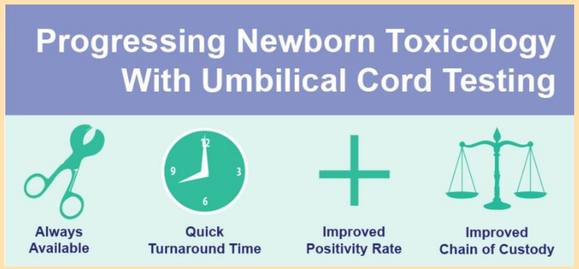
- Identify the most effective methods for detection of maternal drug use in pregnancy through neonatal meconium versus umbilical testing.
- To evaluate the most efficient way to identify infant withdrawal
- To provide quality and safe care to our patients based on evidenced based practice

## Methods

Five evidence based articles related to neonatal abstinence syndrome were found using CINAHL based on:

- Full text articles
- Published date within the last ten years
- Level one and Level two research articles

The articles were compared and contrasted in order to find the most effective way to perform neonatal toxicology screening




http://www.usdtl.com/media/infographics/progressing-newborn-toxicology-with-umbilical-cord-testing

## Results/Findings

- Meconium Testing
  - Pros:
    - Detects a wider variety of drugs and more cost effective (Casper & Arbour, 2013)
  - Cons:
    - Requires a larger sample (Casper & Arbour, 2013)
    - Not effective when it is passed in utero, when the provider and nurse are not in collaboration, or the meconium is thrown away in the diaper (Wood et al., 2014)
    - Longer wait for results.
- Umbilical Cord Testing
  - Pros:
    - Cord blood testing is easier to collect, produces more accurate results, and has a quicker turnaround time (Casper & Arbour, 2013)
    - Available from every newborn, non-invasive, and does not rely on parent participation
  - **Cons:**
    - Drugs given to mother at delivery can be detected (Palmer et al., 2017)
- Chain of Custody
  - Notify pediatrician of mother's positive drug screen
  - Notify social work of results.

## Recommendations

- Further analysis of umbilical cord sampling costs
- Discuss findings and recommendations with FBP leadership and FBP Professional Practice Committee
- Change practice from meconium testing to umbilical cord testing to improve accuracy and decrease turnaround time

Full list of references available upon request