Neonatal Abstinence Syndrome

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How Bad is the Problem?

• Highest overdose deaths in the nation at 28.9 per 100,000.

• The number of drug overdose deaths - a majority of which are from prescription drugs - in West Virginia increased by 605 percent since 1999 when the rate was 4.1 per 100,000.
2009 Study by MU Medical Center

- Bluefield Regional Medical Center (BRMC)
- Raleigh General Hospital (RGH)
- Thomas Memorial Hospital (TMH)
- Charleston Area Medical Center (CAMC)
- Cabell Huntington Hospital (CHH)
- Ruby Memorial Hospital (RMH)
- Wheeling Hospital (WH)
- City Hospital Martinsburg (CH)
759 Total Umbilical Cord Samples

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Number</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRMC</td>
<td>50</td>
<td>6.6</td>
</tr>
<tr>
<td>RGH</td>
<td>83</td>
<td>10.9</td>
</tr>
<tr>
<td>TMH</td>
<td>59</td>
<td>7.8</td>
</tr>
<tr>
<td>CAMC</td>
<td>133</td>
<td>17.5</td>
</tr>
<tr>
<td>CHH</td>
<td>245</td>
<td>32.2</td>
</tr>
<tr>
<td>RMH</td>
<td>52</td>
<td>6.9</td>
</tr>
<tr>
<td>WH</td>
<td>65</td>
<td>8.6</td>
</tr>
<tr>
<td>CH</td>
<td>72</td>
<td>9.5</td>
</tr>
</tbody>
</table>
## Results

<table>
<thead>
<tr>
<th>Drug Class</th>
<th>Number</th>
<th>% of Positives (146)</th>
<th>% of population (759)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amphetamines</td>
<td>1</td>
<td>&lt;1</td>
<td>&lt;1</td>
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<tr>
<td>Cocaine</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Opiates</td>
<td>41</td>
<td>28</td>
<td>5.4</td>
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<tr>
<td>Cannabinoids</td>
<td>58</td>
<td>40</td>
<td>7.6</td>
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<tr>
<td>Benzodiazepines</td>
<td>17</td>
<td>12</td>
<td>2.2</td>
</tr>
<tr>
<td>Methadone</td>
<td>14</td>
<td>10</td>
<td>1.8</td>
</tr>
<tr>
<td>Alcohol</td>
<td>39</td>
<td>27</td>
<td>5.1</td>
</tr>
</tbody>
</table>
Poly Pharmacy was very common
Benzodiazepines

- CNS depressants
- Ativan (lorazepam), Dalmane (flurazepam), Diastat or Valium (diazepam), Doral (quazepam),
- Halcion (triazolam), Klonopin (clonazepam), Librium (chlordiazepoxide), Paxipam (halazepam),
- ProSom (estazolam), Restoril (temazepam), Serax (oxazepam), Tranxene-SD (clorazepate),
- Xanax (alprazolam)
Methadone

- Methadone is an opioid medication. An opioid is sometimes called a narcotic. Methadone reduces withdrawal symptoms in people addicted to heroin or other narcotic drugs without causing the "high" associated with the drug addiction.
Withdrawal Onsets

Drug Approximate time to onset of withdrawal symptoms

• Barbiturates 4-7 days but can range from 1-14 days
• Cocaine Usually no withdrawal signs but sometimes neurobehavioral abnormalities (decreased arousal and physiologic stress) occur at 48-60 hours
• Alcohol 3-12 hours
• Heroin Within 24 hours
• Marijuana Usually no clinical withdrawal signs
• Methadone 3 days but up to 5-7 days; rate of severity of withdraw cannot be correlated to dose of maternal methadone
• Methamphetamines Usually no withdrawal signs but sometimes neurobehavioral abnormalities (decreased arousal, increased physiologic stress, and poor quality of movement) occur at 48-60 hours
• Opioids 24-36 hours but can be up to 5-7 days
Welcome.

Welcome to Lily's Place, a new pediatric addiction recovery center in Huntington, West Virginia.

For current updates, please follow us on Facebook and Twitter.

www.Facebook.com/AddictedBabies
www.Twitter.com/Addicted_Babies
Neonatal Abstinence Syndrome

- NAS refers to a cluster of symptoms in a newborn due to substance abuse of opioids and/or sedatives of the mother during pregnancy.
- Opioids: Pain medications such as oxycontin, morphine, codeine, hydrocodone.
- Sedative: Drug taken for calming effect such as xanax.
- Heroin: A opioid derivative of morphine but illegal in any form.
• Clinical presentation of opioid withdrawal:
  – Clinical presentation varies with the opioid, history of maternal substance use, maternal metabolism, transplacental drug transfer, and infant metabolism and excretion.
  – The central nervous system and gastrointestinal tract are most commonly affected.
  – Onset ranges from within ages 24 to 72 hours.
  – Subacute symptoms can last up to 6 months.
  – Seizures occur in 2% to 11% of infants, and abnormal electroencephalogram results occur in more than 30% of infants.
Withdrawal

• NAS generally is a result of the infant withdrawing from the drug.
• Onset usually occurs during the first 2-7 days and peak between 10-21 days.
• May last up to 6 months.
• Withdrawal in full term infants many begin earlier in first 1-2 days.
Signs and Symptoms

- Excessive or high-pitched crying.
- Sleeplessness
- Tremors, jitteriness
- Sweating
- Nasal stuffiness
- Excessive sucking
- Poor feeding
- Vomiting and diarrhea
- Seizures
Video
Management of Withdrawal

• Baby may be weaned from medication with decreasing doses of morphine or methadone.

• Sometimes phenobarbital is added and/or used as outpatient medication.

• Phenobarbital is central nervous system depressant. Helps relieve symptoms including seizures.
Supportive Management

• Quiet and calm environment
• Slow, steady handling with quiet voices.
• Dim lighting.
• Gentle massage.
• Organize care to minimize handling.
Supportive Management

• Swaddling
• Can result in fewer tremors, stable respirations, and better sucking.
• Not too tight or no overdressing.
• Don’t want blanket over the face or don’t want to overheat.
Supportive Management

• Respond to distress cues.
• Feed on demand and feed in a quiet environment.
• May need small feeds with frequent rests.
• Use a pacifier
• Use mittens to prevent scratching and over sucking of fists. No lotions or creams on hands as baby might suck it.
Supportive Management

- Frequent bowel movements may lead to severe skin irritation.
- Check diaper frequently.
- Use diaper ointment for prevention and treatment.
Supportive Management

Be on the lookout for signs of dehydration

• Thirst
• Less elasticity in the skin
• Eyes and fontanel (or soft spot on head) appear sunken
• Decrease or absence of tears
• Dry mouth
• Decrease number of wet diapers
Individual Health Care Plans

• Many of these techniques are contrary to what you have been taught.
• Individualized health care plans are a must. Orders and instructions from the physician must be in writing to support medication administration, swaddling, and perhaps alternate sleeping positions.
NAS Tool Kit Now Available Online

Click here to access the toolkit

Maternal Drug Use

The use of illicit and legal drugs and alcohol among pregnant women has been reported as a major factor in West Virginia’s poor newborn outcomes. The increase in the number of chemically-dependent babies presents a cost to society. The Perinatal Partnership has identified the problem in detail and made policy recommendations for the treatment of both pregnant women and newborns. This information is contained in the Reports on the Blueprint to Improve Perinatal Health, and the partners are working now to implement the recommendations.

Drug-Free Moms and Babies ("DFMB") Project - Grants Available

The West Virginia Perinatal Partnership is pleased to announce the availability of funding for projects to provide comprehensive services for pregnant women with substance abuse problems. The new Drug Free Moms and Babies Project will provide funds for up to four pilot sites around the state. Download any or all of the following:

- Full announcement of the DFMB Project (PDF format)
- DFMB Request for Proposal (MS Word 2007 format)
- List of hospitals that participated in 2009 umbilical cord study (MS Word 2007 format)
Activity

• What are some of the barriers to caring for these infants in a child care setting?

• Suggestions to help meet the need in the child care setting.