MIHP & NICU BABIES 101

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Presentation adapted from 2012 power point titled: "The care of Preemies and Multiples" by Karen Pawloski, RN, BSN
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MIHP Infant Risk Identifier

3	BIRTH HEALTH STATUS

What was your baby's expected due date? (MM/DD/YYYY) ☐ / ☐ / ☐ ☐ REFUSED

What was your baby's gestational age at birth? ☐ *Weeks* Note: *Calculate from the expected due date and actual date of birth information if unknown*

How much did your baby weight at birth? ☐ *Pounds* ☐ *Ounces* ☐ Unknown

What was your baby's height (length) at birth? ☐ *Inches* ☐ unknown

How much does your baby weigh now? ☐ *Pounds* ☐ *Ounces* ☐ unknown

What is your baby's height (length) now? ☐ *Inches* ☐ unknown

Was this baby delivered by vaginal birth or C-section? ☐ vaginal ☐ C-section

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Michigan Department of Community Health
Maternal Infant Health Program
Infant Risk Identifier – Infant Component

Did your baby stay in the hospital after you went home? ☐ Yes ☐ No

How long did your baby stay in the hospital? Days ☐

What was the reason for the stay? ☐

Since coming home from the hospital, has your baby been seen by a doctor for problems he/she had in the hospital?? ☐ Yes ☐ No If yes, please explain: ☐

Has your baby had any new health problems since coming home from the hospital? ☐ Yes ☐ No

If yes, please explain: ☐

Has your baby been diagnosed with any birth defects (congenital anomalies, etc.)? ☐ Yes ☐ No

If yes, please explain: ☐

Were you told that the baby needed an additional hearing test? ☐ Yes ☐ No If yes, explain: ☐

Did the baby have the additional test? ☐ Yes ☐ No *If Yes*, what was the result? ☐

If No, why not?

- ☐ Didn't have transportation
- ☐ Didn't understand what you needed to do
- ☐ Didn't feel it was important
- ☐ Didn't know who to call
- ☐ Physician/ medical care provider said to wait
- ☐ Other: ☐

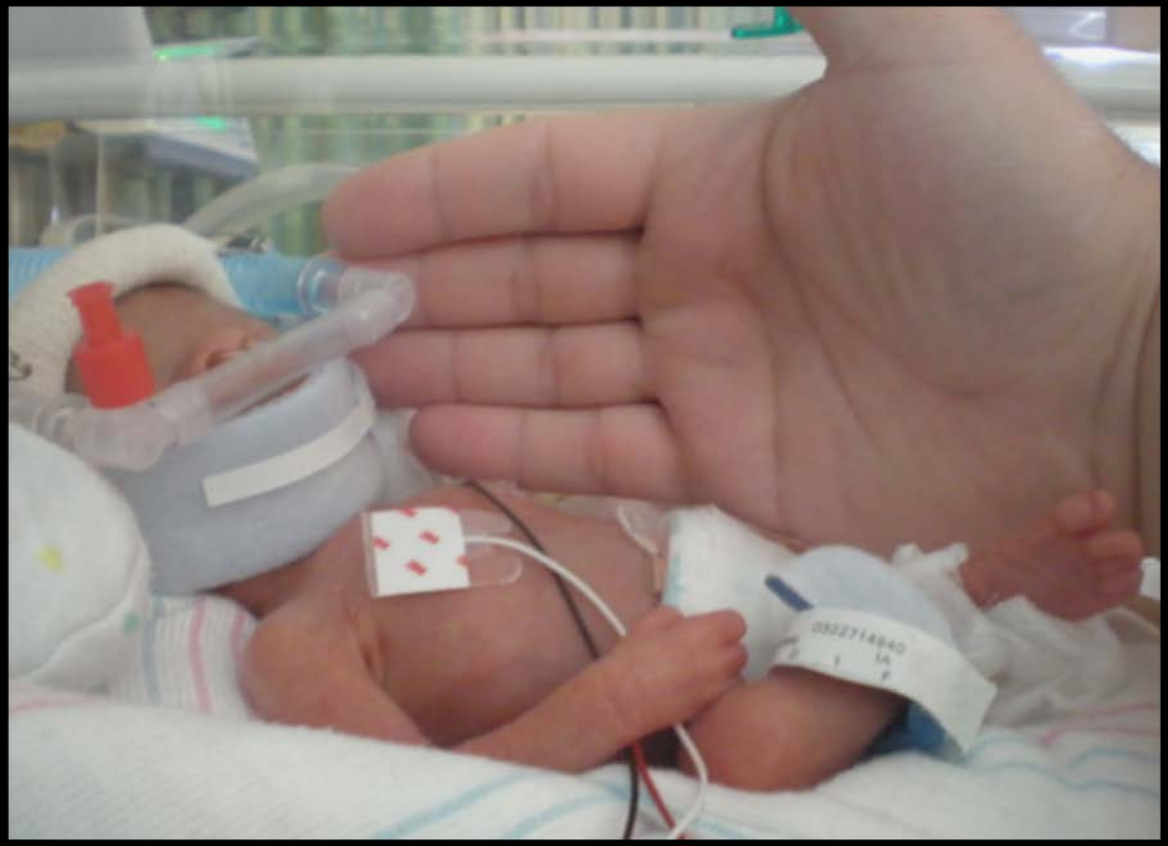
MIHP Infant Plan of Care

MATERNAL INFANT HEALTH PROGRAM (MIHP)
INFANT PLAN OF CARE
Part 1

Beneficiary: **Care Coordinator:**

	Education packet and Text4baby messages include:
Infant Health	1. Well baby care: ✓ Immunizations and illness prevention ✓ Oral health care ✓ Newborn health risks ✓ Daily routine (including sleep/wake schedule, feeding strategies, hunger cues, hydration, bathing, calming) ✓ Importance of Physical Activity (4x4) 2. Importance of attachment 3. How to feel comfortable and confident caring for infant
Infant Safety	1. Safe sleep 2. Car seat safety 3. Shaken baby 4. Environmental risks including: ✓ Tobacco smoke (4x4) ✓ Hot liquids ✓ Pests and pets ✓ Lead ✓ At 6 months include choking, falls, poisons, gun safety, drowning, childproofing the home
Feeding and Nutrition	1. WIC 2. Benefits of breastfeeding 3. Bottle feeding basics (including importance of holding baby for attachment) 4. Feeding routine (4x4) including: ✓ Feeding choices (i.e., introduction of complementary/solid food, vitamins, supplements) ✓ Hunger/satiation cues ✓ Feeding strategies (e.g., holding, burping, etc.) ✓ Identification of food sensitivities ✓ Anticipated weight gain
General Development	1. Hallmarks of physical development of infants 2. Hallmarks of social/emotional development of infants: ✓ Cries, coos, smiles ✓ Looks at faces ✓ Seeks comfort (e.g.t urns to parent or caregiver when scared or unsure) ✓ Shows excitement ✓ Calms down when hurt or upset when comforted by a familiar adult ✓ Is curious about new people and things around him ✓ Actively explores new places/ likes to discover new things ✓ Likes to discover new things

Premature Babies



Objectives

- Characteristics of premature babies
- Chronological versus adjusted/corrected age
- Feeding concerns
- Medical issues
- Car seat challenge
- Issues of multiple babies

Common Terms

- Premature infant: born before 37 weeks
- Low birth weight: less than 2500 grams (5 lbs. 8 oz.)
- Very low birth weight: less than 1500 grams (3 lbs. 5 oz.)
- Extremely low birth weight: less than 1000 grams (2 lbs. 3 oz.)

Chronological v. Adjusted age

- Gestational age: from the date of the first day of last menstrual period to the birth date of the baby
- Chronological age: age from date of birth (i.e. one month, two months.)
- Corrected/Adjusted age: age of baby based on the expected delivery date (calculated by subtracting the number of weeks born before 40 weeks gestation from the chronological age.
  - Example: Baby Annie born at 33 weeks; her chronological age is 2 months; calculation: 40 weeks-33 weeks=7 weeks; 8 weeks-7 weeks=1 week so Baby Annie's corrected/adjusted age is 1 week. Her expected developmental functioning should be that of a 1 week old.

Medical Issues of premature babies

- Respiratory
  - Bronchopulmonary dysplasia (chronic lung disease)-may be discharged home on nasal cannula oxygen
  - Ventilator dependent-need for tracheostomy tube-concerns include ventilator dependent lung disease; anatomic concerns; risk for aspiration; central nervous system disorders; neuromuscular disorders (i.e. impairment and/or weakness)
  - Apnea of prematurity-babies not breathing for 20 seconds or more, bradycardia and/or cyanosis. Babies may be discharged with an apnea monitor and may be prescribed caffeine.

Babies with ventilators

- See doctors called Pulmonologists
- Usually will have three ventilation machines: home, back up and travel.
- Families should have a "go" bag always ready that has all of the necessary vent equipment when leaving home with their baby
- Suctioning machine
- May have a home care nurse assigned for 8-12 hours per day

Eye Problems

- Retinopathy of Prematurity (ROP)
  - Blood flow problems behind the eye (retina)
  - Second most common cause of childhood blindness (i.e. Stevie Wonder)
  - Rare in babies born after 32 weeks
  - 51% of infants born between 23 and 31 weeks
  - 89% of infants born under 27 weeks
  - Other reasons babies may have ROP: oxygen exposure, mechanical ventilation, systemic infection, blood transfusion and interventricular hemorrhage (i.e. bleeding of the brain)

Gastrointestinal Issues

- GERD-gastro-esophageal reflux disease
- Colic
- Oral aversion: not wanting to take the breast/bottle
- Constipation
- Need for enteral/feeding tubes
- Necrotizing enterocolitis: tissue death in a portion of the bowel
- Short bowel syndrome: malabsorption problems due to surgery of the small intestines

Neurologic Issues

- Intraventricular hemorrhage (brain bleeding)
- Hydrocephalus ("water on the brain")
- Brain injury (brain trauma)
- Cerebral palsy
- Delayed neurodevelopment

Neurodevelopmental Delays

- Healthy premature babies usually catch up by two years of age
- Correct for prematurity until the adjusted/corrected age of 24 months when using developmental assessment/testing tools
- Delays in speech and language are the most common developmental challenges of premature babies
- Early intervention: referral to Early On required for babies with developmental delays

Methods of Feeding NICU babies

- Different ways to feed babies
  - Breastfeeding
  - Bottle feeding either formula or breast milk
  - Tube feeding
    - Nasogastric (NG) tube-nose to stomach
    - Nasojejunal (NJ) tube-nose to small bowel
    - Gastronomy (G) tube-small tube into the stomach (incision)

Breastfeeding Concerns

Breastfeeding Concerns

- Frequency: baby feeding less than 8 times in a 24 hour period or less than every 3 hours
- Baby taking greater than 25 minutes per feeding
- Mother cannot describe effective latch on during breastfeeding
- Having problems with latch, slipping on/off during the feeding
- Pain with breastfeeding
- Baby remains hungry after taking both breasts
- Baby having less than 6 wet diapers per day
- Baby having infrequent bowel movements and/or still is not yellow
- Projectile vomiting
- Arching, choking, gagging with feeding

Breastfeeding and the Premature Baby

- Triple feeding: breastfeeding, pumping and bottle feeding the remainder of the feeding to the baby
- May need nipple shield for help latching and staying latched until term or a few weeks past term
- Feeding every three hours, not on a demand schedule
- May breastfeed one side and then bottle feed afterward
- Feedings should take 20-25 minutes total
- Baby may not stay awake for the whole feeding

Maintaining mom's milk supply

- Preterm infants are not always able to empty mom's breast with direct breastfeeding
- If mom still feels milk in her breast after her baby has breast fed, she can pump out the remaining milk. It is necessary to have all of the breast milk out of the breast for new milk to be made
- The baby's health insurance should cover a high quality breast pump and/or some WIC clinics have hospital grade breast pumps available for mothers in need

Bottle Feeding Concerns

- Taking more than 20-25 minutes per feeding
- Not drinking the recommended number of feedings per day
- Not drinking the recommended amount at each feeding
- Vomiting after feedings
- Mixing formula preparations correctly
- Refusing feedings-pulling away, shaking head
- Babies with infrequent bowel movements/constipation
- Babies with infrequent wet diapers (i.e. less than 6 per day)
- Arching, choking and gagging during feeding

Special considerations for babies that are receiving tube feedings

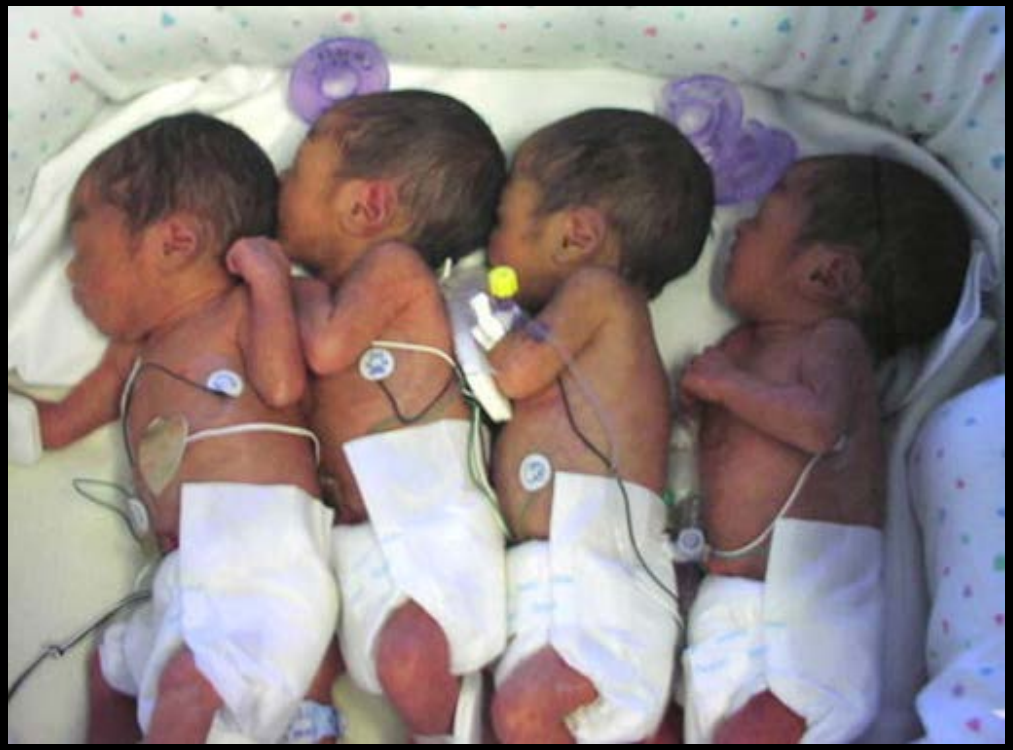
- Babies should be fed by tube feeding for at least 15 minutes per feeding
- Babies can have a pacifier in their mouths during feeding
- Babies should be held with feedings

Car Seat Challenge

Car Seat Challenge

- Car seat test involves placing the baby in a car seat for at least 1 ½ hours while being monitored to determine if it is safe for the baby to ride home in a car seat
- The baby is being monitored for cardiac and/or respiratory problems while in the car seat.
- May need to do the test longer if the baby lives more than 1 ½ hours from the hospital
- This test is for babies under 37 weeks, under 5 pounds and for babies with certain medical conditions (i.e. cardiac problems…)

Multiple Babies



Multiple Babies
Average Gestation

- Twins: average 35 weeks gestation/average weight 5.5#
- Triplets: average 32 weeks gestation/average weight 4#
- Quadruplets: average 29 weeks gestation/average weight 3#

Multiple Babies
Percent NICU Admission

- Twins 25%
- Triplets 75%
- Quadruplets 100%

Risk for Multiple Babies

Have a higher risk of:

- Premature birth
- Respiratory distress syndrome
- Chronic lung disease
- Infection
- Apnea of prematurity
- Retinopathy of prematurity
- Brain hemorrhage
- In uterine growth retardation (IUGR)
- Congenital anomalies
- Developmental delays

Psychosocial concerns with multiple babies

- Emotional impact: greater than 25% of parents demonstrate depression or anxiety in the perinatal period

- Families in need of early intervention, social work and connection to community resources

Social concerns with multiple babies

- Financial concerns
  - Feeding/clothing more than one baby can be costly
  - Missing work to care for babies
  - Car seats and supplies for more than one baby
  - May need a bigger vehicle to safely transport babies

Developmental Assessment Clinic

A Developmental Assessment Clinic (DAC) is an "organized follow-up program that tracks and records medical and neurodevelopmental outcomes " (Guidelines for Perinatal Care, 7th edition) and links families to needed medical and community resources. All NICUs in Michigan are required to either operate a DAC or refer to a DAC at a partnering hospital.

Neurodevelopmental Assessment Clinic (DAC)

- Babies born very prematurely
- Babies with very low birth weights (under 1500 grams)
- Babies who have experienced hypoxic ischemic encephalopathy (body cooling)
- Babies with health issues as determined by their physician

Questions?

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