Lactation Support in the NICU: 10 Steps for Human Milk & Breastfeeding in Vulnerable Infants & Breastfeeding Resource Nurse Models

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Director of CHOP’s Mothers’ Milk Bank
The Children’s Hospital of Philadelphia

- 565 bed hospital
  - Neonatal Intensive Care Unit
    - 99 bed intensive care nursery
    - Surgical and non-surgical cases
  - Over 400 staff nurses
  - Cardiac Intensive Care Unit
    - 26 beds—approximately 2/3rds are infants
  - 14 other inpatient units
  - Special Delivery Unit opened in 2008
- Usually 100-200 infants receiving human milk
CHOP Human Milk & Breastfeeding Culture

- Developed over the past 15 years
  - 99% pumping initiation rate in our Special Delivery Unit for past 8 years
  - Over 86% of our infants are discharged on human milk breastfeeding
  - Mean/median breastfeeding duration post-discharge is 8 months with range up to 30 months!

- Mandatory education for all NICU nurses
- Quality improvement and research projects
- Standards, policies, and patient family education
Comprehensive Models of Care

- Spatz (2004) 10 Step Model
- Hospital wide breastfeeding committee & unit based committee
- IBCLCs for NICU & hospital wide
- Human milk as a medical intervention
- Center for Fetal Diagnosis & Treatment
  - Group prenatal care & personalized 1:1 prenatal lactation intervention
- Power of Pumping DVD [www.chop.edu/breastfeeding](http://www.chop.edu/breastfeeding)
- GEMS group (Group of Empowered Moms)-weekly support group
- Extensive intranet site
- Extensive external website
- Donor milk & HMBANA milk bank
Role of IBCLC versus Nurse

- **Worldwide the IBCLC is a cost-prohibitive designation**

- Breastfeeding Resource Model
  - 90% of nurses report providing direct breastfeeding assistance & support


Nurse Driven Evidence Based Lactation Support & Care

• Integration of human milk and breastfeeding support as part of routine care provided by nurses

• Nurses need science and education to provide evidence based support
NICU INFANTS NEED A DIFFERENT MODEL TO ENSURE RECEIPT OF HUMAN MILK
Mothers of NICU Infants Need Different Care than BFHI

<table>
<thead>
<tr>
<th>Healthy Infants</th>
<th>NICU infants</th>
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<tr>
<td>• BFHI has been well implemented in world but has only recently gained momentum in United States</td>
<td>• Hospitals that care for NICU infants need multiple policies to ensure infants receive human milk &amp; breastfeed</td>
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<tr>
<td>• <strong>Focus is on healthy term infants</strong></td>
<td>• Pumping initiation</td>
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<tr>
<td>• <a href="http://www.babyfriendlyusa.org/">http://www.babyfriendlyusa.org/</a></td>
<td>• Label &amp; storage</td>
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<td></td>
<td>• Skin to skin</td>
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<td>• Oral care</td>
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<td></td>
<td>• Transition to at breastfeeds</td>
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<td>• Need for technology!</td>
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Mothers of NICU Infants Need Different Care than BFHI

• Sweden conferences-2011 & 2015
  • Concerns about cross-cultural applicability

• World Health Organization
  • Each country should develop own methods for the NICU
  • 11/32 countries

THE BFHI INITIATIVE IN NEONATAL UNITS

PROPOSAL FROM A NORDIC AND QUEBEC WORKING GROUP
THREE GUIDING PRINCIPLES AND TEN STEPS: SUPPORTING BREASTFEEDING AND FAMILY-CENTERED CARE
DRAFT FOR THE 1ST INTERNATIONAL CONFERENCE AND WORKSHOP ON THE EXPANSION OF THE BABY FRIENDLY HOSPITAL INITIATIVE IN NEONATAL UNITS
14th-16th September 2011 in Uppsala, Sweden

Unicef UK Baby Friendly Initiative Standards for neonatal units

The Baby Friendly Initiative is a global programme of the World Health Organization (WHO) and Unicef. In the UK, the Baby Friendly Initiative has been working with public services for more than 20 years, supporting breastfeeding and parent-infant relationships to give babies the best possible start in life.

Since its introduction, Baby Friendly has fundamentally improved levels of care around infant feeding in the UK, and is now recognised as the minimum standard of care provision by The National Institute for Health and Care Excellence (NICE).

In 2012, we developed our standards to accommodate the unique needs of preterm and ill babies, to give them the best possible start in life through breastfeeding and breastfeeding and building strong family relationships. With a skilled and knowledgeable team to guide you through implementation, we offer bespoke courses and resources to support the journey to Baby Friendly accreditation. In this way, neonatal units can achieve a nationally recognised set of standards leading to better outcomes for all babies on neonatal units.
Ten Steps for Promoting and Protecting Breastfeeding for Vulnerable Infants

*Diane L. Spatz, PhD, RNC*

Human milk is the preferred food for infants, including ill and preterm infants. Ensuring skilled and comprehensive breastfeeding support for these vulnerable infants requires a specialized approach. The author outlines 10 steps for promoting and protecting breastfeeding in vulnerable infants. The steps include providing the parents with information necessary to make an informed decision to breastfeed; assisting the mother with the establishment and maintenance of a milk supply; ensuring correct breast milk management (storage and handling) techniques; developing procedures and approaches to feeding the infant breast milk; providing skin-to-skin care (kangaroo care) and opportunities for nonnutritive sucking at the breast; managing the transition to the breast; measuring milk transfer; preparing the infant and the family for infant hospital discharge; and providing appropriate follow-up care. Material and examples are drawn from the author’s research and clinical work at the Children’s Hospital of Philadelphia. Current research is utilized, and the role of the nurse is emphasized throughout. **Key words:** breastfeeding, human milk, nonnutritive sucking, skin-to-skin care

Ten Steps for Promoting/Protecting Breastfeeding in the Vulnerable Infant

- Step 1: Informed decision
- Step 2: Establishment & maintenance of milk supply
- Step 3: Human milk management
- Step 4: Feeding the infant the milk
- Step 5: Skin-to-skin care
- Step 6: Non-nutritive sucking
- Step 7: Transition to breast
- Step 8: Measuring milk transfer
- Step 9: Preparation for discharge
- Step 10: Appropriate follow-up

*14 years of published outcomes from CHOP & other institutions worldwide
Spatz 10 Steps at TGH

• Increase in number of mothers pumping < 6 hours post-delivery
• Increase in patient satisfaction
• Increase in # of infants receiving human milk as first feed
• **Human milk at discharge rate increase 3 fold!**

Note: all were statistically significant findings!
2013 to present: Human milk rates at discharge have increased 3 to 6 fold!
2nd International Conference on BF Sick Babies (March 12-14, 2014)

Kriengsak Jirapat, MD

DG Suphan Srithamma, MD

Prof. Diane L. Spatz

2014

Poster Presentations from Pilot Hospitals
Charoenkrung Pracharak Hospital is a tertiary care hospital with 400 beds, NICU 10 beds and Nursery 30 beds. We have been providing breastfeeding service for well babies and sick babies for many years. After the 10 steps program was launched, our process became more organized.

**Step 1 Information decision:** Breast milk as medicine & vaccine
   - Prenatal
   - Postnatal

We established the flip chart to help moms understand the ten steps.

**Step 2 Establishment & maintenance of milk supply**

**Step 3 Human milk management**
- Bins system
- Pumping unit for mom at NICU

**Step 4 Care & Feeding Human milk**
- Oral care by the first drop of colostrum by nurse and MOM

**Step 5 Skin-to-skin contact**
- Even while baby in incubated by MOM & DAO

**Step 6 Non nutritive sucking**

**Step 7 Transition to breast**
Step 8: Measuring milk transfer

- Noses are encouraged

Step 9: Preparation for discharge

- Record every meal to do by themselves

Step 10: Appropriate follow up

- Telephone call from NICU nurse at day 3, 7, 14, 30 after discharge
- Follow up in high risk clinic with neonatologists

Free room for mom to stay with the baby

The logbook of LOVE & VACCINE from MOM:

We designed a form for MOM to record what they have tried with their babies since day 1, e.g., the time & frequency of expressing milk, the volume they got, the time spent in skin to skin contact, the babies feedings & weight and ... their feeling.

This logbook helps MOMs to recognize the importance of their milk.

Bedside LOVE chart:

We have a star chart at every baby's incubator. These tell MOMs and nurses which cups of the ten steps they achieved and what to do next. We call this the "LOVE chart". Each step they achieve, we put 1 heart sign.

Peer group support:

As MOMs live together for a long time, they help each other and share their feelings.

Album from MOM to MOM:

We have the albums in moms' room, they can express their feeling... about the babies, the milk and provide encouragement for the new MOM.

Every year we have an "NICU reunion"

All success depends on a multidisciplinary team
Thailand

• Currently, over 25 hospitals have completed full implementation
• By 2020, all NICUs in Thailand will fully implemented
• Flipchart created for teaching & implementing
2016-Implementation of Spatz 10 Steps in NICUs in India

- Delhi
  - Dr. RML Hospital
  - Fortis Medical Research Institute
  - Kalawati Children’s Hospital
- No mothers had normal milk supply
- Use of formula was commonplace
- Provided ½ day to full day education & training
2016-Implementation of Spatz 10 Steps in NICUs in India

• Jaipur NICUs
  • 5 government hospitals representing over 100,000 births with a 25% NICU admission rate

• Units had be closed to parents
  • All babies were getting formula as first feed

• Intensive 5 day course
  • Didactic, skills fair, role playing and interventions in the NICU

• Educated 50 nurses as “Lactation Resource Nurses”
  • Mothers in NICU for first time
  • Establish pumping stations
2016-Implementation of Spatz 10 Steps in NICUs in India

- Created documentation & tracking systems
China-2016

- 8 city speaking & consultation tour to implement my 10 step and BRN model
- Most units are closed to families!
- Nurse patient ratio is 1:10
Call to Action

• Directors of NICUs globally need to make human milk a priority
• Nurses need specific human milk & breastfeeding education & training for the NICU

• Nurses need time and support to provide evidence based lactation support and care
• Technology is essential for normal milk supply
Thank You!

• To contact me: spatz@nursing.upenn.edu

For more information: http://www.aannet.org/edge-runners--10-steps-to-promote-and-protect-human-milk