NICU Music Therapy

The infant as a fetus is part of a system dependent upon both physical and emotional factors of another human being. From the perspective of music as therapy, working with meter and respiratory and heart rates of both the mother and infant within the context of entrainment can have important medical implications. The life rhythm of the heart is the first sound that a developing fetus hears in the womb. The significance of a steady pulse has been noted as a primary means of awareness, as in the concept of a basic beat (Nordoff-Robbins, 1975) and has been an indicant of neurological functioning in older adults (Tomaino, 1999, Lair et al., 1995). Aspects of rhythm and breath work have been incorporated in complimentary medicine programs as a method of enhancing relaxation in pregnant women.

Working with the emotional concerns of pregnant mothers can be effective in reducing stress and anxiety that may be transferred to the fetus during pregnancy. Since the fetus responds to the mother’s blood flow that is influenced by emotion and affect, music psychotherapy for expectant parents is useful for addressing these physiological measures and has important implications for the music therapist working with pregnant women.

The developing relationship between mother and fetus has received little attention in the music therapy literature. McKinney (1990) provided a review of music therapy used in obstetrics and cited three studies that incorporated GIM (Linquist, 1985) music therapy using directed imagery and recorded music (Winslow, 1986), and progressive muscle relaxation using recorded music (Liebman, 1989). She provided insight not only about how music therapy may be used, but, in addition, provided psychological rationale supporting the recognition that high anxiety and unresolved conflicts during pregnancy may have negative effects on the progress of labor and the incidence of obstetrical complications.

The positive implications noted in these three music therapy studies, though lacking in the use of live music, do provide compelling case material that supports the use of music therapy, particularly to empower and strengthen pregnant mother’s sense of well-being during a time of increased vulnerability. McKinney notes that interventions designed to have a positive impact on psychological variables may also positively affect the physical variables.

When one considers implementing music therapy in the NICU, the conditions of the environment cannot be overlooked. The sound environment must be nurturing and should reduce stress for the neonate and parent/s. Parents of premature babies might feel that their role is minimal. This may set-up feelings of guilt and inadequacy; parents often feel powerless at a time when they thought they would have full control (pregnancy). Therefore, teaching ways to provide and nurture within the baby’s sound environment may be medically advantageous while at the same time serve to be critical in the bonding process.

There are Criteria for Referral, developed for purposes of clarity and explanation. Based on the literature and attending neonatologist’s recommendations, the gestational age of >32 weeks was established although referrals for infants < 32wks gestation can be made on a case-by-case basis. The Criteria for Referral describes what a clinical music therapy intervention may look &/or sound like. The interventions that are used in the Louis Armstrong Music Therapy Program primarily involve the use of live music.

Team members may have concerns about the amount of stimulation music therapy induces therefore it is important to utilize a sound meter, ensuring that the decibel level does not exceed 55dBs. It is necessary to organize therapy time with the nurses in order that optimal cluster care can be provided. The nurses are aware of the infant’s feeding schedule, times of particular irritability, tests and procedures and can assist in the implementation of music therapies. Referral criteria are briefly described on the following page.

Continued next column

Continued page 2
**Music Therapy Program at the Maria Fareri Children’s Hospital**

The art of soothing souls & healing broken spirits takes place every day at the Maria Fareri Children’s Hospital; one that offers a total healing environment infused with a therapeutic and artistic atmosphere.

The “Heather on Earth” Music Program at the MFCH recently received a generous gift of $35,000 from the “Heather on Earth” Foundation. – an organization that believes in the power of music to heal sick children provides funding to music programs within the walls of children’s hospitals that also supports this belief. Spearheading this mission within the MFCH is Laurie Park, a board certified music therapist.

Music therapy at MFCH consists of using musical activities, both vocal & instrumental to address patient needs related to respiration, chronic pain and physical rehabilitation to name a few. Music therapy has been shown to reduce pain & stress, enhance the immune system, improve emotional state of patients and even decrease length of stay. Ms. Park began the music therapy program at MFCH in 2005 in both the Neonatal and Pediatric Intensive Care Units. She provides live music therapy bedside to the children to help with a variety of needs as outlined above. To date this program has provided hundreds of patients and their families with a creative outlet to enhance relaxation reduce anxiety & pain and promote family bonding through music.

Laurie Park, MT-BC, Music Therapist Board Certified  
Music Therapy Coordinator, Maria Fareri Children’s Hospital  
Phone: 914-493-6640 E-mail: parkl@wcmc.com

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2006 Pediatric Academic Societies’ & Eastern SPR Annual Meetings Abstracts  
There was a total of 15 poster/paper submissions made by Faculty and Fellows of the RNICU at the MFCH at WMC to the 18th Annual ESPR meeting held March 17-19, 2006 at the Hyatt Regency Hotel in Old Greenwich, CT.  
**Presenters** included the following physicians:  
Interesting **articles/posters** included:  
- Prevalence of Congenital Cardiovascular Malformation varies between Whites, Blacks and Hispanics, Are Thyroid Hormones Stable as a Continuous Drip?, Outbreak of Para influenza Virus Type 3 in a NICU, Is proximity to a Nuclear Power Plant Associated with Increased Rate of Congenital Malformations?, Do TNF Polymorphisms Predict BPD?, Is the Pro-Inflammatory Response of preterm Infants Influenced by the Type of Surfactant?, Hydrolized Protein Formula for Gut Priming in VLBW Infants, Delivery of Gastrochisis Patients Before 37 weeks is Associated with Increased Morbidities, Single Nucleotide Polymorphysims of IL8 (-781) and Autistic Spectrum Disorders.  

**Thank you** to Dr. Lance Parton who is on the organizing Council of the ESPR and…  
**Congratulations** to Dr. Edmund LaGamma elected Secretary of this extension of the national organization.

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**Music Therapy Referral Criteria:**

1. **Bonding:** Incorporating Brazelton’s Neonatal Behavioral Assessment Scale, musical focus will emphasize infant-parent attachment. Music and soft singing with skin-skin contact will be encouraged.

2. **Irritability/Crying** (Intense high pitched): Music (lullabies & toning) will be offered as a means to contain sound environment for the infant in distress. Toning provides a blanket of steady sound to comfort and sustain a homeostatic environment. Tones enable the infant to trust his/her surroundings and offer an atmosphere of predictability.

3. **Respiratory Difficulties:** The Gato box and breath sounds can be used in helping the infant synchronize & regulate the rhythm of his/her breath. The Gato box provides a predictable rhythm that mimics the sound of a human heart.

4. **Feeding/Sucking/Weight gain:** Comfort sounds may be a catalyst for inducing gurgles & vegetative sucking. Soft, rhythmic sound scaping prior to feeding may assist in the infant’s suck, swallow, breathing coordination.

5. **Sedation/Sleep/Pain:** Music therapy can provide and environment of safety during painful procedures. Tonic tones that match the pitch of the infant’s cry, entrained with the meter of breath can ease and alter the experience/perception of pain.

6. **Self Regulation:** Simple, consistent rhythms & melodies can help organize & acclimate to the environment. Provides structure that assists in the development of self-nurturing behavior, psychological organization and neurological pathways.

**Music Therapy Assessment:** Assessment and documentation of such is essential for the music therapist. It substantiates the work in terms of providing a baseline for treatment that will follow. It should include the collection of heart and respiratory rates, oxygen saturation levels and the behavioral variances in the infant’s sleep & awake states. The infant’s response to the choice of instruments used is also of importance. It is useful for the music therapist to meet with the infant’s parent/s. Tape recording mother’s voice for the purposes of learning her vocal (speaking) melodic range as well as her vocal timbre (nasal, hoarse, airy) can have positive implications for the use of toning and singing when she may be unavailable for sessions.

Joanne V. Loewy DA, MT-BC  
Music Therapist Board Certified

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**Patient Web Page!**

A hospital stay can be quite disruptive to families, especially those with a child, grandchild, brother or sister in the Neonatal Intensive Care Unit.

MFCH at WMC is pleased to provide the parents of our infants in the NICU a free, private web page called a CarePage. This web page enables parents to more easily communicate with their friends and families and to receive messages of support as well.

MFCH supports the belief that providing for parents emotional and spiritual needs is an important part of maintaining one’s health.  

For questions, please call (888) 852-5521
The Lower Hudson Valley Perinatal Network (LHVPN) once again held a successful quarterly education meeting on April 25, 2006 at the Putnam National Golf Club, in Mahopac, NY. The meeting focused on the importance of immunizations (birth–two) in our communities. Vaccines are among the most successful and cost effective public health tools available for preventing disease and death. They not only help protect vaccinated individuals from developing potentially serious diseases, they also help protect entire communities by preventing and reducing the spread of infectious agents. Jean Klein, PHN and Immunization Coordinator for the Putnam County Department of Health, started the meeting with an overview of the changes and updates in the 2006 child/adolescent immunization schedule. (For an updated list please go to www.aap.org). The three presentations that followed focused on the changes and challenges of various vaccines. The speakers included; Dr. Steven Barone, Associate Pediatric Program Director, NYU School of Medicine, who led an interesting discussion on Tetanus-Diptheria-Pertussis, Influenza, and Meningitis vaccines, followed by Dr. William Zurhellen, Putnam Valley Pediatrics and President of the Putnam County Medical Society, who discussed Measles- Mumps-Rubella, Varicella, and Rotavirus vaccines, and ending the discussion was Dr. Jesse Hackle, Pomona Pediatrics PC, who discussed Polio and Hepatitis A & B vaccines.

In addition to detailing the changes and updates to the recommended vaccines for our children, the meeting also helped to introduce another very important aspect of immunization in our state: The New York State Immunization Information System (NYSIIS). On site to describe the system was Justina Kubasiak, Project Coordinator for Partners in Health Systems. The NYSIIS, Healthy Shot, is a confidential, computerized database for collecting and maintaining information regarding children’s vaccines. The meeting wrapped up with the county roundtable breakout groups where each county had the opportunity to come together and begin to develop an action plan for promoting and increasing immunization rates in each county. Congratulations on yet another successful meeting LHVPN! Please join the LHVPN for their June education meeting, Prematurity and Developmental Outcomes, June 20, 2006, Bright Horizons at Casperkill Golf Club, Poughkeepsie, NY. For more information please contact Cheryl Hunter-Grant, Executive Director at hunter-grantc@lhvpn.com or call 914-4936435.

CONGRATULATIONS!

To The Lower Hudson Valley Perinatal Network for their efforts in successfully acquiring a major grant from Westchester County for their clinical services program Healthy from Birth for Life Program. We look forward to the benefits this program will bring toward improving health care for women and children in our region.

March Of Dimes New York State Chapter

The MOD Hudson Valley Division provides programs of education, advocacy and community services in the counties of Dutchess, Orange, Putnam, Sullivan and Ulster to improve maternal and infant health, combat racial, ethnic, and geographic health disparities and increase awareness about and reduce the occurrence of premature births.

On January 30, 2003 the MOD Birth Defects Foundation launched a multi-year, multi-million dollar national Prematurity Campaign focusing on research, awareness, and education in an effort to reduce premature births. This effort will continue through 2010.

- Between 1993 & 2003, the rate of infants born preterm in the US increased nearly 12% (preterm=<37 weeks)*
- During 200-2002 (average) in New York, preterm birth rates were highest for African American infants (15.8%), followed by Native Americans (13%), Hispanics (11.8%), Whites (9.7%) and Asians (9.1%)*
- Healthy People 2010 goal for preterm birth is to reduce the occurrence to no more than 7.6% of live births. Preterm birth is less than 37 completed weeks of gestation.

<table>
<thead>
<tr>
<th>HUDSON VALLEY COUNTIES</th>
<th>% OF PREMATURE BIRTHS*</th>
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<tbody>
<tr>
<td>DUTCHESS</td>
<td>9.8</td>
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<tr>
<td>ORANGE</td>
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<tr>
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<td>10.6</td>
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<tr>
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*National Center for Health Statistics, 1999-2002 final natality data
We are interested in providing you with a newsletter that is relevant and of interest to you. Please contact us with perinatal topics you would like to see addressed.

For a copy of our newsletter or to be placed on our mailing list contact us by phone or e-mail.

Please see below the NYMC neonatal web site address to locate other issues of The Perinatal Gazette:

http://www.nymc.edu/neonatology

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