



Occupational Therapy Intervention in Neonatal Intensive Care Units: Position Paper

Rationale

Occupational therapy treatment for neonatal intensive care focuses on developmental treatment for premature babies and newborns and on providing guidance for their parents, in addition to demonstrating the value of routine occupational therapist involvement in Neonatal Intensive Care Units (NICU).

The purpose of occupational therapy intervention is to reduce the stressful conditions that the premature or newborn baby is exposed to as a result of the physiological immaturity of their various bodily systems, including the nervous system. The therapeutic intervention and parental guidance enables the identification of environmental conditions that bring about imbalance or stress for the baby. In this way, the occupational therapist provides important tools needed to respond to the infant's needs and to make the baby more comfortable. By this intervention, occupational therapist's help encourage the baby's physiological stability, serenity, vitality and the ability to interact with his/her physical and human environment.

The purpose of this paper is (a) to present the uniqueness of occupational therapy intervention in the area of intensive care treatment of premature babies and neonates and (b) to inform its professionals, the general public, clients, health service providers, educators, insurance representatives, referring parties and policy makers about the services provided by occupational therapists in this area.

The areas of professional knowledge required

Aside from the general professional knowledge needed, occupational therapists who practice neonatal therapeutic intervention must have a comprehensive knowledge of the medical situations and unique developmental conditions that characterize the infant population.



The unique, professional areas of knowledge required for the treatment of premature or newborn babies are:

- Knowledge and experience in pediatric and neonatal occupational therapy.
- Knowledge and therapeutic tools needed for evaluation and treatment.
- Knowledge and tools that are essential for identifying life-threatening conditions and for providing the appropriate immediate response.
- Knowledge and the ability to cope with the sensitive and complex situation that parents find themselves facing.
- Knowledge about organizing the environment and supporting the parents' ability to function under continuous, stressful conditions.

Areas of intervention and methods of treatment

Occupational therapy intervention in these units include direct intervention in treating the premature or newborn infant, and the provision of advice and guidance to the parents and to the NICU staff. Treatment methods include:

- Adapting and modifying the stimuli that the premature or newborn baby is exposed to, and providing the appropriate stimuli and guidance needed to encourage the development of sensory modulation and equilibrate the sleep wake cycles;
- Treatment in the areas of eating and feeding, and in this context, to encourage sucking, swallowing and eating skills;
- Maintaining adaptive positions that support the child and encourage development, including: methods of handling; adapting assistive devices such as splints, in cases of trauma or improper positioning of the limbs.
- Guiding parents to be actively involved in the day-to-day treatment of their premature or newborn baby, such as: The use of tactile, proprioceptive and vestibular stimuli; strengthening the infant's oral musculature and the functions needed for feeding.
- Assisting and instructing parents on methods through which they can continue to function at home and in the NICU simultaneously.



Treatment approaches

Occupational therapy approaches, such as sensory integration (SI) and the neurodevelopmental treatment approach (NDT), must be adapted to the medical condition of the premature or newborn infant, his/her physiological homeostasis and the baby's unique developmental and familial needs.

With consideration of the state of the art approaches that are currently prevalent in NICU units, occupational therapist also integrate the principles of Newborn Individualized Developmental Care Assessment Program (NIDCAP) within their treatment approaches. According to this approach, one must perform a careful observation of the behavior of each premature or newborn baby as a basis of adapting an individualized intervention plan and unique environment needed for the child's optimal development during his/her hospital stay.

Intervention settings

Occupational therapists work with premature or newborn infants in the NICU, neonatal departments and follow-up medical and developmental clinics in hospitals.

In order to achieve the most benefit for these infants and their families, it is recommended, for occupational therapists to determine if the need exists to continue treatment, monitoring and guidance in the various community ambulatory settings, such as local Child Development Centers.

The professional-therapeutic intervention process

The professional-therapeutic intervention process of occupational therapists is part of the multidisciplinary treatment program designed for each individual premature baby or newborn infant, according to his/her needs.

The intervention process is dynamic and must constantly adapt to the changing needs of the baby and his/her family. This process includes:

- A dynamic initial evaluation is carried out through observation, gathering data and administering assessments. This evaluation process is then applied throughout the entire intervention process.



- Building an intervention plan that is unique to each premature infant or neonate in coordination with the NICU staff.
- Guidance and consultation for the parents according to their needs. This includes demonstration on how to encourage the appropriate stimulation needed to help the child achieve the developmental milestones according to his/her adjusted age.
- Guiding and monitoring the baby and his/her family after discharge, with recommendations on to the proper way to adapt the home environment.
- Continued treatment and monitoring of premature babies that have somatic injuries as a result of their premature birth (such as bleeding in the brain, anoxia, etc.) throughout the life cycle.

Desirable results of professional-therapeutic intervention

The intended results of the therapeutic intervention of occupational therapists in their work with premature or newborn infants include, among other things:

- Influencing and encouraging behavior patterns appropriate to the baby's adjusted age.
- Encouraging good communication between the parents and their child (bonding).
- Developing the ability to take in and respond appropriately to stimuli, such as tactile, visual and auditory stimuli.
- Encouraging visual focus and the development of social communication within the infant's environment.
- Developing the ability to self-regulate and self-modulate.
- Developing the ability to take in nourishment through the mouth.
- Developing the ability to maintain a flexed posture, forming a basis for the development of functional bilateral movement (with an emphasis on the hands).
- Providing the parents with the tools they need to communicate with their baby, identify their baby's needs and provide suitable developmental stimuli.



In summary:

Research demonstrates that premature or newborn infants who receive developmental treatment in the NICU demonstrate better developmental results over the long and short term. These babies tend to be weaned off the need for oxygen earlier and develop more mature eating skills. All these represent important milestones for improvement and progress, and enable an earlier discharge from the hospital.

Occupational therapists, working as part of the interdisciplinary team, have comprehensive abilities, a unique perspective and the experience needed to help newborns and premature infants progress developmentally. The contribution of occupational therapy treatment is manifested in hospitalized populations, continuing monitoring and care units and in other continuation-of-care settings in the community, such as Child Development Centers, therapeutic kindergartens and special educational settings.

Premature birth is known to influence the normal progression of child development. Therefore, occupational therapy intervention is of great importance, whether with respect to continuous short or long term monitoring, treatment at specific points in time and/or for the prevention of developmental difficulties.

This position paper was written by a forum of occupational therapist with expertise in working with premature babies, Gila Rabinovich, Nurit Goldenberg, Miri Harel; and colleagues in the headquarters of the Ministry of Health, Gila Sharon, Orly Boni and Orna Tzarfati.

References

- Als, H., Duffy, F.H., McAnulty, G. B., Rivkin, M. J., Vajapeyam, S., Mulkern, R. V. et al. (2004) Early experience alters brain function and structure. *Pediatrics*, 113, 846-857.
- Grenier, I. R., Bigsby, R., Vergara, E. R., & Lester, B. M. (2003), Comparison of motor self-regulatory and stress behaviors of preterm infants across body positions. *American Journal of Occupational Therapy*, 57, 289-297.
- Hunter, J. G., (2005), Neonatal intensive care unit. In Jane Case-Smith (Ed.) *Occupational therapy for children* (5th ed., pp. 688-770).

e-mail: info@isot.org.il

www.isot.org.il



עמותה ישראלית לריפוי בעיסוק
The Israeli Society of Occupational Therapy
جمعية اسرأئيلية للعلاج بالتشغيل

Vergara, E., & Bigsby, R. (2004) *Developmental and therapeutic interventions in the NICU*. Baltimore: Paul H. Brookes

תורגם בסיוע המרכז הבין-תרבותי לירושלים במימון הקרן לירושלים

Translation was made possible by the support of the Jerusalem Intercultural Center and the Jerusalem Foundation