



Photographs by Petra Kern

Headphones on: A Music Listening Program for Pediatric Patients

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Disruption of Everyday Life

Children undergoing medical treatment are facing many challenges over which they have little or no control. Disruption of daily routines, being away from family and friends, medical examinations and procedures, incidence of pain, or side effects of treatments can lead to anxiety, fear, and influence the normal development of children. Besides medical treatments, various interventions are offered to children in pediatric health care facilities to prevent negative side effects of hospitalization and to support the patients' and family members' physical, cognitive, emotional, and social well-being (Wolfe & Waldon, 2009).

Pediatric Music Therapy

For many years, music therapy interventions have been effective and valid treatment options in medical health care, such as in the Intensive Care Unit (ICU), Neonatal Intensive Care Unit (NICU), Pre-, Intra-, and Post-operation, for medical and dental surgery, chronic pain management, and pediatrics (Standley, 2000).

Clinical research demonstrates that music therapy interventions have been successfully applied with pediatric patients during non-invasive medical procedures (such as Echocardiograms, Computer Tomography, Electroencephalograms, X-Rays, and Magnetic Resonance Imaging Scans) as well as invasive medical procedures (such as Intravenous Starts, and Central Line Insertions). Music therapy is used for reducing negative

side effects (such as anxiety/fear, pain, dizziness/nausea/vomiting), as well as for preventing or correcting negative impacts to children's development caused by illness or hospitalization (Standley et al., 2005; Standley & Whipple, 2003; Wolfe & Waldon, 2009).

The following are common goals and objectives of pediatric music therapy: to support relaxation, to reduce anxiety, to cope with pain, to elevate mood, to increase communication, socialization and self-expression, and to normalize the environment (Standley et al., 2005).

Music Listening

Listening to recorded music is one of several techniques (e.g., instrument play, songwriting, or musical games) utilized by music therapists when working with pediatric patients in health care facilities (Wolfe & Waldon, 2009).

Various studies have concluded that music listening interventions may reduce anxiety and stress related to medical procedures (Biley, 2000; Clark, Isaacks-Downton, & Wells et al., 2006; Lee, Chung, Chan, & Chan, 2005; Pelletier, 2004). Although some research suggests that patient preferred music has a greater effect on treatment outcomes related to anxiety and stress (Clark, Isaacks-Downton, & Wells et al., 2006), Pelletier's (2004) meta-analysis indicates that specific relaxation music has a greater effect on stress reduction than music selected by patients.

Research also demonstrates that listening to music can influence patients' perceptions of pain and other physical discomfort (AMTA, n.d., Mitchell & MacDonald, 2006; Noguchi, 2006). Patient preferred music appears to be most effective in the area of pain reduction and contributes greatly to its effectiveness (Pelletier, 2004, Megel, Houser, & Gleaves, 1998; Wolfe & Waldon, 2009).

Several studies indicate that positive changes in mood and emotional states can be evoked in patients by intentional music listening (Le Roux, Bouic, & Bester, 2007). The change in listeners' emotional states may be caused by the musical genre (Burns, Labbé, Arke et al., 2002). Culturally influenced music also may have an effect on the perception of the listener and should be considered when choosing music selections (Darrow, 2006).

Therefore, the Anouk Music Listening Program was developed and implemented.

The Anouk Music Listening Program

Last year, the Anouk Foundation, a non-profit organization based in Geneva, Switzerland looked into providing auditory supports to create a soothing environment for individuals staying in hospitals and similar settings. The Foundation had funded visual arts projects for patients and wished to expand to other forms of art experiences. For this reason, the Anouk Foundation contacted the first author of this article to develop a specific music listening program on iPods for children and teenagers undergoing medical procedures (i.e., hemodialysis treatment) in pediatric health care facilities.

After an initial onsite visit with administrative, medical, and healthcare staff at our pilot site in Geneva, Switzerland, we developed a hospital specific music listening program tailored to the selected patients' needs. The protocol adhered to the hospital's policies, medical procedures and considered staff availability.

First, we identified the following anticipated goals for the *Anouk Music Listening Program* for patients at the pediatric hemodialysis unit:

- ▶ To normalize the environment by providing a sense of

comfort and familiarity,

- ▶ To reduce environmental sounds by masking ambient hospital noises,
- ▶ To shift the perception of pain or other physical discomfort by changing the focus of attention (i.e., creating a distraction),
- ▶ To decrease anxiety and fear by increasing the level of calmness and relaxation, and
- ▶ To make time pass more quickly during the medical treatment by providing an enjoyable activity.

Second, we created a digital music library for our pilot site, which currently includes over 550 music recordings from more than 126 albums. We selected the particular music recordings based on research literature (Humpal, 1998; Pelletier, 2004; Standley, et al., 2005; Wolfe & Waldon, 2009), expert knowledge (i.e., music therapists and music educators), and an analysis of children's and teenager's music preferences within Europe and the U.S. (i.e., personal communication; Media, Top Charts, and iTunes Essentials).

Third, we developed eight customized *Anouk Playlists* in collaboration with the healthcare staff. These are categorized by:

- ▶ Age: (0-3), (4-7), (8-12), (13-17), all ages
- ▶ Language: English, French, German, Universal, and
- ▶ Mood: calm, vital

For quick access to the hospital's favorite songs (which is probably the most familiar music to the pediatric patients) or specific relaxation music, we created additional playlists. In order to support active listening intentions in young patients, we also created a customized *Surprises Playlist*, which includes animal and environmental sounds.

Fourth, we developed a two-hour Training Module (including a Training Manual) for the healthcare professionals at the pilot site enabling them to implement the *Anouk Music Listening Program* with their patients. The Training Module includes:

- ▶ An overview of the impact of music interventions in pediatric medicine and the role of music therapy,
- ▶ A protocol to identify patients' music preferences (based on the outcomes of a specifically developed *Anouk Music*



Preference Questionnaire) and to provide a rationale for a particular music selection,

- ▶ A discussion with medical staff and patients of the most beneficial application of the Anouk Music Listening Program during the medical procedures,
- ▶ A hands-on training on operating the customized Anouk Playlists, iPod uploads, headphone adjustments, and specific listening instructions, and
- ▶ An evaluation of patients' satisfaction based on the Anouk Music Listening Survey.

Fifth, we provided online support sessions for the pediatric healthcare onsite coordinator of the Anouk Music Listening Program during the first two-months of implementation.

Our hope is that the Anouk Music Listening Program will enrich the patients' hospital stay by providing enjoyment, relaxation, and a sense of comfort through music. Should the outcomes of this pilot project be successful, we plan to implement the Anouk Music Listening Program in many more pediatric hospitals in Europe and the United States.

If you are interested in offering a customized Anouk Music Listening Program at your pediatric facility, please contact Vanessa Radicati, co-director of the Anouk Foundation.

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About the Authors



Dr. Petra Kern, MT-DMtG, MT-BC, MTA, NICU-MT is known for music therapy research with young children with disabilities. Her work has been published in major journals. She is the recipient of the AMTA research/publication award 2008. Dr. Kern is the owner of the

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Vanessa Radicati is the co-director of the *Anouk Foundation*, a non-profit organization established in 2008 in Geneva, Switzerland. Previously, she coordinated projects of the *Paint a Smile Foundation* in various European hospitals. Vanessa studied Politics and Sociology at University of Bristol (BSc) and Development Studies at the School of Oriental and African Studies (MSc) in

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