



## Abstract

**Grant Number:** 1F31NR007927-01

**PI Name:** MOWERY, BERNICE D.

**PI Title:**

**Project Title:** Effects of Physiotones on Adolescents' Pain

**Abstract:** *Effective postoperative pain management is a high priority outcome for children and their families. Until recently, the assumption was administration of appropriate doses of opioids would result in control of postoperative pain in the pediatric population. Current studies (Liehl-Lai, Kauffman, Herbert, Danjin & Simpson, 1999; Kotzer & Foster, 2000) suggest that even when opioids are given properly, children are not achieving acceptable pain levels during the postoperative period. Combining medication with complementary approaches may enhance pain management. The evidence-based benefits of a combination of opioids and complementary modalities for postoperative pain have not been reported in the pediatric population. Physiotones, a modality using vibrations to induce relaxation and decrease pain perception may be an ideal complement to opioids in treating postoperative pain. The applicant will explore the effects of physiotones on postoperative pain in adolescents after spinal fusion. The specific aims of this proposal are to: 1) assess the effects of physiotones on post-operative pain intensity in adolescents after spinal fusion, as measured by the Word Graphic Scale; 2) assess the effects of physiotones on adolescents' muscle tension and stress after spinal fusion, as measured by blood pressure, electromyography (EMG) and the Stress Word Graphic Scale; and 3) examine the relationship between post-operative stress, muscle tension and pain in adolescents after spinal fusion.*

**Thesaurus Terms:**

*adolescence (12-18), alternative medicine, analgesia, combination therapy, human therapy evaluation, pain threshold, patient care management, perceptual masking, postoperative state, vibration*

*muscle stress, opioid, psychological stressor, relaxation, spinal fusion  
bioassay, blood pressure, cortisol, data collection methodology /evaluation,  
electromyography, human subject, patient oriented research, statistics /biometry*

**Institution:** UNIVERSITY OF VIRGINIA CHARLOTTESVILLE  
BOX 400195  
CHARLOTTESVILLE, VA 22904

**Fiscal Year:** 2001

**Department:** NURSING

**Project Start:** 15-SEP-2001

**Project End:**

**ICD:** NATIONAL INSTITUTE OF NURSING RESEARCH

**IRG:** NRRC

