



CANCER PREVENTION & RESEARCH  
INSTITUTE OF TEXAS

Award ID:  
RP160190

Project Title:  
Pediatric Radiation Oncology with Movie Induced Sedation Effect  
(PROMISE)

Award Mechanism:  
Individual Investigator Research Awards for Cancer in Children and  
Adolescents

Principal Investigator:  
Jiang, Steve

Entity:  
The University of Texas Southwestern Medical Center

Lay Summary:

For most pediatric cancer patients under 7 years of age, current standard radiotherapy practice involves the use of general anesthesia to ensure that the patient remains still during the treatment. Since a typical radiotherapy treatment course includes 25-30 fractional treatments, a child has to receive 25-30 episodes of general anesthesia in succession, which has potentially strong side effects of continuous anesthesia, both short-term and long-term. We propose a novel technique to enable non-sedated pediatric radiotherapy through behavior training and motion monitoring technique. Systematic behavior training tactics will be developed to get patients familiar with treatment environment and teach patients to control movement. Motion monitoring and an audio/video coaching system will be developed to allow radiotherapy while the patient is still. The proposed technology has the potential to eliminate the risk of continuous multiple episodes of anesthesia to pediatric cancer patients and considerably lower treatment costs.