

## A Narrative Medicine Tool to Improve Understanding About Radiation Therapy in Pediatric Oncology Patients

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Abstract  
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## Abstract

**Purpose:** Radiation therapy plays a critical role in the treatment of pediatric solid tumors, including central nervous system (CNS) malignancies, sarcomas, and neuroblastomas. However, radiation remains poorly understood by young children, often leading to procedural anxiety, which is concerning given that patients must remain still for extended periods of time. Although sedation may be used for pharmacologic management, non-pharmacologic measures, such as pre-procedural education, can be an effective adjunct. To address this gap, we developed Luna's Space Adventure: The Healing Light, a rhyming picture book that uses illustrative metaphors and storytelling to explain radiation therapy and reduce treatment-related anxiety.

**Methods:** We conducted a review of 93 children's books about cancer currently listed on Amazon in the United States. Inclusion criteria were: picture books targeting children ages 3-10 and addressing the experience of cancer or its treatment. We categorized the books by treatment type (chemotherapy, surgery, immunotherapy, radiation) and patient (child, family member, nonspecific). We then developed an illustrated children's book on radiation therapy with guidance from pediatric radiation oncologists. The storyline was guided by cognitive developmental milestones, such as symbolic thinking and metaphor comprehension. Visual storytelling was emphasized to enhance engagement and comprehension.

**Results:** In our review, only 18.1% of books discussed treatment, with 12.8% about chemotherapy, 2.1% surgery, 1.1% immunotherapy, and only 2.1% about radiation therapy. Most books (44.1%) featured a family member with cancer, while only 39.8% focused on pediatric cancer patients themselves. Therefore, we developed a 24-page, fully illustrated book designed to serve as a preparatory tool for children undergoing radiation. The story follows our main character, Luna, as she undergoes radiation therapy with guidance from a radiation oncologist and a robot modeled after a linear accelerator. She travels through four "stars", each representing a treatment session and associated side effects, including nausea, dermatitis, and fatigue. Complex concepts such as radiation masks, simulation scans, and beam targeting are introduced through metaphors and visuals.

**Conclusion:** Our book highlights the power of narrative medicine in pediatric oncology. By reframing radiation therapy as a space-themed mission, the book equips children with an accessible framework to understand their treatment with reduced anxiety. The book is currently being distributed to radiation oncology departments, and early feedback from clinicians and caregivers has highlighted the book's educational value, particularly in helping children feel empowered and less fearful. Future directions include multilingual translation, broader clinical implementation, and sequels addressing surgical oncology and chemotherapy through similarly engaging themes and metaphors.