

Computed Tomography Orthopedic Traction Device

Grant Award: \$25,000

Description:

Until recently, with no safe means to scan orthopedic patients in traction, the traction had to be removed from patients to scan the region of interest. This grant will support the design and build of a prototype Computed Tomography Orthopedic Traction Device (CTOTD) which will be adjustable to fit multiple scanner tables. Once the prototype is built it will be physically tested on a table, and then the plans/design/prototype will be brought to a certified engineer to ensure it is structurally sound, stable and capable of supporting needed loads. Upon completion of testing and verification, a patent request will be submitted and patent rights shared with The University of Vermont Medical Center. The CTOTD will then be submitted to our scanner producers, Philips, for approval of use and possible production.

Desired Outcomes:

With this traction system orthopedic surgeons will be able to image their patients while the patients are in traction, resulting in imaging they can use for better patient treatment strategies and surgical planning. The CTOTD will provide a safer means to obtain needed imaging and ultimately result in improved patient care during treatment and potentially improved outcomes from treatment.

Support for Academic Progression for Nurse Leaders

Grant Award: \$77,000

(Depending on school selected and years to completion)

Description:

A 2010 Institute of Medicine report on the future of nursing in the US cited several key recommendations, including assuring that RNs function at the fullest extent of their education and license and setting a goal for 80% of RNs to be BSN prepared by 2020. The number of RNs with BSNs in an organization has been shown to have a direct, positive impact on patient outcomes including mortality, hospital acquired conditions, length of stay and rescue rates. The Magnet Designation program requires Magnet organizations to have a plan for moving to meet the 80% standard and they also require all nurse leaders to be BSN prepared in order to receive Magnet recognition.

The focus of this project is a small group of nurse managers (NM) who must return to school for their BSN in order to support nursing strategic goals such as the 80% BSN mark. Organizational support for NM's academic progression must address the common barriers to returning to school, including the most highly rated factors impeding an RN's return to school which are time (60%) and financial constraints (34%). Funding will help offset the cost of returning to school for 12 nurse managers, most of whom are long term employees at UVM Medical Center.

Desired Outcomes:

The Nursing Administration Department hopes to assure all nurse leaders at UVM Medical Center have a minimum of a bachelor's degree in nursing by 2020. Given the complexity of healthcare leadership, these BSN prepared nurse leaders will help improve quality outcomes, improve access and delivery of care, promote research and innovation, and reduce variability in care.

Exercise Enhancing Strategies for Patients in Inpatient Psychiatry

Grant Award: \$50,000

Description:

Inpatient Psychiatry staff will develop strategies and healthier coping skills for mania, angry outburst and generalized disruptive behavior to promote exercise/fitness/physical health in inpatient psychiatry patients on Shepardson 3 and 6. Create an exercise room for Shepardson 3 modeled after the one currently in use on Shepardson 6. Cardiovascular and resistance trainings ranging from 3-5 days a week and 30-60 minutes per day.

Desired Outcomes:

Therapeutic management of anger, anxiety, and depression, promoting self-esteem, healthier sleep, enhancing mood and emotional regulation will also provide patients with useful resources for self-improvement in outpatient settings upon discharge. Research in the psychophysiological effectors of exercise in combination with psychotherapy, through quantitative and qualitative research modalities to monitor improvement outcomes.

Stress Management and Resiliency Training (SMART) for Patients with Chronic Conditions

Grant Award: \$50,000

Description:

The Employee Wellness Department is seeking funds for two individuals to become fully trained in Stress Management and Resiliency Training (SMART). Each trainer will then facilitate one 8 week SMART training to a group of 20 patients with chronic conditions, who are physician referred or self-identified. Training utilizes evidence-based practices focused on gaining control of stress and building resilience through mind-body principles and self-care interventions.

Desired Outcomes:

The program reduces variability in care by providing a highly reliable, standardized, research-based multi-disciplinary approach to stress management that can eventually provide a system-wide, unified circle of stress management care, from student to employee to patient. Engaging in SMART places UVM Medical Center in a unique position to take advantage of an innovative, world renowned program and allows us the opportunity to be involved in cutting edge, important current research with scholars at BHI, MGH and Harvard Medical School. The group hopes that this project will demonstrate strong evidence in favor of SMART becoming a sustainable, preventative, non-pharmaceutical model at UVM Medical Center.

Validation of Weighted Peritoneal Dialysis Catheter Anchor

Grant Award: \$47,890

Description:

Peritoneal Dialysis (PD) is a low cost, and physiologically beneficial, option for many patients with end stage renal disease (ESRD), and its utilization is increasing nationally and globally. The two most common reasons that patient on PD transfer to hemodialysis are PD catheter malfunction and infection. Our unique, proprietary technological innovation is a medical device called a Peritoneal Dialysis Catheter Weighted Anchor, which solves an unmet need in patients treated by PD by decreasing the PD catheter migration rate, and therefore, decreasing the catheter revision and replacement rate, as well as conversion to the more costly hemodialysis.

We propose a three-part project to validate this device:

- Bench top safety investigation assessing the integrity of the prototype and to ensure that it is impervious;
- Cadaver feasibility project to document positional stability and assess the function of the PD catheter;
- Human prospective observational study where patients will be followed clinically and assessed for catheter position and function, adequacy of PD, and PD catheter survivability.

Desired Outcomes:

The group hopes the device will improve quality outcomes and lead to a higher quality of life for these patients than those that resort to hemodialysis. The device will also improve access and delivery of care, as patients using this device will be able to receive dialysis at home through PD every day, and patients that live in rural areas will no longer need to travel long distances three times per week to spend most of the day in a hemodialysis center for treatment.

Optimization of Home Intravenous Hydration in Patients with Head and Neck Cancer

Grant Award: \$35,000

While the UVM Medical Center already has a robust home infusion program in place, not all patients have access to this critical service due to lack of coverage by most insurance companies and/or limited skilled nursing availability in the community. A cohort of patients who are significantly impacted by these limited resources are those with head and neck cancers. This lack of access not only impacts the health and wellbeing of these patients but also has resulted in an unsustainable utilization burden for the medical center's post procedural recovery (PPR) unit. Because of the limited number of infusion beds available in the hem/onc infusion suite, many of the head and neck oncology patients are sent to the PPR for the hydration. Currently, these patients come to the medical center for intravenous hydration between 2 to 3 times a week during a 6 week period in support of their treatment. Maintaining adequate hydration in these patients is necessary as the size and location of their malignancies prevent adequate oral hydration which leads to an increased risk of chemo related nephrotoxicity.

In addition to the utilization burden for the PPR, these patients frequently miss feedings while at the hospital contributing to significant weight loss during their treatments as much as 20-30 pounds over a course of treatment. Maintaining adequate hydration maximizes nutrition needed for optimum healing and mental and physical well-being. Patients, and sometimes their caregivers, will spend an additional 1-3 hours in the hospital during hydration, adding to the overall burden of care.

Hence, this project will improve patient satisfaction and quality of care, improve access to and delivery of a critical patient care need, and ensure all patients have access to this vital service regardless of where they live or type of insurance they have.

Currently we treat up to 6 patients a month with head and neck cancer. While this is not a large number of patients, it is an ideal patient population to develop the process for home IV hydration. They represent a range of aptitudes for self-care, ages, and insurance carriers. In addition, the team of nurses and doctors caring for them is quite small. This allows for consistent care, and good communication amongst team members to troubleshoot and solve problems as they arise. Once this process is fully developed it could be offered to other patients within the cancer center, throughout the hospital and possibly the network.

Expand Culinary Medicine at UVM Medical Center

Grant Awarded: 100,000

This project will expand availability of preventative culinary medicine for patient (including at risk populations), employees, and the community. The Culinary Medicine Program at the University of Vermont Medical Center focuses on plant based nutrition. It is not surprising that Imperial College London has reported that eating more fruits and vegetables is associated with:

- 24% reduced risk of heart disease
- 33% reduced risk of stroke
- 28% reduced risk of cardiovascular disease
- 13% reduced risk of total cancer
- 31% reduction in premature deaths

Unfortunately, nutritional advice doesn't lead to change in behavior. Knowledge of what to eat doesn't address the barrier of how to prepare healthier foods.

This program addresses that issue by marrying nutritional advice of a registered dietician with the hands on cooking instruction of a professional chef. This program is currently underway and has proven effective. 84% of respondents indicate they have made changes to their diet, 87% report using the recipes they were trained to prepare, and 55% report an improvement in health.

With this grant the program will hire an additional 0.5 FTE, which will allow them to:

- Increase professional development of providers
- Increase the number of patients and community members participating
- Expand data collection and analysis
- Expand employee education in collaboration with Employee Wellness

Nurse-performed Medicare Adult Wellness Visits

Grant awarded: \$89,200

This application is looking to pilot having a nurse conduct the Medicare Adult Wellness Visits (AWV). The visit is at no cost to the patient and provides an individual the opportunity to talk with their healthcare team about their health, values, and goals. The visit encourages individuals to take an active role in assessing and managing their health and consequently, to improve their well-being and quality of life. The visit will increase medical reconciliation, capture other important Medical quality measures and provide individuals with education and resources to continue to meet their wellness goals.

At UVMHC, these visits have been performed by physicians, physician assistants, and nurse practitioners, often in conjunction with acute needs. Rarely is there time to devote solely to prevention and risk assessment. Having a nurse conduct the AVWs will allow for more time with the patient to devote to these needs. This pilot will reach 750-1000 patients and if successful, could be extended to all of our adult primary care sites.

Desired outcomes include: increased percentage of 65+ having an AWV, improved quality of the AWV, increased number of AWVs, increased primary care access, and improved patient and provider satisfaction. This program would improve access and delivery of care, reduce variability of care, and improve quality outcomes. It is also strongly aligned with the population health initiatives of the 2016 Community Health Needs Assessment for Healthy aging.

FAVORS Program Enhancement

Grant Awarded: \$25,000

Patients and families are faced with a myriad of stress related hospitalization. Managing under a tight budget, the FAVORS program has been meeting small yet not insignificant patient and family needs for 15 years. Providing toiletries, clothing, blankets, food/drink, newspapers, books, fames, etc., FAVORS serves over 9,000 patients annually. With additional funding, the number is projected to rise to 14,000.

A happy patient and supported family, will improve quality of care and overall outcomes. FAVORS is a pure patient and family centered care program that exists to address the patients' physical, emotional and social needs, outside of the traditional hospital support system. From participation in art projects and listening to music to the basic need for clothing/laundry assistance, the FAVORS program believes in the whole person approach to creating and sustaining health.

With this grant money the FAVORS program will be able to enhance and expand their offerings and increase the number of individuals served.