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Evaluating an Educational Initiative for Postsurgical Vascular Patients

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Walden University

College of Health Sciences

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Cynthia Ann Gillespie

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Walden University
2019

Abstract

Evaluating an Educational Initiative for Postsurgical Vascular Patients

by

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MS, Walden University, 2012

BS, Alderson-Broaddus College, 1979

Project Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Nursing Practice

Walden University

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Abstract

The educational medium GetWellNetWork (GWNW) in a large magnet teaching facility offered few educational videos specific to vascular patients with a focus on leg elevation after lower extremity bypass surgery. Supplying patient-specific education has the potential for providing cost-effective nursing care to vascular patients and improving hospital reimbursement. Guided by the interactive care model, a storyboard was developed using best-practice evidence for vascular postoperative patients that could lead to the development of a video to address the educational needs of vascular patients upon discharge. The practice focused question asked if a video addressing the importance of leg elevation would improve patients' use of in-house educational videos and stakeholder satisfaction. A vascular physician ($n = 1$) and nursing staff ($n = 9$) provided feedback on the appropriateness of the evidence-based educational content for the storyboard by completing a 9-item, open-ended survey. Survey results supported development of the video and revealed positive feedback on storyboard content and that staff with 1–3 years' experience or 15+ years' experience had an increased understanding of the importance of evidence-based guidelines for leg elevation for vascular patients. The feedback will be used to develop a vascular-patient-specific educational video. Encouraging patients to view the video on leg elevation has the potential to improve cost effectiveness of patient care and hospital reimbursement, prevent hospital readmission that could lead to patient and caregiver hardships associated with readmission, and improve the health outcomes for postoperative vascular patients.

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Dedication

This project is dedicated to my loving family, unit director, Dr. Fowles, and special friends who provided encouragement and support through this episode of my life.

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Section 1: Nature of the Project

Introduction

Over the past 30 years, concern about quality and safety in healthcare has increased. In the landmark report, “To Err is Human: Building a Safer Health System,” the Institute of Medicine (IOM, 1999) estimated between 44,000 to 98,000 Americans died annually because of healthcare errors. According to the report, hospitalized patients died more often than individuals involved in motor vehicle accidents or people diagnosed with breast cancer or AIDS. It further estimated the total national cost encompassing lost income, lost household production, disability, and healthcare expenses related to preventable adverse events was estimated to be between \$17 and \$29 billion annually, 50% of which were direct healthcare costs. The healthcare system in the United States is unsafe, ineffective, not patient-centered, untimely, inefficient, and inequitable. The IOM report stated many Americans died unnecessary deaths because of mistakes ranging from medication error to process failure (Laureate Education, 2001).

Poor communication among healthcare professionals and patients was cited as a main cause of poor patient outcomes, errors in healthcare (Scotten, Manos, Malicost, & Paolo, 2015), and adverse events (Nace, Graumlich, & Aldag, 2006). Discharge was cited as a critical incident where clear communication among healthcare professionals and between healthcare professionals and their patients was essential (Foster, Murff, Peterson, Gandhi, & Bates, 2003). Adverse events resulted from poor communication at the time of discharge (Shepperd, Parkes, McClaren, & Phillips, 2004; Johnson, Sandford,

& Tyndall, 2003; Marcantonio et al., 1999). Patients were vulnerable to adverse events when transferred from hospital to outpatient care (Shepperd et al., 2004; Johnson et al., 2003; Foster et al., 2003). Approximately 19–23% of patients experienced adverse events within four weeks after acute care hospitalization (Foster et al., 2003; Foster, Clark, & Menard, 2004) with readmission to the hospital being a common consequence. Hospitals were often not reimbursed for any of the medical care costs if patients were re-hospitalized within thirty days of discharge.

Providing timely healthcare information to patients and caregivers has led to: improved outcomes for patients, reduced healthcare costs, improved overall healthcare experience, enhanced ability to self-care and make appropriate decisions, developed realistic expectations about health outcomes, and improved quality of life and psychological wellbeing (Bennett, 2015). Since the release of the IOM report, healthcare providers have focused efforts on reducing errors in communication by improving teamwork and communication throughout the healthcare continuum as a means of providing efficient, quality care leading to excellent patient outcomes (Weaver, et al., 2010). Scotten et al. (2015) stated, “The American healthcare system is complex and dependent on many professionals communicating and coordinating care to avoid fragmentation, delays, and ever-increasing healthcare costs” (p.898).

Healthcare information has been provided to patients at Carilion Clinic Roanoke Memorial Hospital (CCRMH) through an interactive educational medium, the GetWellNetWork (GWNW). However, vascular progressive care unit (VPCU) patients

were not using this educational medium due to a lack of topics specifically addressing their diseases and treatments. In this doctoral project, I focused on the development of a storyboard to serve as the initial step to produce a video on the need for leg elevation after vascular surgery for these patients.

The Doctor of Nursing practice (DNP) is a terminal nursing degree focusing on clinical practice. The DNP prepared-nurse is an agent of change who helps prepare the clinical environment and shapes nursing practice. Beechener (Laureate Education, 2011) stated

The DNP degree provides opportunities for nurses to (a) apply research to promote evidence-based practice (EBP), (b) advocate for patients through policy and reform efforts, (c) use technology to improve the quality and safety of patient care, (d) manage organizational change effectively, (e) design and evaluate programs and projects, (f) employ an inter-professional approach to caring for diverse populations, (g) provide essential leadership, and (h) perform at the highest level of clinical practice.

The DNP identifies gaps in knowledge, implements new evidence into practice, and evaluates the outcomes. DNPs create societal changes to make a difference in people's health (Laureate Education, 2011). Zaccagini and White (2011) stated, "DNP graduates hold promise for investigating and solving some of the vexing problems facing our healthcare system while delivering the highest level of nursing practice" (p. xxvi).

CCRMH is committed to the health of the region, seeks to advance care through medical education and research, helps the community stay healthy, and inspires the region to grow strong. The mission is to improve the health of the communities served. The vision is a commitment to a common purpose to provide better patient care, better community health, and lower costs. The organization's values are: (a) community, working in unison to serve our community inside and outside the organization; (b) courage, doing what is right for our patients without question; (c) commitment, unwavering in our quest for exceptional quality and service; (d) compassion, putting heart into everything we do for our patients every day; and (e) curiosity, fostering creativity, and innovation in the pursuit of excellence (Carilion Clinic, 2016).

Problem Statement

The GWNW is the primary source of education for patients and caregivers at CCRMH. The GWNW, initiated in 2014, serves as an interactive educational medium between patients, caregivers, and nurses providing patient education on a variety of health conditions and medications via the television and internet. At program initiation, nurses ordered the educational videos. With the last system upgrade, educational videos could be ordered by physician order sets and diagnosis. Patients can now view videos in-house via television or smart phone and at home through MyChart, the organization's patient electronic medical record.

With 1,600 videos on GWNW, few were specific to the vascular patient on the VPCU. The patient population on VPCU included patients with lower extremity

bypasses, amputations, carotid endarterectomies, abdominal aortic aneurysm endografts and open repairs, thyroidectomies, hemodialysis fistula formations and repairs, laparoscopic cholecystectomies, occasional abdominal surgeries, and a variety of medical-surgical patients. Most of the surgeries were bypasses and amputations.

Patient and staff use of GWNW was low on the VPCU. There was only one video pertinent to the vascular patient population, which was an explanation of bypass surgery. From a recent review of GWNW data, the lower extremity bypass video was not listed in the top five videos viewed by patients (Carilion Clinic, 2016). Leg elevation is important after bypass surgery and amputation to prevent postoperative edema and promote healing. Patients were not elevating their legs as needed. My review of the GWNW usage data for the VPCU suggested patients were not receiving the education needed to care for themselves upon discharge from the hospital. Patients need to be educated on their specific postsurgical necessities to be active participants in their care and avoid complications that may require rehospitalization after discharge.

CCRMH is in the process of developing a Vascular Institute of Excellence. The VPCU's Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores were below the national average for physician engagement and patient discharge education. These scores reflected a lack of physician involvement with the VPCU because the vascular physicians are independent practitioners and lacked the available educational videos specific to patients undergoing vascular therapies. I addressed the lack of available educational materials on the GWNW targeting the

vascular patient by developing a storyboard as the initial step in the development of an educational medium outlining the importance of leg elevation for the prevention of edema in postoperative patients.

I presented the educational content to the vascular surgeons and the vascular intensive care unit (VICU) staff at CCRMH for feedback. Based on stakeholder feedback, CCRMH may develop an educational video and incorporate it into their discharge educational materials for vascular postoperative patients.

The project may serve as a springboard for the development of additional educational videos for vascular postoperative patients and complement the creation of the Vascular Institute of Excellence. The outcome of implementing this and other related educational videos would result in improved HCAHPS scores for physician engagement because the local vascular physicians would be seen in the videos. Lastly, the outcome of the project would improve patient self-care after discharge, and thus overall health, because patients and caregivers would have received important discharge education.

Results of this project are significant to the field of nursing practice because I attempted to address the problem of the lack of patient-specific education for vascular patients. Additionally, my project's results have the potential to improve cost-effectiveness of patient care and reimbursement to hospitals. Currently, hospitals are reimbursed for nursing care costs based on HCAHPS scores. Without appropriate educational resources, nurses may be unable to provide essential discharge instructions, resulting in lower HCAHPS scores leading to a reduced reimbursement rate for the

organization. Additionally, a lack of or inadequate discharge instructions for the patient may result in hospital readmission within thirty days therefore leading to a further reduction in the reimbursement rate for the organization. DNP-prepared nurses provide the expertise needed to develop educational materials to ensure patients and caregivers know how to properly care for themselves after discharge from the hospital.

Purpose Statement

GWNW contained hundreds of educational offerings, some of which were very specific to certain populations within CCRMH. Only one video was available for vascular postoperative patients. CCRMH is in the process of establishing a Vascular Institute of Excellence. The gap-in-practice that I focused on through this doctoral project was the development of population-specific education materials that would be provided by the vascular physicians and VPCU nurses to patients and caregivers. The practice-focused question for this project was: “Will a video addressing the importance of leg elevation improve patients’ use of in-house educational videos and stakeholder satisfaction?” The purpose of my project was to develop a storyboard utilizing best-practice evidence for vascular postoperative patients leading to the development of a video addressing educational needs for discharged vascular patients.

I addressed the gap-in-practice several ways. First, population-specific education provided by unit specific physicians and nurses has the potential to improve scores for discharge education. Second, it could serve as a springboard for the development of additional educational videos to support the establishment of the Vascular Institute of

Excellence. Third, with education, patients and caregivers would be empowered to care for themselves after discharge thus improving patient satisfaction. Fourth, the educational information (resources) has the potential to improve nurse HCAHPS scores and prevent hospital readmission therefore improving organizational reimbursement. Fifth, stakeholder satisfaction, which includes physicians, nurses, and patients, would be improved.

Nature of the Doctoral Project

The nature of this project was two-fold. First, I developed a storyboard outlining the sequence and content related to the need for leg elevation after vascular surgery. Second, I presented the content of the storyboard to local stakeholders to obtain feedback on content accuracy and proposed formatting. The sources of evidence for the storyboard content included, (a) gathering evidence-based information on peripheral artery disease, (b) postoperative edema and the need to elevate legs after vascular surgery, (c) development of patient education using a storyboard, (d) HCAHPS scores for the unit obtained from the unit director, and (e) statistical data on vascular patient usage of GWNW obtained from the GWNW coordinator. Strategies to obtain evidence included the utilization of Walden's and CCRMH's library with help from the librarian for a comprehensive literature review, development of a storyboard with the assistance of the coordinator of GWNW, and project evaluation from local stakeholders, which included vascular physicians and nurses. I presented the content and format of the storyboard to local stakeholders and gathered feedback.

A model or framework is “a symbolic representation of concepts or variables and interrelationships among them” (Polit & Beck, 2008, p. 758) and is “the foundation or roadmap for the research design” (Houser, 2008, p. 163). I used the Carilion Nurses Leading Excellence through Research (CLEAR) Model, an adaptation of the Iowa Model, to guide my project and to organize and analyze the evidence.

Even though the GWNW offered hundreds of educational videos for multiple patient populations, educational offerings for the vascular population were very limited. In this doctoral project, I connected the gap-in-practice by developing a storyboard as the initial step in designing a population-specific educational video to serve as an initial educational offering for the Vascular Institute of Excellence and provide the basis to improve stakeholder engagement and patient and caregiver satisfaction.

Significance

White and Dudley-Brown (2012) (as cited in the Project Management Institute, 2004) stated

Stakeholders are those individuals or organizations actively involved in a project or those whose interests may be affected by project execution or project outcome. Engaging stakeholders effectively and understanding their expectations and requirements to consider when planning and executing a project is crucial to the project’s success. (p. 219)

Hodges and Videto (2011) (as cited in the Center for Disease Control, 2005) stated

Stakeholders are those people or organizations that are invested in a program, are interested in the results of an evaluation, and/or have a stake in what will be done with the results of the evaluation. When planning an evaluation, there are three types of stakeholders: people involved in program operations, those served or affected by the program, and users of evaluation results. Users of evaluation results may be in positions to make decisions about the institutionalization or expansion of the program. (p. 211)

Stakeholders for this project made decisions relevant to educational material on leg elevation for future training of postsurgical vascular patients. Stakeholders involved included the vascular physicians, the VICU nursing staff, unit directors, a nurse educator, mid-levels, and the coordinator for GWNW. The outcome of this project had the potential to improve engagement and collaboration among all stakeholders. The vascular physician group had the potential of receiving improved HCAHPS scores for physician engagement because of being active participants in the making of educational resources for their patient population, providing vascular patient-specific education, and developing population-specific education for the Vascular Institute of Excellence. The nurses in the vascular services may experience improved satisfaction and engagement because of presenting and participating in population-specific education for patients. Improved usage scores for the GWNW may be noticed by the unit director and the GWNW coordinator. Patients may experience more satisfaction and engagement in their care which may be reflected in higher HCAHPS scores for the unit. Furthermore, education specific

resources for vascular patients may improve their potential for self-care after discharge and lead to a reduced rate of readmission to the hospital for complications. Subsequently, CCRMH may obtain enough reimbursement because of improved HCAHPS scores and fewer thirty-day readmissions. Based on this storyboard, the video has the potential to be viewed by all units in the hospital and within the patient's home via computer and their electronic medical record.

Developing the storyboard as the first step in producing a video targeting leg elevation contributes to social change in several ways. First, vascular patients who view the video can improve their health by following the advice provided in the video. Second, staff will be educated on best-practices related to leg elevation which they can then share with patients and other staff members. Third, sharing the content of the storyboard with the stakeholders is one way to encourage a consistent approach to leg elevation across healthcare disciplines contributing to increased patient awareness of the importance of leg elevation and improved patient outcomes when patients hear the same message from all their healthcare providers.

Summary

The IOM Report (1999) stated thousands of Americans died unnecessary deaths due to medical error. The American healthcare system was found to be unsafe, ineffective, not-patient centered, untimely, inefficient, and inequitable. This report initiated a public conversation regarding the need for quality and safety in healthcare (Laureate Education, 2001). Poor communication among healthcare professionals and patients was

a main cause of poor patient outcomes, errors in healthcare (Scotten et al., 2015), and adverse events (Nace et al., 2006). To prevent critical incidents at discharge, clear communication among healthcare professionals and between healthcare professionals and their patients is essential (Foster et al., 2003). Clear and concise communication at discharge is critical (Shepperd et al., 2004; Johnson et al., 2003; Marcantonio et al., 1999). Providing healthcare information to patients and caregivers leads to better outcomes for patients, reduces healthcare costs, improves care experience, increases ability to self-care and make healthy decisions, develops realistic expectations about health outcomes, and improves quality of life and psychological wellbeing. My DNP project advances patient quality and safety through the development of a storyboard using evidence for vascular postoperative patients and leads to the development of a video to address discharge educational needs.

Section 2: Background and Context

Introduction

GWNW contained 1,600 educational videos, some specifically targeting certain diseases and populations within the healthcare organization; however, there was only one video available for vascular postoperative patients. Nurses were not able to provide vascular-specific education to this patient population due to the lack of population-specific educational videos. In this doctoral project, I addressed the development of population-specific educational materials to be provided by vascular physicians and nurses to vascular postoperative patients and caregivers. The practice-focused question was: “Will a video addressing the importance of leg elevation improve patients’ use of in-house educational videos and stakeholder satisfaction?” The project’s purpose was to develop a storyboard using evidence for vascular postoperative patient’s best practices leading to the development of a video to address patients’ discharge educational needs. Section 2 includes the following subsections: concepts, models, and theories; relevance to nursing practice; local background and context; role of the student; and role of the project team.

Concepts, Models, and Theories

Reports issued by the IOM indicated the American healthcare model was based on an acute-care model, was very expensive, was clinician driven, had poor healthcare outcomes, and was not efficiently or universally administered to all patients in all areas of the United States (Laureate Education, 2011). There existed a need for a new healthcare

delivery model. The Institute of Healthcare Improvement described a triple aim of better care and outcomes at a lower cost (Berwick, Nolan, & Whittington, 2008). The Patient Protection and Affordable Care Act encouraged patients to become engaged in their health as a strategy to improve clinical care, increase satisfaction, and achieve health outcomes to meet this triple aim (United States House of Representatives, 2010). Given the existing model had not been effective, a new healthcare delivery model based on patient engagement and partnership between clinicians and patients, was recommended.

The GWNW, based on the Interactive Care Model (ICM), was developed by researchers at the O'Neil Center. The ICM was based on patient engagement, a key component to creating a healthcare system to transform care. For this care delivery model to work, patients needed to be more active in maintaining their health and to understand care options and make decisions and clinicians needed to transition from decision-makers to partners. As a care delivery model, the ICM outlined the roles of clinicians and individuals to develop strategies to better engage people in their health. As a process model, the ICM emphasized the assessment of a person's capacity for engagement, a planning process based on information exchange, interventions specific for the patient, and an evaluation feedback loop. The model, devised to address gaps identified in the current literature, included a "silo driven approach to person engagement, research opportunities for engagement interventions, and the influence of engagement on outcomes" (Drenkard, Swartwout, Deyo, & O'Neil, 2015, pp. 503-504).

Patient engagement was a key component of the ICM. Drenkard et al. (2015) (as cited in Coulter, 2011) defined patient engagement as “a set of reciprocal tasks by individuals and clinicians as a means of improving health, making informed healthcare decisions, and promoting population health” (p. 503). Evidence showed that when patients were active in their care, their outcomes improved (Hibbard & Greene, 2013), they understood care options, and they made informed decisions.

Drivers of the ICM

The ICM had three basic drivers: ethics, finances, and communication.

Ethics. The ICM ethically challenged the patients’ rights to autonomy and beneficence. Patients had the right to autonomy, which referred to “the freedom to make choices about issues affecting one’s life” (Burkhardt & Nathaniel, 2008, p. 54).

Autonomy implied each person could make and implement decisions about personal goals. Autonomy cannot thrive in a climate that does not allow for independent planning of personal goals or the privilege of examining and choosing options to meet goals. The autonomous person must be respected, must be able to determine personal goals, must be able to understand the meaning of the choices made and deliberate on options while understanding the implications of possible outcomes, and must have the freedom to act on choices (Burkhardt & Nathaniel, 2008). In the ICM, autonomy took precedence over caregiver beneficence.

Nurses who demonstrated beneficence “acted in ways to benefit patients that promoted good, prevented evil or harm, and removed evil or harm” (Burkhardt &

Nathaniel, 2008, p. 62) may have been perceived as parentalism by patients and caregivers. In healthcare, parentalism manifested as professionals restricting patients' autonomy to protect them from perceived or anticipated harm. Parentalism was appropriate when a patient was judged to be incompetent or had diminished decision-making capacity. As advocates, nurses chose to do for patients what was reasonable to believe the patients would do for themselves. At times, patient autonomy was violated in the name of beneficence. Nurses sometimes assumed, due to their professional knowledge, they were uniquely qualified to make healthcare decisions. In such thinking, they ignored multiple factors potentially unrelated to physical outcomes but affected the whole person, including economic considerations, lifestyle, values, role, culture, and spiritual beliefs. All factors must be considered when making decisions. This dictated the patient must be autonomously engaged in the decision-making process (Burkhardt & Nathaniel, 2008). Clinicians, through their education, are trained and socialized to be providers of care rather than partners in care; therefore, a culture change was needed. To fully engage patients, clinicians must shift their focus to be partners in care instead of providers of care (Drenkard et al., 2015).

Finances. Financially, patients were consumers of healthcare. Consumers had the ability to weigh costs and benefits to reach optimal health. Consumers began taking an active role in making informed decisions about their healthcare and actively seeking healthcare information. They obtained personalized healthcare advice and patient support services due to Internet access, the availability of online health information and tools,

user-friendly healthcare social networking sites, web-based videos, personal healthcare coaches, and personal healthcare record development. Empowering consumers and providing tools to manage patients' wellness and healthcare needs were key enablers to transform healthcare. Today, the informed consumer may have as much knowledge about a healthcare concern as the healthcare professional. This has caused a major cultural shift in the traditional "patient role" from seeker of healthcare to participant in healthcare. This cultural shift has flattened the power dynamic between provider and patient (Ball, Douglas, & Walker, 2011).

Communication. Due to the presence of multiple technology modalities, patients had to decide how to best communicate or exchange information with healthcare providers. Consumer empowerment in healthcare required nurses know about an array of technologies and learning modalities for their patients. Nurses needed to instruct patients on how to use the technology resources available to them in the acute-care setting, in their home, and in the community. Nurses needed to be able to show patients and families how to use health-enabling technologies such as electronic health records, how to access trusted health information sites, and how to use tools interactively to communicate with their healthcare team. Knowledge of health-enabling technologies, health information sites, emailing and document exchange, social networking, and wireless monitoring became a basic competency for nurses (Ball, Douglas, & Walker, 2011).

Structure of the ICM

Drenkard et al. (2015) stated

The ICM outlined the roles of clinicians and individuals to develop strategies to better engage people in their healthcare. As a process model, it emphasized the assessment of a person's capacity for engagement, a planning process based on information exchange, interventions tailored to the individual, and an evaluation feedback loop. (p. 504)

Researchers at the O'Neil Center based the ICM's conceptual framework on open systems theory (OST), a model of input, throughput, and output in which a feedback loop occurs between input and output (Levasseur, 2004; McEwen & Wills, 2011; Meyer & O'Brien-Pallas, 2010). The inputs were derived from the external environment and used to enhance the system, throughputs were used to create momentum to reorganize and change the system, and outputs were the products or services created within the system for the external environment (Katz & Kahn, 1978). See Figure 1 for an illustration of the ICM.

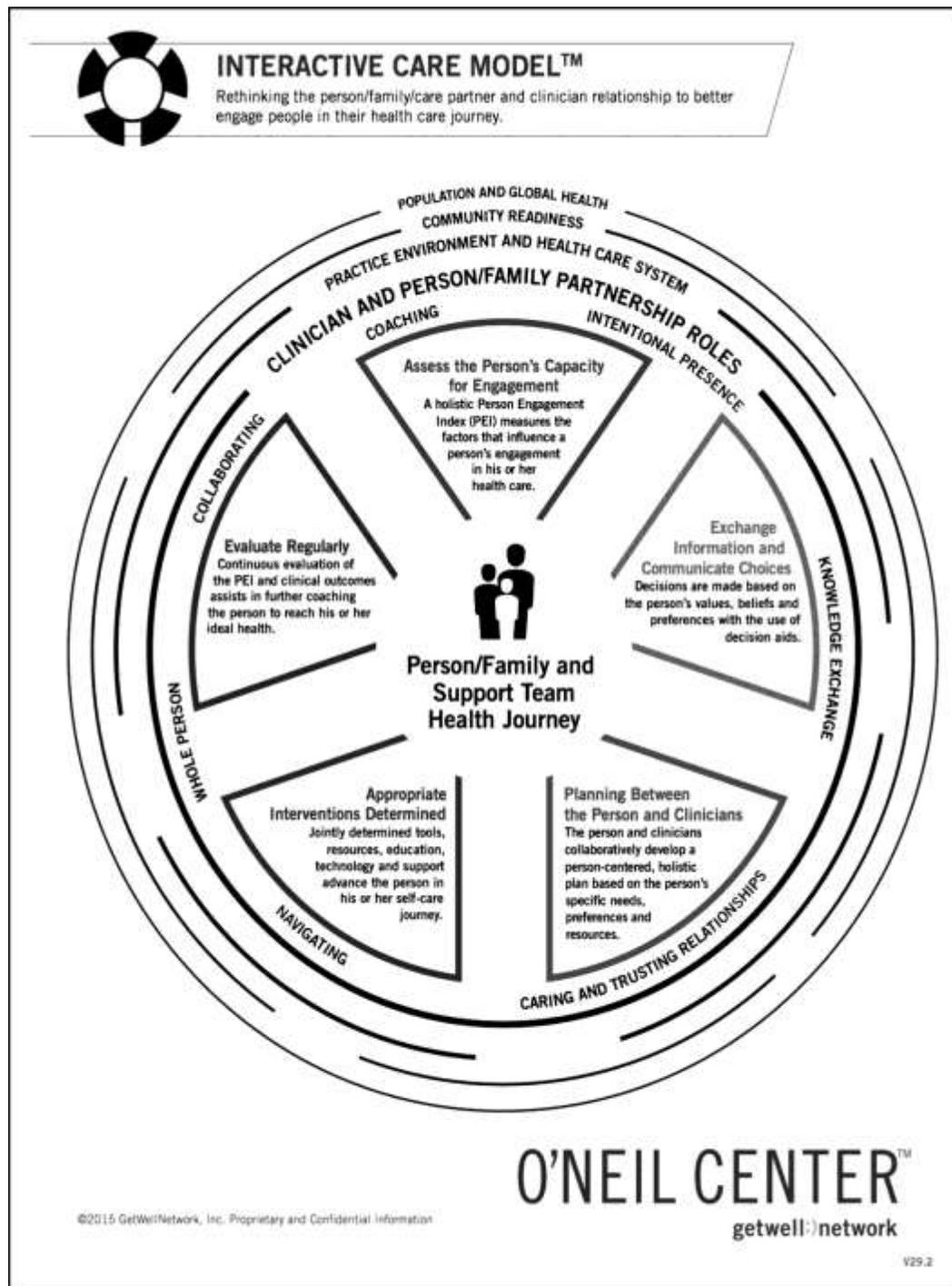


Figure 1. Interactive Care Model. From [Drenkard et al., 2015]. Copyright 2015 by Get-Well Network, Inc. Reprinted with permission.

According to Drenkard et al. (2015)

The outer rings of the ICM, which signify the external environment, included population and global health, community readiness, and practice environment and healthcare systems. The external environment provided inputs into the overall system, affecting the health journey for the person/family and support team. The main throughput was the clinician and the person/family partnership roles. This partnership was crucial to the outputs of the overall system, which involved engaging people in their health journey. The ICM described the interactions between providers and people in all care settings in the context of several key systems, including intentional presence, knowledge exchange, caring and trusting relationships, collaboration, navigating, whole person, and coaching. There were eight domains impacting the assessment of person engagement: personal preferences based on cultural values, health literacy, activation/motivation, disease burden, psychological support, preventative health strategies, involvement in safety, and technology use for healthcare. The outputs were the five model components of assessing engagement, exchanging information, planning, determining interventions, and regularly evaluating. The process model was designed to improve the overall external environment through enhanced understanding of people's capacity to engage in their health, partnering with people and their families, and ultimately improving health and life outcomes based on each person's individual values, needs, preferences, and abilities.

(p.504)

External environment. The environmental components within the ICM included population and global health, community readiness, and the practice environment and healthcare system. On the level of population and global health, care practices of healthcare systems shifted to manage whole populations and improve the management of chronic disease. At the next level, a community's readiness to support greater involvement of people in their healthcare impacted the clinician-person relationship. If the community supported new delivery methods, encouraged screening activities, and helped to educate people through local and faith-based efforts, it was likely more people became engaged with their health. Likewise, the practice environment and the healthcare system where care was delivered impacted a person's ability to influence the care journey. If the system was set up to reflect an understanding of the value of educated and involved people, then people were more likely to engage in their care (Drenkard et al., 2015).

Clinician and person/family partnership roles. The clinician and person/family partnership roles included intentional presence, knowledge exchange, caring and trusting relationships, collaborating, navigating, whole person, and coaching. Intentional presence required "clinicians practice intentionality and be fully present with those whom they served to build trust" ((Drenkard, 2015, p. 507).

According to Drenkard et al. (2015)

Effective knowledge exchange required data gathering between the clinician and

the person. Both clinicians and patients hold valuable expertise and knowledge. Patients know themselves better than anyone else and should be comfortable sharing knowledge about their health conditions and symptoms, care goals, and response to current circumstances. Each person brought a broad spectrum of understanding and knowledge to the care setting, which ranged from highly knowledgeable to completely unaware. Clinicians helped to navigate the person through the knowledge exchange process and described the risks and benefits of different care choices. (p. 507)

Caring and trusting relationships must be established for clinicians to transform practice and assist patients with self-care. “A ‘transpersonal relationship,’ which is beyond physical interaction and healing, transcends the practice environment and influences the exchange to promote well-being” (Drenkard et al., 2015, p. 507). A collaborative approach required a shift in thinking “the clinician and the person were equals on the care journey. Clinicians no longer ‘do’ for the patient, but rather ‘partner’ with the patient to achieve optimal health goals” (Drenkard et al., 2015, p. 507).

Navigating the healthcare system requires that “healthcare providers partner with patients to help them navigate the system, ensure they understand how the system works, when to seek services, what services are available, and how to access them. They also help patients navigate care options and serve as advocates for them” (Drenkard et al., 2015, p. 507). A whole-person or holistic approach “encompassing all aspects of care as well as social determinants and alternative therapies was seen as significant for self-care

management” (Drenkard et al., 2015, p. 507). The concept of the “clinician as a coach has been effective; but, people can also coach clinicians on their individual circumstances. Coaching suggests an activity to continually improve oneself in any capacity, including health” (Drenkard et al., 2015, p. 507).

Process Components. The ICM consisted of key process components: (a) comprehensive assessment of a person’s capacity for engagement, (b) information exchange and communication choices, (c) development of a strong clinician-person partnership to create plans, (d) implementation of mutually determined, suitable behavioral, technological, and clinical interventions, and (e) regular evaluation of engagement level and clinical outcomes to revise the plan to achieve optimal health. A person’s capacity for engagement was difficult to measure. According to Drenkard et al, (2015)

Traditional patient encounters included a medical history and assessment of physical symptoms. With the ICM, assessment needed to include a person’s ability to engage in the management his or her care. By determining a baseline level for engagement, it was possible to establish a benchmark for subsequent encounters. Measures existed for pieces of engagement, including patient activation and health literacy; however, no single measure exists that assessed all factors of a person’s engagement. (p. 506)

O'Neil Center researchers recently developed an instrument, the Person Engagement Index, to gauge a person's ability to engage in care and drive efforts to increase engagement levels.

Important concepts in information exchange and communication choices included partnering and shared decision-making. In the past, clinicians were educated to be providers of care rather than partners in care which required a shift in their care focus to a person-driven care delivery model to fully engage people. Studies have shown the benefits of shared decision-making between providers and people (Bernabeo & Holmboe, 2013; Legare & Witterman, 2013; Friedberg, van Busum, Wexler, Bowen, & Schneider, 2013). According to Drenkard et al. (2015)

Individuals must share their beliefs, values, and preferences and providers must listen to understand preferences, provide individualized evidence for treatment plans, and help determine health alternatives. Providers must also be aware of individuals with low health literacy and low ability to change. Despite these obstacles, individuals should be encouraged to exchange information to become educated about their choices. Providers must adjust their communication and education styles to meet individual needs. (p. 506)

Providers and individuals should set mutual goals and agree upon outcomes to guide appropriate interventions and measure success. Patient engagement was a key component to create a healthcare system that transforms care. According to Drenkard et al. (2015)

The more involved people are in the planning process, the greater their sense of accountability, ownership, and engagement. Family and caregivers became partners in the journey helping to promote self-care activities. Effective personal engagement required preparation by providers. It entailed translating information from the assessment phase into the person's present and future healthcare needs. Providers must ensure materials match the person's support system. Clinicians must be able to transition care from an acute setting to an outpatient setting where the patient and support system take ownership of care. (p. 507)

Drenkard et al. (2015) continued

The determination of appropriate interventions to match the individual's level of engagement and readiness to own his/her self-care management was necessary. Interventions that supported, educated, and provided health interactions through mobile and other technologies empowered people in their self-care management. Education was a foundational strategy for enhancing one's care tailored to the individual's level of health literacy. People needed to be educated on how to navigate their care and best utilize the health system. Clinicians must teach people early identification of health issues, when to consult physicians, and respond to individual concerns. If people learn to consult providers before acute health episodes, conditions can be managed proactively with fewer complications, fewer readmissions, and improved health outcome. An interdisciplinary team approach was suggested. (pp. 507-508)

To determine the effectiveness of care, regular evaluations of outcomes were essential. The Person Engagement Index was developed as a tool to continually evaluate a person's ability and capacity to engage. Drenkard et al. (2015) stated

Comparative data showed the effectiveness of an intervention tailored to a person's engagement level. Outcomes included person-level outcomes such as individual laboratory results, weight, medication usage, blood pressure, and other clinical measures. System-level outcome measures should be tracked such as emergency room visits, admission and readmission rates, prevalence of disease in the community, and other population metrics. Clinical outcomes and progression in healthcare management should be regularly evaluated at predetermined intervals. Evaluating outcomes of engagement will determine the most effective strategies. (p. 508)

My project addressed the external, environment-practice environment and healthcare system ring of the ICM. The lack of a vascular video was the input stimulating the ICM process. The throughput was related to the clinician and person/family partnership roles. The lack of a vascular-specific video impeded the development of partnerships. The output, the storyboard, was related to the products and services created by the organization for the external environment. The first step in developing a vascular-specific video would be the output needed to address a problem with the external environment. The model discussed five components of output of which the storyboard focused on the exchange of information component. The ICM supported the idea that

clinician roles will be redefined and create opportunities to develop new skills focused on teaching. The model supported nursing actions in developing a storyboard as a means of educating patients.

Drenkard, Swartwout, Deyo, and O’Neil were instrumental in the development of the ICM and all are affiliated with the GWNW. They authored articles on the topics of the ICM (Drenkard et al., 2015), patient and family engagement (Swartwout, Drenkard, McGuinn, Grant, & El-Zein, 2016; Drenkard, 2016), and competencies nurse executives and nurse managers need to support patient engagement (Deyo, Swartwout, & Drenkard, 2016). Thus far, no studies have been found to test the theory.

For this project, as defined by Maurer, Dardess, Carmen, Frazier, and Smeeding (2014), patient engagement is

A set of behaviors by patients, family members, and healthcare professionals and a set of organizational policies and procedures fostering both the inclusion of patients and family members as active members of the healthcare team and collaborative partnerships with providers and provider organizations. (p. 10)

Relevance to Nursing Practice

For many years, nurses have been considered the most trusted of all professions and the largest sector of all healthcare professionals. Nurses have spent more time with the patient at the bedside and are aware of their intimate problems. Nurses have been educated in coordinating patient care and preventative measures and possess the

knowledge needed for the shift from an acute care model to a chronic care model where patients and families would assume more responsibility for their care. Patients today do not stay in hospitals for extended periods of time. They are admitted and discharged in just a matter of hours to days. Nurses start discharge proceedings the same time as admission to the facility. In the acute care setting, patients are often too ill to understand what is needed to learn to care for themselves. Sadly, much of the education is held until the day of discharge. In the past, patient education on medications, disease processes, and discharge instructions were computer generated hand-outs and were discussed with the patient and family as they were discharged.

The GWNW was brought to CCRMH in efforts to engage and educate patients and family members on their disease processes and medications. On admission, from admission diagnoses, educational videos are assigned to patients. Patients cannot watch television programs until certain healthcare videos are watched and feedback is provided as to who watched the video(s) and if understanding of the video(s) content was obtained. Nursing assistants and registered nurses are educated on how to play videos for patients and families. Certain healthcare-assigned videos, such as falls, were being viewed; however, vascular disease specific videos were not available for viewing.

Drenkard (2016) discussed

Providers must change their mindsets. A cultural change from the clinician serving as the expert provider of care to a new role of navigator, coach, partner, and advocate is necessary. The chief nurse officer is in a key position to lead this

cultural change. Healthcare organizations are only a piece of the patient's puzzle; it is no longer 'our system' patients enter. The new paradigm is a partnership requiring skill building on the part of providers and patients. (S1-S2)

Clinicians will need to be trained to possess the necessary skills to effectively engage patients which will include motivational interviewing, inquiry skills, coaching, mentoring, and teaching techniques to truly engage people in their care as owners of their healthcare journey.

Bedside nurses are in a unique position to lead this transformation. Nurses can serve as leaders redesigning our delivery model emphasizing the role of the patient. Nurses, leaders of multi-professional teams, can shift from a task-oriented focus to an outcome-orientated focus. Patients need to be involved in every part of the process. Patients and families should hold seats on advisory councils to affect change in the conversation on how care is planned, delivered, and received.

As a method to improve patient engagement at CCRMH, bedside rounding was initiated hospital-wide; unfortunately, it is not being consistently implemented. Therefore, the present project will advance nursing practices as there will be disease-specific education for our vascular population and the start to the conversation about cultural change.

Local Background and Context

The GWNW was an educational medium enabling the delivery of Interactive Patient Care (IPC). In September of 2016, CCRMH initiated the GWNW as a new

interactive care delivery model to: (a) help educate patients and their families; (b) invite patients to participate in their care; (c) create strong clinician-person partnerships; and (d) improve care quality, safety, and outcomes. The GWNW had hundreds of educational videos on specific disease processes and medications; however, there were few educational videos specific to vascular disorders; therefore, patient scores for usage were low. From January 1, 2017, through January 15, 2017, GWNW utilization results were as follows: health videos 75% with 112 completed/149 started; safety videos 93% with 13 completed/14 started; orientation videos 86% with 109 completed/127 started; healing videos 2 completed/3 started; entertainment videos 52% with 30 completed/58 started; and no service videos started or completed. The top five health videos viewed on the vascular unit were:

1. “Working together to prevent Blood Clots” (22 completed)
2. “Urinary Catheter Care” (21 completed)
3. “Infection Prevention: Incentive Spirometry” (16 completed)
4. “Describing and Rating Your Pain” (12 completed)
5. “What is a Pressure Ulcer” (11 completed)

My project acted as a springboard for the development of educational videos specific to vascular conditions of vascular patients and to be used by the Vascular Institute of Excellence for patient and caregiver education. The videos’ content will be presented by vascular surgeons and nurses in an easily understandable format allowing patients and families the ability to take an active role in their healthcare.

CCRMH, located in Roanoke, Virginia, is a tax-exempt integrated healthcare organization presently providing care for nearly one million people. The system consists of hospitals, primary and specialty physician practices, and other complementary services. CCRMH owns and operates seven hospitals in western Virginia. The system has over 12,100 employees with 685 physicians covering more than 70 specialties (Carilion Clinic, 2017).

The organization's mission is to improve the health of the communities they serve. The vision is a commitment to a common purpose of better patient care, better community health, and at a low cost. The organization's values include: (a) community, working in unison to serve our community; (b) courage, doing what is right for our patients without question; (c) commitment, unwavering in our quest for exceptional quality and service; (d) compassion, putting heart into everything we do for our patients every day; and (e) curiosity, fostering creativity and innovation in our pursuit of excellence (Carilion Clinic, 2017).

IPC focused on improving patient outcomes through patient and family engagement (Drenkard et al., 2015). The goal of IPC was to help people take an active role in their health journey to affect patient compliance, satisfaction, and recovery while improving clinical and operational outcomes. GWNW's IPC solution engaged patients and families at every point along the care continuum: inpatient, outpatient, and throughout their daily lives. Delivered at the bedside or through any web-enabled computer or mobile device, IPC technology placed customized content and physician-

ordered education and intervention at the patient's fingertips. In February of 2014, CCRMH executives decided to implement a hospital-wide roll-out of IPC because they realized everyone throughout the delivery of care from patients to nurses to physicians, families, pharmacist, labs, bed management, environmental services, and even the chaplains needed access to the same care experiences and delivery model. IPC helps people take an active role in their health journey and learn what is needed to stay as safe and healthy as possible. By returning patients home with a better understanding of their condition, we help them stay out of the hospital, which helps foster healthier communities. With IPC, nurses ordered physician-prescribed video education and bypassed having to print and read handouts to patients. By asking follow-up questions through the system, nurses know if and how well patients and their families understand what they have learned about their condition. The educational videos rolled over into their electronic medical record allowing them to view the educational videos from home.

Adopting IPC helped patients, hospitals, and health systems achieve objectives. Patients were empowered to care for themselves given the information via information technology. This has led to better health outcomes, reduced healthcare costs, and reduced hospital readmissions. Hospitals and health systems met business objectives such as health information technology integration, community engagement growth strategy, increased reimbursement, and population health management through electronic health records ensuring patient centric care.

Role of the DNP Student

My professional context and relationship to the DNP project expanded daily. I was responsible for (a) reviewing the evidence related to best practices on leg elevation, (b) developing a storyboard to be made into an educational video on the importance of leg elevation for our vascular population, (c) developing a PowerPoint presentation on the theory behind the development of edema after surgery, (d) presenting the storyboard/PowerPoint content to stakeholders, and (e) modifying the storyboard content based on stakeholder feedback.

During the summer of 2016, I met with the unit managers and director of our vascular department and noted the following, (a) patient viewing of educational videos was low, (b) no cardiovascular disease specific videos existed, (c) vascular physician discharge instruction scores were low, and (d) videos specific to the developing Vascular Institute of Excellence did not exist. In the fall of 2016, I attended a vascular monthly leadership meeting and presented my concerns to the vascular department leadership (vascular department managers, vascular physicians, and the department director) and received their support for the project. My motivation for this project was to ensure patients and their families had the knowledge and skills to care for themselves upon discharge and to prevent hospital readmission.

Role of the Project Team

The project team consisted of nurses, aids, vascular leadership, two-unit managers, mid-levels, a nurse educator, and vascular physicians. The team was presented

a storyboard on leg elevation after vascular surgery and a PowerPoint presentation on the theory of edema development after lower extremity bypass surgery. Team members were asked to complete a brief survey on the storyboard providing opinions of the material and suggestions for improvement. The storyboard and PowerPoint were presented at the monthly vascular physicians meeting and two separate VICU staff educational sessions. Team members gave feedback completing a brief survey after the storyboard was presented. Surveys were reviewed, and the feedback was presented at the next meeting with the necessary changes made to the storyboard.

Summary

The American healthcare delivery system was based on an acute-care model, expensive, clinician-driven, produced poor healthcare outcomes, and was not efficiently or universally administered to all patients in all areas of the United States (Laureate Education, 2011). This existing model was not effective. A new healthcare delivery model based on patient engagement and partnership between clinicians and patients was recommended. CCRMH, a magnet organization, offered the GWNW as a medium to educate patients and caregivers. The GWNW included 1,600 educational videos, some specifically targeting certain diseases and populations within the healthcare organization; however, there was only one video available for vascular postoperative patients. Due to a lack of educational videos, nurses were not able to provide vascular-specific education to this population of patients and physicians were receiving low HCAHPS scores for patient education. The GWNW, based on the ICM, stressed patient engagement and clinician

partnering. In this care delivery model, patients needed to be more active in maintaining their health, needed to understand care options, and needed to be able to make decisions and clinicians needed to transition from decision-makers to partners.

Nurses, the most trusted of all professions, were educated in coordinating patient care and preventative measures and possessed the knowledge needed for the shift from an acute-care model to a chronic-care model where patients and families would assume more responsibility for their care. Nurses have served as leaders redesigning our delivery model emphasizing the role of the patients. My DNP project addressed the external environment-practice environment and healthcare system ring of the ICM by developing a storyboard, the first step in developing a vascular-specific video needed to address a problem with the external environment.

Section 3: Collection and Analysis of Evidence

Introduction

Engaging patients and their families in their care has been an effective strategy to improve clinical care, increase satisfaction, and achieve health outcomes. The GWNW was an educational medium at CCRMH that enabled the delivery of IPC. The GWNW was brought to CCRMH as a new interactive care delivery model to: (a) help educate patients and their families; (b) invite patients to participate in their care; (c) create strong clinician-person partnerships; and (d) improve care quality, safety, and outcomes. The GWNW included almost 1,600 educational videos, some specifically targeting certain diseases and populations within the healthcare organization; however, only one video was available for vascular postoperative patients. Therefore, nurses were not equipped to provide vascular-specific education due to a lack of population-specific educational videos on GWNW. The purpose of my doctoral project was to develop a storyboard using best-practice evidence for vascular postoperative patients leading to the development of a video to address the discharge educational needs of vascular patients. The video would be provided by the vascular physicians and nurses to vascular patients and caregivers filling a void in the educational information available to patients. Section 3 includes the following sub-sections: the practice-focused question, sources of evidence, and analysis and synthesis.

Practice-Focused Question

CCRMH was using the GWNW to educate patients. The GWNW provided only one educational video specific to vascular patients. Nurses on the unit were not able to provide vascular-specific education to this specific patient population. The unit's vascular physicians were receiving low scores on discharge instructions for their vascular patients. The gap-in-practice I addressed in this doctoral project was the development of population-specific educational materials to be provided by vascular physicians and nurses.

My doctoral project addressed the gap-in-practice several ways:

- 1) Population-specific education provided by unit specific physicians and nurses can improve HCAHPS scores for physician engagement and discharge education.
- 2) The findings from this project can serve as a springboard for the development of additional educational videos supporting the establishing of the Vascular Institute of Excellence.
- 3) When patients and caregivers are provided with appropriate education, they are empowered to care for themselves upon discharge, improving patient satisfaction.
- 4) This educational material had the potential to improve nurse HCAHPS scores and to prevent hospital readmission, improving organizational reimbursement.

- 5) Stakeholder satisfaction, including physicians, nurses, and patients will be improved.

The practice-focused question was: “Will a vascular-specific educational video improve patient education and stakeholder satisfaction?”

Purpose and Alignment with Practice-Focused Question

The purpose of my project was to develop a storyboard using best-practice evidence for vascular postoperative patients leading to the development of a video addressing educational needs of vascular patients upon discharge. My DNP project acted as a springboard for the development of educational videos specific to vascular conditions to include the vascular surgeons and nurses providing the education to patients and families. This provides patients and caregivers the ability to take an active role in their care. If patients see their physicians and nurses as the educators, the potential is there for improved physician and nurse HCAHPS scores related to discharge education and patient satisfaction. Additional educational videos could be developed specific to the vascular population. Educated patients and families will become empowered to take an active role in their care. With education, patients can possibly prevent readmission, decreasing patient cost and hardships related to readmission, and improving organizational reimbursement.

Operational Definitions

Maurer et al. (2014) defined patient engagement as

A set of behaviors by patients, family members, and healthcare professionals and

a set of organizational policies and procedures that fostered both the inclusion of patients and family members as active members of the healthcare team and collaborative partnerships with providers and provider organizations. (p. 10)

Merriam-Webster (2017) defines a storyboard as “a panel or series of panels on which a set of sketches is arranged depicting consecutively the important changes of scene and action in a series of shots as for a film, television show, or commercial.” In 1928, Walt Disney and staff devised the forerunner to the storyboard technique and later refined the storyboard concept recognizing storyboarding could be used for applications beyond animation and could be used to generate creative solutions to problems. Higgins (1995) discussed a storyboard was the process of creating a story on boards taking your thoughts and the thoughts of others, brainstorming, and spreading them on a wall as you worked on a project or attempted to solve a problem. Storyboarding generated solutions to complex problems such as strategic and operational problems, was flexible, comprehensive, and allowed a group to generate a lot of ideas, was organized and dealt with complex issues, and demanded a high level of participation. Once ideas started to flow, group members became immersed in the problem and began to latch on to each other’s ideas to come up with more creative concepts than would have been achieved by working alone.

Sources of Evidence

The practice-focused question for my DNP project is: “Will a vascular-specific educational video improve patient education and stakeholder satisfaction?” I used two

sources of evidence to address the practice-focused question. First, I reviewed literature to identify evidence-based information on the need for leg elevation after vascular surgery to be used for storyboard development. Second, I gathered stakeholder feedback on the appropriateness of the evidence-based educational content for the storyboard. Sources of evidence for the literature consisted of a review of published research and outcomes on the need for leg elevation and complications of not elevating legs after surgery. Two search engines I used for this project were Walden University's online library and CCRMH's Health Sciences Library-My Athens. I reviewed several nursing and health databases at through Walden University's Library that included CINAHL & MEDLINE simultaneous search, ProQuest Health and Medical Collection, ProQuest Nursing & Allied Health Source, Ovid Nursing Journals Full Text, Cochrane Database of Systematic Reviews, Health and Psychosocial Instruments, Google Scholar, government healthcare organizations, and the GWNW websites. Academic Search Index, SAGE Pub, Science Direct, CINAHL with full text, ELSEVIER, Supplemental Index, and Business Source Index were databases I reviewed through CCRMH's Health Sciences Library.

Search terms for the collection of evidence included: *storyboard, interactive patient care, peripheral vascular disease (PVD) and peripheral artery disease (PAD), bypass surgery, amputation, healing, and edema*. The scope of this search was a 5-year period with most of the articles written in the past 3-years.

The search for IPC and storyboards revealed few articles. IPC was a new concept and articles related to the concept were peer-reviewed research articles authored by the

developers of the GWNW. Textbooks and government and major healthcare organization websites were used for educational data on PVD, PAD, bypass, amputation, healing, and edema. I only located a few peer-reviewed articles on the development of a storyboard.

The second source of evidence generated for this project consisted of feedback from institutional stakeholders. Stakeholders evaluated the content of the storyboard and were asked to provide suggestions to improve the content leading to their endorsement of the storyboard and the development of a future video. Stakeholders provided feedback on what needed to be included or deleted from the storyboard. Including stakeholder feedback would lead to increased satisfaction and thus increased usage of the video and therefore better patient outcomes. Survey questions given to stakeholders are provided in Appendix A.

The collection of best-practice evidence on the need to elevate extremities after vascular surgery was made into a PowerPoint presentation detailing the theory behind edema after lower extremity bypass surgery as seen in Appendix B and a storyboard as seen in Appendix C. The content of the PowerPoint presentation and storyboard will be used later to create an educational video for patients and family members.

Organizational physicians, nurses, and technical support persons were given the opportunity to evaluate the material and provide feedback during presentations I made at staff meetings. If unit nurses were satisfied with the education developed, they would be more likely to show the video to patients and family members improving unit scores for GWNW usage. By using educational content understandable to patients and families on

the importance of leg elevation, patients could take appropriate actions preventing postoperative complications, decrease time spent at discharge going over instructions, assist in a reduction of complications at home, prevent readmission to the hospital for postoperative complications related to swelling, and improve patient satisfaction with physician and nurse discharge education.

Participants

The primary group of stakeholders for this project consisted of 13 team members: five vascular physicians, unit directors for the VICU and VPCU, the vascular nurse educator, vascular unit nurse practitioner and physician assistant, vice-president of the department of medicine, and director of vascular services. A secondary group of stakeholders consisted of a unit nursing staff of 44 participants. The primary group of stakeholders consisted of members of the Vascular Institute Committee and was concerned about improving discharge education. Members of the primary group of stakeholders were also influential in addressing the need for future educational videos specific to CCRMH's Vascular Center for Excellence. Members of the secondary team were the stakeholders responsible for showing the educational materials to patients and family members. If the members of the secondary team were satisfied with the content of the educational video, they would be more likely to promote video viewing to the patients and families.

Procedure

I conducted a literature review to identify evidence-based information on the need for leg elevation after vascular surgery. I used the literature review results to develop a storyboard at an educational level appropriate to the general population. I created a PowerPoint presentation on the theory behind edema after lower extremity bypass surgery at the educational level appropriate to the vascular physician and nursing population. I presented the storyboard and PowerPoint to stakeholders at three separate meetings: the vascular physician's monthly meeting and two separate educational sessions for the VICU's nursing staff. After the storyboard presentation, I administered a survey to gather feedback on the content of the storyboard. I reviewed the survey results looking to identify themes and discussed the results during the next monthly meetings of both physicians and staff. Based on survey feedback and follow-up discussions with physicians and staff, I adjusted the storyboard. With approval, GWNW staff will begin the process of making a video.

Protections

I obtained approval for my project from Walden's Intuition Review Board (IRB), IRB Protocol #05-17-18-0147551.

Analysis and Synthesis

I evaluated two sources of evidence for this DNP project, findings related to best practices for leg elevation and stakeholder responses to open-ended questions and included this information in the storyboard and PowerPoint presentation. The storyboard

also contained evidence from quantitative studies and practice guidelines from professional healthcare organizations.

I created a literature review chart to record, track, organize, and analyze the evidence from quantitative studies. Using a 7-level evidence hierarchy, I identified the strongest evidence to utilize in the storyboard. I also included evidence from Levels 5 and 6 along with clinical practice guidelines from professional healthcare organizations. Clinical practice guidelines represented an effort to distill a large body of evidence into a manageable form and gave specific recommendations and prescriptions for evidence-based decision-making. Guidelines are necessity driven and guide clinical practice. Guideline development typically involves the consensus of a group of researchers, experts, and clinicians. Professional organizations and societies maintain guidelines of relevance to their specialization. Thomas et al. (2000) discussed guideline-driven care in nursing was effective in improving processes and outcomes of care. When clinical practice guidelines are used, they should be critically appraised to identify the ones based on the strongest evidence, have been meticulously developed, are user-friendly, and are appropriate for local use (Polit & Beck, 2008).

I administered a nine-question survey to stakeholders using both qualitative and quantitative approaches. In qualitative research, a researcher selects a qualitative research method that collects open-ended, emerging data used to develop themes. When the data from themes become redundant and repetitive, the data is saturated, and no further investigation is necessary. This method of research allows for a study of an exploratory

nature. The exploration and discovery of data via qualitative research often indicates there is not much written about the participants or the topic of study. Qualitative research takes place in the natural setting, uses multiple methods that are interactive and humanistic, relies on emerging data, and is interpretative (Creswell, 2003). For this DNP project, I analyzed the stakeholder responses to open-ended questions from the questionnaire for common themes. I revised the storyboard content in response to these themes.

Quantitative research is the investigation of phenomena that requires precise measurement and quantification often leading to rigorous and controlled design (Polit & Beck, 2008, p.763). Several survey questions required numerical data collection with associated analysis to describe phenomena.

Summary

The purpose of this DNP project was to develop a storyboard using best-practice evidence for vascular postoperative patients leading to the development of a video addressing educational needs of vascular patients upon discharge. The practice-focused question for this DNP project was: “Will a vascular-specific educational video improve patient education and stakeholder satisfaction?” I reviewed the literature to identify evidence-based information on the need for leg elevation after vascular surgery and used the findings to develop a storyboard and PowerPoint presentation. After showing the PowerPoint and storyboard to the stakeholders, I gathered feedback on the appropriateness of the evidence-based educational content and improved the storyboard.

Section 4: Findings and Recommendations

Introduction

CCRMH acquired the GWNW, an educational initiative consisting of individualized videos, to educate and empower patients and caregivers to improve their healthcare. The initiative originally had 1,600 educational videos, some specifically targeting certain diseases and populations within the healthcare organization; however, there were few educational videos available specific for vascular postoperative patients.

Nurses were not able to provide vascular-specific education to the vascular postoperative patients due to the GWNW's lack of educational videos specific to this patient population. The gap-in-practice I addressed in this doctoral project was the development of population-specific educational materials for VPCU physicians and nurses to provide to postoperative patients. The doctoral project's practice-focused question was: "Will a video addressing the importance of leg elevation improve patients' use of in-house educational videos and stakeholder satisfaction?" The purpose of my project was to develop a storyboard utilizing best-practice evidence for vascular postoperative patients leading to the development of a video addressing educational needs for discharged vascular patients.

I used two sources of evidence to address my practice-focused question, (a) literature to identify evidence-based information on the need for leg elevation after vascular surgery, and (b) stakeholder feedback on the appropriateness of the evidence-based educational content.

A review of published research and outcomes on the need for leg elevation and complications of not elevating legs after surgery provided evidence to support the need to educate patients and family members. With the assistance of CCRMH's librarian, I conducted a research literature review specifically about leg elevation and edema after bypass surgery. The search engines I used were Walden University's online library and CCRMH's Health Sciences Library-My Athens. Basic search terms I used to collect information included *storyboard*, *interactive patient care*, *peripheral vascular disease (PVD)*, *peripheral artery disease (PAD)*, *bypass surgery*, *amputation*, *healing*, and *edema*. My scope of search consisted of a 5-year period with most articles identified being written within the past 3 years. Additionally, I consulted textbooks and government and major healthcare organizations' websites to obtain educational data on *PVD*, *PAD*, *bypass*, *amputation*, *healing*, and *edema*.

A search conducted on *interactive patient care* and *storyboards* revealed few articles. *Interactive patient care* was a new concept and articles related to the concept were peer-reviewed research articles authored by the developers of the GWNW. Only two peer-reviewed articles on the development of a storyboard were found; however, several informational articles were found on how to develop a storyboard.

I used a 7-level evidence hierarchy to rank the evidence strengths (Polit & Beck, 2008, pg. 31). Evidence used for storyboard development on *PAD*, *bypass surgery*, and *edema* came from one article in Level 1, systematic review of randomized control trials; three articles in Level 4, single observational study; and Level 7, multiple articles on the

opinions of authorities and expert committees, as clinical practice guidelines. According to this hierarchy, the strongest evidence comes from systematic reviews that integrate findings from multiple randomized controlled trial (RCT) studies using rigorous and methodical procedures. Observational studies are usually nonexperimental meaning the researcher collected data without introducing treatments or making changes. In nonexperimental studies, the researcher described the status-quo and explored relationships rather than testing a solution to a problem. Evidence-based clinical practice guidelines represent an effort to distill a large body of evidence into a manageable form developed by the consensus of a group of researchers, experts, and clinicians. Guidelines give specific practice recommendations and prescriptions for evidence-based decision-making, attempt to address all issues relevant to a clinical decision, are developed to guide clinical practice, and define a minimum set of services and actions appropriate for certain conditions. Professional organizations and societies maintain collections of guidelines relevant to their area of specialty (Polit & Beck, 2008).

The second source of evidence consisted of input from institutional stakeholders. I presented the storyboard to the stakeholders. They evaluated the content of the storyboard and provided suggestions via an anonymous survey to improve the content. Their participation led to their endorsement of the storyboard and support for future development of a video. Stakeholders provided feedback to enhance their satisfaction of the video and are more likely to recommend and order patient usage of the video thus improving patient outcomes.

Findings and Implications

The Process: Storyboard Development

Developing a storyboard is commonly used as a strategy to organize ideas from a group to solve a problem (Higgins, 1995) or to connect ideas and images when developing a film or television show. Disney used storyboards extensively when developing cartoons with elements of both picture and sound (Pallant & Price, 2015).

The purpose of my DNP Project was to evaluate the content of a storyboard on leg elevation after bypass surgery leading to the development of a video for the GWNW at CCRMH. I met with the storyboard and video developer for GWNW, to learn about storyboard development. His guidance led to the development of two different presentations to present to the physicians and nursing staff. The first presentation included content on the physiological events that can lead to edema after bypass surgery. The second presentation, approved by the storyboard and video developer, was the storyboard content designed to educate patients and caregivers on how to elevate legs after bypass surgery. The storyboard was developed by taking pictures of staff with legs elevated while in a hospital bed and vascular chair and while at home in their bed and in a chair.

I presented the PowerPoint presentation and storyboard to the vascular physicians and leadership ($n = 10$) at their monthly meeting and to the nursing staff of the VICU ($n = 19$) during two separate educational sessions. A total of 44 nursing staff members should have attended; however, 12 staff nurses were present at the first meeting and only

seven were present by telephone during the second meeting. Eight additional staff members, who were not physically present for the meeting nor on the phone, completed a read and sign of the educational session. I am unaware if they had access to the consent and survey.

During both physician and staff meetings, participants read the consent form and I presented the theory behind edema after bypass surgery by showing the PowerPoint and storyboard. At the end of the presentations, participants took a consent form, for their records, and an evaluation survey to complete on their own free time. Two lock boxes were available on the VICU in the physicians' charting area and in the staff breakroom for a period of 1 week after each presentation. The lock boxes allowed a secure place for participants to return their evaluations. After each period, I retrieve the survey responses. One physician, one nursing assistant, and eight nurses completed the survey for a response rate of 19%.

Responses

A nine-item survey was developed and used to assess the appropriateness of the storyboard. A total of 10 surveys were returned. The questions and results were as follows:

1. What is your job role?
 - a. Staff nurse - ($n = 8$; 80% of all returned responses)
 - b. Physician - ($n = 1$; 10% of all returned responses)
 - c. Licensed Practical Nurse - ($n = 0$; 0% of all responses)

- d. Certified Nurse Assistant - ($n = 1$; 10% of all returned responses)
 - e. Nurse Practitioner/Physician Assistant - ($n = 0$; 0% of all returned responses)
2. What is the length of time you have functioned in your job role?
- a. Less than 1 year - ($n = 0$; 0% of all returned responses)
 - b. 1—3 years - ($n = 4$; 40% of all returned responses)
 - c. 4—7 years - ($n = 1$; 10% of all returned responses)
 - d. 8—11 years - ($n = 1$; 10% of all returned responses)
 - e. 12—15 years - ($n = 0$; 0% of all returned responses)
 - f. More than 15 years - ($n = 4$; 40% of all returned responses)
3. Do you think developing a storyboard/video promoting leg elevation will benefit patients?
- Yes- ($n = 10$; 100% of all returned responses)
4. What are your comments regarding the appropriateness of the storyboard?
- a. Storyline appropriate with issues.
 - b. Looked good. Easy to understand.
 - c. Appropriate. On patient's level while providing valid information.
 - d. I think it will be a good idea especially with our vascular surgery patients.
 - e. Good fall slide. Should be before the slides on position.

- f. I believe the storyboard was the correct educational level, length of content, and presented well. Safety was addressed. Pros and cons were addressed. Good presentation.
 - g. Very appropriate.
 - h. It looked informative.
 - i. Applicable to vascular surgery patients-good idea.
5. What information in the storyboard did you like?
- a. “Toes above the nose”
 - b. Toes above the heart
 - c. How and why-safety
 - d. Good
 - e. That patients will be able to visualize the importance of leg elevation while on bedrest.
 - f. Examples/pictures
 - g. Photos
 - h. Showing how the legs should be. That will help patients to understand what they need to do.
 - i. Physiology background as to reason and solution for swelling.
6. What information in the storyboard did you not like?
- a. Nothing - ($n = 5$; 50% of all returned responses)
 - b. More information

- c. Repetition of “Toes above the nose.”
 - d. Liked information just a little too lengthy.
7. What other information would you include in the storyboard?
- a. Nothing - ($n = 5$; 50% of all returned responses)
 - b. I thought it was great.
 - c. Who to contact for more information.
 - d. Approximation of how long leg elevation should go for.
 - e. It seemed to cover all points.
 - f. Add that early ambulation is also helpful for postoperative swelling.
8. Was the education on leg elevation appropriate?
- a. Yes - ($n = 9$; 90% of all returned responses)
 - b. No reply - ($n = 1$; 10% of all returned responses)
9. If developed, would you encourage patients and caregivers to watch the video on leg elevation?
- a. Yes - ($n = 9$; 90% of all returned responses)
 - b. I would try but some patients are difficult.

Unanticipated Limitations or Outcomes

The small number of responses was a limitation of this project. I presented the project to the vascular physicians and nursing leadership and the VICU nursing staff. Only one physician responded (i.e., I achieved a 10% response rate from the vascular

physicians and nursing leadership group). I anticipated a better outcome from the nursing staff. Nineteen out of 44 VICU staff attended the presentation for a 43% attendance rate. While attending this presentation may not have been a priority for the staff, those that attended provided positive feedback on the content of the storyboard.

Nurses who responded were either young nurses with 1–3 years of experience or more experienced nurses with greater than 15 years of experience. These nurses may have an increased understanding of the importance of having an evidence-based patient educational video on leg elevation. Based on anecdotal conversations, physicians are very eager to support converting the storyboard into a patient educational video on leg elevation for the GWNW.

Implications of Findings for Individuals, Communities, Institutions, and Systems

My DNP project's survey results have direct implications for individuals, communities, institutions, and systems. Individuals, including nurses and physicians, were supportive of the project, would encourage patients and caregivers to view the video, and felt the video would benefit patients' health outcomes. CCRMH's mission is to improve the health of the communities served. Communities are directly affected by the making of the video as illustrated by the ICM, the greater community will become healthier after viewing the video as patients will have the knowledge to care for themselves leading to fewer readmissions related to postoperative complications. At an organizational level, through-put is a big problem. Patients are not discharged timely, leaving postoperative patients backed up in the vascular recovery room and in the

emergency room. Furthermore, if patients are readmitted within thirty days, the organization loses money. If fewer patients are readmitted with postoperative complications due to edema, beds will be available for new patients, and institutional payments will not be lost. At the system level, if patients are educated, empowered, and enabled to care for themselves, out-of-hospital nursing care may not be needed, and patients may avoid rehospitalizations with postoperative complications. This will lead to reduced expenses and stress on the healthcare system and reduced personal and financial hardship on patients and caregivers.

Potential Implications to Positive Social Change

The importance of positive social change is emphasized in Walden University's mission statement. The results of my DNP Project, creating a storyboard as the first step to develop a video targeting leg elevation, contribute to social change in several ways. First, vascular patients can improve their health by following the advice provided in the video on the importance of elevating their legs after bypass surgery. Second, my project has the potential to instruct and educate staff on best-practices related to leg elevation and this information can then be shared with patients. Third, sharing the content of the storyboard with the stakeholders encourages a consistent approach to leg elevation across healthcare disciplines and contributes to patient's increased awareness of the importance of leg elevation. Patient outcomes are improved when patients hear the same message from all their healthcare providers.

Recommendations

The gap-in-practice I addressed by my doctoral project was the development of population-specific educational materials to be provided to postoperative vascular patients by the vascular physicians and nurses. The practice-focused question was: “Will a video addressing the importance of leg elevation improve patients’ use of in-house educational videos and stakeholder satisfaction?” My project’s purpose was to develop a storyboard using best-practice evidence for vascular postoperative patients leading to the development of a video to address patients’ discharge educational needs.

The results of the educational sessions’ surveys indicate both physicians and nurses believe the storyboard content was appropriate and would be beneficial to patients. Participants indicated they would encourage patients and caregivers to watch the leg elevation video after bypass surgery. The storyboard was the initial step in the process to develop an educational video. Based on survey results, CCRMH staff will modify the storyboard and present it to the vascular physicians and the staff of the VICU at their next monthly meeting. After modification, the storyboard and video developer for GWNW will use the storyboard to develop the video. Vascular physicians and the nursing staff from the VPCU will participate in the development and filming of the educational video. The PowerPoint presentation on the theory behind edema after bypass surgery and the storyboard are included as Appendix B and Appendix C, respectively. The video is not a requirement of this DNP project.

VPCU nursing staff will attend an in-service training session on the theory behind edema development, the storyboard, and the leg elevation video. Staff will be shown how they can use the GWNW to educate vascular patients on the importance of leg elevation after surgery, encouraged to play the video for patients and caregivers, and provided guidance to answer questions patients may have regarding proper leg elevation.

Two years ago, I met with vascular physicians and nursing leadership to discuss a DNP project to benefit our vascular units and patients. We determined the development of a video for the GWNW on leg elevation after bypass surgery was warranted because there was no such video for patients. Vascular leadership and physicians offered their support of the project and later took part in the evaluation of the presentation and storyboard when I presented the project's results at their monthly meeting. Based on the survey recommendations I gathered from meeting participants, CCRMH staff will revise the storyboard and present it at the next vascular leadership meeting and VICU staff meeting to obtain consensus on the updated storyboard content. The GWNW storyboard and video developer will then develop the educational video on leg elevation and show it to the vascular leaders at their monthly meeting and to the staffs in both the VPCU and VICU as a courtesy prior to the video becoming part of the GWNW's resources.

Consequently, by participating in this DNP project, nursing staff in both units have indicated they have a new and increased emphasis to elevate patients' legs after surgery. Vascular physicians and nursing staff need to include elevating patient's legs after surgery a standard element of vascular patient care. They also need to emphasize the

need for leg elevation to other healthcare providers, such as physical and occupational therapists, as they work with patients to provide a consistent healthcare message and to encourage the same practices at home.

Nursing staff will affirm the importance of leg elevation to patients and caregivers prior to discharge. They will encourage patients to verbalize and demonstrate appropriate strategies for leg elevation at home. Patients and caregivers will have a clearer understanding of the importance to elevate legs and the improved benefits of healthier, surgical outcomes.

Contributions of the Doctoral Project Team

According to Manion (1997)

A team is a small number of consistent people with a relevant, shared purpose, common performance goals, complementary and overlapping skills, and a common approach to its collective work. Team members hold themselves mutually accountable for the team's results and outcomes. (p, 31)

White and Dudley-Brown (2012) further stated

This group will be comprised of individuals who together possess the necessary knowledge, skills, and authority to accomplish legitimate and sustainable change.

The stronger and more inclusive the team members, the higher the likelihood of

success. Having physicians, nurses, and others engaged in patient care and working effectively as teams is a strategy with the potential to improve collaboration, quality of care, and the work environment. (p. 216)

Members of the interdisciplinary team for my DNP project included: (a) the vascular physician group; (b) vascular nursing leadership, which includes unit managers and the nurse educator; (c) nursing staff in the VICU; and (d) members of the GWNW. Two years ago, the vascular nursing leadership and the vascular physician group approved the project's concept, provided support, and evaluated my progress throughout the course of the project. The GWNW storyboard and video developer assisted me with the development of the storyboard and he will be responsible for the development of the video. He educated me about storyboarding and provided invaluable direction with the development of the storyboard. Staff members from the VICU offered project evaluation by returning completed surveys on the appropriateness of the storyboard. Additionally, staff from the VPCU assisted with the photographs for the storyboard mimicking patients in a bed and chair in the hospital with legs elevated and at home on a couch, in a chair, and in a bed with legs elevated.

Team Process and Responsibilities

The GWNW storyboard and video developer and I were the primary team members of this project. We maintained open and continuous communication via email and regular, in-person meetings. At the onset of storyboard development, I had included

too many slides and too much information. I felt the story had to detail how a patient developed peripheral artery disease, how it was diagnosed, and how it was treated. The GWNW storyboard and video developer felt I was telling too much of a story, all I needed to do was focus on leg elevation. It was at this point we identified two separate presentations were needed, one on the theory behind edema after lower extremity bypass surgery and the storyboard specifically on leg elevation. Throughout his evaluations, I would make changes until the content of the storyboard and PowerPoint on edema after bypass surgery met his approval. With approval, I scheduled meetings with the vascular physicians and the VICU staff, their role was to evaluate the appropriateness of the storyboard by responding to a nine-question survey.

Team's role in Developing the Final Product

The vascular physicians, vascular nursing leadership, and the VICU nursing staff completed a survey on the appropriateness of the storyboard's content. CCRMH staff will modify the storyboard and present the final product to the vascular physicians, vascular nursing leadership, and the VICU nursing staff. The GWNW storyboard and video developer will produce the video, which is not a part of this project. Staff members from the VPCU and the vascular physicians will participate in the production of the video.

Plans for Project Extension

My DNP project involved the development of a storyboard on leg elevation after bypass surgery. The video is an extension of this project and may serve as a stepping

stone for the development of other cardiovascular specific videos for our patient population.

Strengths and Limitations of the Project

Reviewers of the storyboard and PowerPoint presentation were the strength of this project. They were from a vascular specialty unit familiar with the needs of vascular patients. The small sample size was the limiting factor of this project. For future projects, I recommend convening more educational sessions to engage a larger participant population. I feel it is feasible to enlist participation of nearby hospitals with vascular units to provide feedback as a multi-centered project.

Summary

GWNW, the educational medium providing patient and caregiver education at CCRMH, offered limited educational videos specific to a population of vascular patients. Patients were not elevating their legs after bypass surgery leading to postoperative edema and other complications resulting in increased length of hospital stay, decreased stakeholder satisfaction, and increased readmission after discharge. My DNP project involved the development of a storyboard on leg elevation after lower extremity bypass surgery. A PowerPoint presentation on edema development after lower extremity bypass surgery and the storyboard were developed and presented to vascular physicians and nursing leadership during one of their monthly meetings and at educational sessions for the VICU nursing staff. Participants replied to a nine-question survey on the appropriateness of the storyboard. I used the survey's recommendations to revise the

storyboard. CCRMH staff will disseminate the revised storyboard to the team members during their next meetings. The GWNW storyboard and video developer will use the revised storyboard to produce a video as a future outcome of my DNP project. Vascular specialists' participation contributed to the development of the storyboard and served to strengthen the project's impact. I consider the project's limitation to be the small sample size with only one vascular unit surveyed in one facility. The project's results will improve health outcomes for vascular patients and provide caregivers and interdisciplinary stakeholders with an evidence-based educational tool specific for the cardiovascular patient population.

Section 5: Dissemination Plan

Introduction

Florence Nightingale, the first nurse researcher and statistician, changed the way nurses think and care for patients (Burns & Grove, 2009). In the past 50 years, nurses have questioned their work environment and clinical practice for the betterment of patient care instead of “providing care in ways that we always have.” Now, nurses critically think, research, and implement best practices to improve patient safety and the quality of patient care by utilizing evidence-based practice (EBP). “EBP integrates the best research evidence with clinical expertise and patient needs and values” (Burns & Grove, 2009, p. 11). “Nurse knowing” comes from four ways of knowing: (a) empirical, the science of nursing; (b) ethical, the right from wrong in the clinical setting; (c) aesthetic, the establishment of meaning; and (d) personal, the knowing of self (Parker, 2006). The best research evidence comes from randomized clinical trials, empirical evidence; but, the other ways of “nurse knowing” must come into play along with patient preferences before EBP will be effective. “Personal knowing” is evidenced by reflection and self-assessment which are important strategies to leadership development. Patients know what they want and need. Nurses come to a situation with academic knowledge, feel they are experts, believe their interventions are what is best for patients, and often find themselves ignored. Nurses must take the patient’s knowledge and values into account for any healthcare initiative to be successful.

Developing evidence to improve clinical practice and disseminating it to be used by clinicians to improve outcomes for patients is important (Morris, Wooding & Grant, 2011). According to Burns and Grove (2009), “Dissemination is the communication or diffusion of research findings by presentations and publications to a variety of audiences, such as, nurses, other healthcare professionals, policy developers, and consumers” (p.697). Scullion (2013) stated that dissemination “must include the concept of utilization as researchers must concern themselves with ensuring that colleagues receive, read, understand, and appreciate the value of and actually utilize evidence in their own decision-making processes and alter behavior” (p. 69).

Dissemination Plan at the Institution

Dissemination of project results will occur through various mediums. Vascular physicians and vascular nursing leadership can review the storyboard during their next monthly meeting. The VICU staff will also view the revised storyboard at their next unit meetings. The content of the storyboard will be used to produce a video for vascular postoperative bypass patients. The VPCU and VICU staff will have the storyboard and eventually the video on edema after vascular bypass surgery to show patients and caregivers. Nursing staff will be encouraging vascular postoperative patients and their families to watch the video as part of their patient education. Additionally, I plan to write an article to be published in my organization’s online nursing research magazine, *Within Reach*, detailing my project’s purpose, results, and outcomes. Vascular staff will present

a poster describing the project along with the actual video as part of Research Day during the Week of the Nurse, May 2019.

Dissemination to the Broader Nursing Profession

At CCRMH, the GWNW is available throughout the entire facility. At times, vascular patients are admitted to nonvascular specific units within the hospital. Subsequently, the leg elevation video will be available throughout the facility. Organizational leaders are planning to expand the availability of GWNW materials to other facilities within the CCRMH network.

The GWNW and the *Journal of Vascular Nursing* are additional venues for disseminating the results of this project. The GWNW has its own website with peer-reviewed articles discussing projects utilizing elements of the GWNW. The *Journal of Vascular Nursing* publishes articles promoting excellence in the compassionate and comprehensive care management of persons with vascular disease. The editors focus on providing quality education, fostering clinical expertise, and supporting nursing research. They welcome manuscripts addressing vascular research, clinical practice papers, literature reviews, EBP guidelines and patient education.

Analysis of Self-Reflection

Grossman and Valiga (2009) stated

Reflecting on an experience after an event occurs and reflecting in real time during an event; learning from everyday experiences and gaining insights about

oneself and one's actions; thinking deeply and honestly about your vision, character, passion, ability and willingness to share power, the way you communicate, your persistence, the extent to which you embrace and celebrate differences and other qualities; and identifying strengths to enhance and limitations to develop as a leader. (p. 163)

This section will provide an analysis of self in the role of practitioner, scholar, and project manager drawing a connection between the project experience, the present state, and long-term goals and describe project completion in terms of challenges, solutions, and insights gained on the scholarly journey.

As a practitioner, I have learned the project experience is a learning process and is a set of steps that takes time and cannot be rushed. It is best not to get upset if the process does not go your way. You must like your project as it may take several years to complete, and interest may get lost along the way. You must celebrate small steps along the way towards completion. I have grown both professionally and personally. I desire more leadership experiences. My practical and educational experience will help me conduct projects and will afford me those leadership experiences. My long-term goals include becoming a unit manager and a director of nurses. Project management skills are needed to fill both roles. My education at Walden University has afforded me skills in information technology, research, project management, team dynamics, conflict resolution, human resources, and leadership. All will benefit me in either role.

As a scholar, I am committed to lifelong learning as evidenced by returning to formal education to obtain a master's and a Doctor of Nursing Practice degrees and a specialty certification. The project experience has equipped me with confidence to develop projects, work with other disciplines, and speak formally. Currently, I plan on completing this scholarly project before starting another adventure. Long-term plans will depend on the path I take such as a nurse on a new cardiovascular floor, unit director, or director of nurses.

As the project manager for this DNP project, I owned the project, had an emotional attachment to the project, and wanted the project to succeed. I am confident in my project development skills; however, I will continue to seek improvement through new ventures.

Project Completion: Challenges, Solutions, and Insights Gained

Challenges that I encountered while conducting this DNP project included: (a) balancing work family, and life; (b) obtaining project support; (c) working through the IRB approval process; and (d) identifying a place to present the project. My jobsite and this project were conducted at a large teaching facility and Magnet organization 60 miles from my home. Initially, I traveled daily to and from the practicum and work site. Later in the project, I had the opportunity to stay with a friend and colleague to reduce travel time. My family lives approximately 3 hours away and could not provide immediate family support. During my DNP project, my home was vandalized, and my computer was stolen. My sister assisted me with purchasing a computer. My colleague, unit manager,

and Dr. Fowles provided me with moral support. The IRB approval process was stressful. I learned getting upset would not help me or the project. I was not able to present the project to my unit, instead I had to present to the VICU staff. At that time, the facility was preparing for their fourth Magnet certification and my project was not a priority to the VICU staff as I had only 10 survey responses.

Insights gained from this journey include continue your education while you are young, do not wait too late in life, support from family and friends is needed, keep your focus on the product, and keep learning and trying, never give up. Leadership is a journey.

Summary

Patient education at CCRMH is provided to patients and caregivers via the educational medium, the GWNW, which develops and provides educational videos specific to diseases, health conditions, and medications; however, there are few educational videos specific to a population of vascular postoperative patients. The purpose of this DNP project was to develop a storyboard, using best practice evidence for vascular postoperative patients on leg elevation leading to the development of a video to address the discharge educational needs of vascular patients. The practice focused question for this project was: “Will a video addressing the importance of leg elevation improve patients’ use of in-house educational videos and stakeholder satisfaction?” Stakeholders provided positive feedback on the appropriateness of the evidence-based educational content for the storyboard, supported further development of the educational

video, stated they would encourage patients and caregivers to view the video, and felt the video would improve patient health outcomes. This DNP project has the potential to empower patients to improve their health after viewing the video, educate staff on best practices related to leg elevation to be shared with patients, distribute storyboard content across disciplines encouraging a consistent approach to leg elevation, and contribute to an increased awareness of the importance of leg elevation; thus, improving outcomes as patients will hear the same message from all healthcare providers.

References

- Ball, M., Douglas, J., & Walker, P. (2011). *Nursing informatics: Where technology and caring meet* (4th ed.). Heidelberg, NY: Springer.
- Bennett, T. (2015). The importance of patients getting good information. *British Journal of Cardiac Nursing*, 10(4), 165–166.
- Bernabero, E., & Holmboe, E. (2013). Patients, providers, and systems need to acquire a specific set of competencies to achieve truly patient-centered care. *Health Affairs*, 32(2), 250–258.
- Berwick, D., Nolan, T., & Whittington, J. (2008). The triple aim: Care, health, and cost. *Health Affairs*, 27(3), 759–769.
- Burkhardt, M., & Nathaniel, A. (2008). *Ethics & issues in contemporary nursing* (3rd ed.). Clifton Park, NY: Delmar Cengage Learning.
- Burns, N., & Grove, S. (2009). *The practice of nursing research: Appraisal, synthesis, and generation of evidence* (6th ed.). St. Louis, MO: Saunders/Elsevier.
- Carilion Clinic. (2016). About us. Retrieved from <https://www.carilionclinic.org/about-carilion-clinic>
- Carilion Clinic. (2016). Awards and designations. Retrieved from <https://www.carilionclinic.org/about/carilion-awards>
- Carilion Clinic. (2016). Vascular progressive care unit get well network utilization. Retrieved from <https://email.carilionclinic.org/OWA/WebReadyView.aspx?t=att&id=RgAAAAC>

c7RvqfEWTS4LFUhtPcZ%2bgBwCmc0zh0GF3SafqtrtlI2uAAOrYNJYAAAs3z
 MWKGGK1SIbwuMerti21AACsdd4xAAAJ&attid0=BAABAAAA&attcnt=1&psp
 id=_1477039166498_521479971

Carilion Clinic. (2017). About us. Retrieved from www.carilionclinic.org/about-carilion-clinic

Coulter, A. (2011). *Engaging patients in healthcare*. New York, NY: Open University Press.

Creswell, J. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: SAGE Publications, Inc.

Deyo, P., Swartwout, E., & Drenkard, K. (2016). Nurse manager competencies supporting patient engagement. *Journal of Nursing Administration, 46*(3), S19–S26. doi:10.1097/NNA.0000000000000318

Drenkard, K. (2016). Are we really patient focused? Time to challenge ourselves. *Journal of Nursing Administration, 46*(3), S1–S2. doi:10.1097/NNA.0000000000000318

Drenkard, K., Swartwout, E., Deyo, P., & O'Neil, M. (2015). Interactive care model: A framework for more fully engaged people in their healthcare. *The Journal of Nursing Administration, 45*(10), 503–510. doi:10.1097/NNA.0000000000000242

Foster, A., Murff, H., Peterson, J., Gandhi, T., & Bates, D. (2003). The incidence and severity of adverse events affecting patients after discharge from the hospital. *Annals of Internal Medicine, 138*, 161–167.

- Foster, A., Clark, H., Menard, A., et al. (2004). Adverse events among medical patients after discharge from hospital. *Canadian Medical Association Journal*, *170*, 345–349.
- Friedberg, M., van Busum, K., Wexler, R., Bowen, M., & Schneider, E. (2013). A demonstration of snared decision making in primary care highlights barriers to adoption and potential remedies. *Health Affairs*, *32*(2), 268-275.
- Grossman, S., & Valiga, T. (2009). *The new leadership challenge: Creating the future of nursing* (3rd ed.). Philadelphia, PA: F. A. Davis Company.
- Hibbard, J., & Green, J. (2013). What the evidence shows about patient activation: Better health outcomes and care experiences; fewer data on costs. *Health Affairs*, *32*(2), 207–214.
- Higgins, J., (1995). Training 101: Storyboard your way to success. *Training & Development*, 13–17.
- Hodges, B., & Videto, D. (2011). *Assessment and planning in health programs* (2nd ed.). Sudbury, MA: Jones & Bartlett Learning.
- Houser, J. (2008). *Nursing research: Reading, using, and creating evidence*. Sudbury, MA: Jones & Bartlett Publishers.
- Institute of Medicine. (1999). *To err is human: Building a safer health system*. Washington, DC: National Academy Press.

- Johnson, A., Sandford, J., & Tyndall, J. (2003). Written and verbal information versus verbal information only for patients being discharged from acute hospital settings to home. *Cochrane Database Systematic Reviews*, (4): CD003716.
- Katz, D., & Kahn, R. (1978). *The social psychology of organizations* (2nd ed.). New York, NY: Wiley & Sons.
- Laureate Education, Inc. (Executive Producer). (2011). *Organization and systems leadership for quality improvement*. Baltimore, MD: Author.
- Legare, F., & Witterman, H. (2013). Shared decision making: Examining key elements and barriers to adoption into routine clinical practice. *Health Affairs*, 32(2), 276–284.
- Levasseur, R. (2004). Open system theory and organizations. *Futurics*, 28(3/4), 82–87.
- Manion, J. (2005). *From management to leadership: Practical strategies for health care leaders* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Marcantonio, E., McKean, S., Goldfinger, M., Kleefield, S., Yurkofsky, M., & Brennan, T. (1999). Factors associated with unplanned hospital readmission among patients 65 years of age and older in a Medicare managed care plan. *American Journal of Medicine*, 107: 13–17.
- Maurer, M., Dardess, P., Carman, K., Frazier, K., & Smeeding, L. (2014). Guide to patient and family engagement. Retrieved from <http://www.ahrq.gov/research/findings/final-reports/pafamilyscan/index.html>

- McEwen, M., & Wills, E. (2011). *Theoretical basis for nursing* (3rd ed.). Philadelphia, PA: Lippincott, Williams, & Wilkins.
- Meyer, R., & O'Brien-Pallas, L. (2010). Nursing services delivery theory: An open system approach. *Journal of Advanced Nursing*, 66(12), 2828–2838.
- Morris, Z., Wooding, S., & Grant, J. (2011). The answer is 17, what is the question: Understanding time lags in translational research. *J R Soc Med*, 104(12), 510–520.
- Nace, G., Graumlich, J., & Aldag, J. (2006). Software design to facilitate information transfer at hospital discharge. *Informatics in Primary Care*, 14, 109–119.
- Pallant, C., & Price, S. (2015). Storyboarding at Disney. In: *Storyboarding*. Palgrave Studies in Screenwriting. London, EG: Palgrave MacMillan.
- Parker, M. (2006). *Nursing theories and nursing practice* (2nd ed.). Philadelphia, PA: F. F. Davis Company.
- Polit, D., & Beck, C. (2008). *Nursing research: Generating and assessing evidence for nursing practice* (8th ed.). Philadelphia, PA: Lippincott, Williams, & Wilkins.
- Project Management Institute. (2004). *A guide to the project management body of knowledge* (PM-BOK Guide; 3rd ed.). Newtown Square, PA: ANSI Publication.
- Scotten, M., Manos, E., Malicoat, A., & Paolo, A. (2015). Minding the gap: Inter-professional communication during inpatient and post discharge chasm care. *Patient Education and Counseling*, 98, 895–900.

- Shepperd, S., Parkes, J., McClaren, J., & Phillips, C. (2004). Discharge planning from hospital to home. *Cochrane Database Systematic Reviews*, (1): CD000313.
- Scullion, P. (2013). Issues in research: Effective dissemination strategies. *Nurse Researcher*, 10(1), 65–77.
- Swartwot, E., Drenkard, K., McGuinn, K., Grant, S., & El-Zein, A. (2016). Patient and family engagement summit: Needed changes in clinical practice. *The Journal of Nursing Administration*, 46(3), S11–S18. doi:10.109
- Thomas, L., Cullum, M., McColl, E., Rousseau, N., Soutter, J., & Steen, N. (2000). Guidelines in professions allied to medicine. *Cochrane Database of Systematic Reviews*, No.CD000349.
- United States Department of Health and Human Services. (2005). *Introduction to program evaluation for public health programs: A self-study guide*. Atlanta, GA: Centers for Disease Control and Prevention. Retrieved from: <http://www.cdc.gov/eval/evalguide.pdf>.
- United States House of Representatives. (2010). Patient protection and affordable care act. 42: 18001-et seq.
- Weaver, S., Lyons, R., DiazGranados, P., Salas, E., Oglesby, J., Augenstein, J. ...King, H. (2010). The anatomy of healthcare team training and the state of practice: A critical review. *Academic Medicine*, 85(11), 1746–1760. doi:10.1097/ACM.0b013e3181f2e907

White, K., & Dudley-Brown, S. (2012). *Translation of evidence into nursing and health care practice*. New York, NY: Springer Publishing Company.

Zaccagnini, M., & White, K. (2011). *The doctor of nursing practice essentials: A new model for advanced practice nursing*. Sudbury, MA: Jones & Bartlett Publishers.

Appendix A: Stakeholder Survey Questions-Storyboard

Stakeholder Survey Questions-Storyboard

1. What is your job role? (Check one)
Staff Nurse _____
Physician _____
Licensed Practical Nurse _____
Certified Nurse Aide _____
Nurse Practitioner/Physician's Assistant _____
2. What is the length of time that you have functioned in that job role?
(Check one)
Less than 1 year _____
1—3 years _____
4—7 years _____
8—11 years _____
12—15 years _____
More than 15 years _____
3. Do you think that developing a storyboard/video promoting leg elevation will benefit patients?

4. What are your comments regarding the appropriateness of the storyboard?

5. What information presented in the storyboard did you like?

6. What information in the storyboard did you not like?

7. What other information would you want included in the storyboard?

8. Was the education provided on leg elevation appropriate?

9. If developed, would you encourage patients/caregivers to watch the video on leg elevation?

Appendix B: Power Point Leg Elevation after Lower Extremity Bypass Surgery: “Toes Above the Nose”

Leg Elevation after Lower Extremity Bypass Surgery: “Toes above the Nose”

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July 2018

Leg Elevation after Lower Extremity Bypass Surgery: “Toes above the Nose”

- Peripheral Artery Disease (PAD)



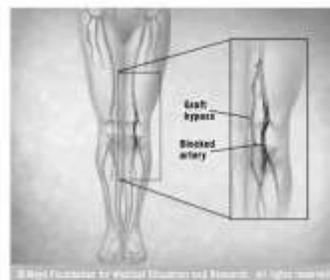
The image contains three anatomical diagrams of the leg. The central diagram is labeled 'Arteries of the Leg' and shows a full view of the lower leg with various arteries labeled. To the left is a diagram of the 'Right Posterior Tibial Artery with Complete Occlusion', showing a cross-section of the artery that is completely blocked. To the right is a diagram of the 'Left Posterior Tibial Artery with 80% Occlusion', showing a cross-section of the artery with a significant narrowing. A watermark 'alamy stock photo' is visible at the bottom of the diagrams.

Leg Elevation after Lower Extremity Bypass Surgery: “Toes above the Nose”



Leg Elevation after Lower Extremity Bypass Surgery: “Toes above the Nose”

- Bypass Surgery



Leg Elevation after Lower Extremity Bypass Surgery: "Toes above the Nose"

- Complication after Bypass Surgery- Edema



Leg Elevation after Lower Extremity Bypass Surgery: "Toes above the Nose"

- Causes of Post-Operative Edema:
 - Pre-surgical swelling
 - Local wound healing
 - Hyperemia
 - Microvascular permeability
 - Reperfusion associated inflammation
 - Lymphatic disruption
 - Venous disruption



Leg Elevation after Lower Extremity Bypass Surgery: “Toes above the Nose”

- Treatments to Prevent Post Operative Edema include:
 - Lymph sparing surgery
 - Lymph massage
 - Antioxidant treatment prior to surgery
 - Intermittent pneumatic compression
 - Compression
 - Movement
 - Leg elevation



Leg Elevation after Lower Extremity Bypass Surgery: “Toes above the Nose”

- Edema can cause Patient:
- Anxiety
 - Pain
 - Delayed ambulation and rehabilitation
 - Prolonged in-patient hospital stay or out-of-hospital care
 - Delayed healing
 - Infection



Leg Elevation after Lower Extremity Bypass Surgery: “Toes above the Nose”

The gold standard to prevent edema after lower extremity bypass surgery is elevation.



References

- Lewis, S., Dirksen, S., Heitkemper, M., Bucher, L., & Camera, I. (2011). *Medical surgical nursing: Assessment and management of clinical problems* (8th ed.). St. Louis, MO: Elsevier Mosby.
- Slaa, A., Dolmans, D., Ho, G., Moll, F., & van der Laan, L. (2012). Pathophysiology and treatment of edema following femoropopliteal bypass surgery. *Vascular*, 20(6), 350-359. doi: 10.1258/vasc.2011.ra0055
- Soong, C., & Barros D'Sa, A. (1998). Lower limb oedema following distal arterial bypass grafting. *European Journal of Vascular & Endovascular Surgery*, 16, 463-471.
- Texas Heart Institute. (2016). Peripheral vascular disease. Retrieved from <https://www.texasheart.org/heart-health/heart-information-center/topics/peripheral-vascular-disease/>
- Villeco, J. (2012). Edema: A silent but important factor. *Journal of Hand Therapy*, 153-161. doi: 10.1016/j.jht.2011.09.008

Appendix C: Storyboard: “Toes Above the Nose”

A Storyboard on Leg Elevation to Prevent Swelling after Lower Extremity Bypass Surgery: “Toes Above the Nose”

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July 2018

Storyboard: “Toes above the Nose”

Video**Audio**

- Some swelling is normal after lower extremity bypass surgery. The gold standard to prevent leg swelling is elevation. Gravity is your best friend. What goes up, must come down. This means elevated legs decreases swelling. To prevent swelling, your extremity must be above the level of your heart. Your toes should be above your nose. Here are a few examples of the correct way to elevate your legs while in the hospital and at home to prevent swelling after bypass surgery.

Storyboard: "Toes above the Nose"

Video



Audio

- In the hospital bed, leg elevation can be accomplished by using one or two pillows under your leg and elevating the foot of the bed. The whole leg should be supported, not just below the knee. The knee should be slightly bent. As you can see, the foot of the bed is higher than the head of the bed. Your toes are above your nose. Exercising the ankle, by flexing and extending and making a circular motion, will help reduce edema and promote circulation.

Storyboard: "Toes above the Nose"

Video



Audio

- In the vascular chair, the leg may also be elevated on two or three pillows with the head slightly lowered. Notice that your toes are above the level of your heart or your nose.

Storyboard: "Toes above the Nose"

Video



Audio

- You should expect to start walking soon after surgery. Ambulation is another way to help prevent swelling in your legs, maintain blood flow, and help your incisions heal. While you are in the hospital, PT, nursing staff, or ambulatory aids will help you walk in your room and in the hall 3-4 times daily.

Storyboard: "Toes above the Nose"

Video



Audio

- After you are home, you will be encouraged to take short walks, 3-4 times daily, slowly increasing how far you walk until you are able to resume your regular activities.

Storyboard: “Toes above the Nose”

Video



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Audio

- Initially, when you go home, you will be resting more and will need to elevate your legs. Do not sit with your legs down and do not sit for more than an hour at a time.

Storyboard: “Toes above the Nose”

Video



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Audio

- As you progress, you will become more active and may notice more lower leg swelling. Do not stand for long periods of time. Alternate activity and rest periods. When you are resting, keep your legs elevated. As you become more active, elevate your legs at least 1 hour in the morning and 1 hour in the afternoon.

Storyboard: "Toes above the Nose"

Video



Audio

- At home, while you are sitting or resting, you will need to elevate your legs. If you have a recliner at home, leg elevation can be accomplished by reclining the chair and placing two or three pillows under the surgical leg. As seen, your toes are above the level of your heart and nose.

Storyboard: "Toes above the Nose"

Video



Audio

- While in the bed at night or while lying on the couch during the day, leg elevation may be accomplished by lying flat on your back with two or three pillows under your surgical leg. Again, you can see that your toes are above your heart and nose.

Storyboard: "Toes above the Nose"

Video



Audio

- Always remember while in the hospital and at home, you may need to ask for assistance when getting out of the bed or your recliner to prevent falling.

Storyboard: "Toes above the Nose"

Video



Audio

- By following medical staff recommendations on leg elevation after lower extremity bypass surgery, you can take an active role in managing your care; improve healing; shorten your hospital stay; prevent re-admissions and the hardships associated with re-admission; be more satisfied with your care and your healthcare providers; and be on the road to recovery.