Incorporating telemedicine into a surgical practice

- Kristen Harkey

Complex wounds can create a challenge for the patient as well as the surgeon. The challenges faced include operative management, cosmesis, long-term management, effects on lifestyle for patient and caregiver, and self-image (Park, Copeland, Henry & Barbul, 2010). Hospitalized patients will have the surgical team, the wound care specialist, and a bedside nurse to assist them in their daily care. When these patients are ready to leave the hospital they can feel anxiety about providing care for themselves, especially if they have a complex wound present. This anxiety can decrease once they learn how to care for themselves at home while having the readily available supplies, but then they must leave their homes to travel to come to the surgical office for a wound check. This can be a burden to not only the patient but their primary caregiver. The purpose of this paper is to introduce an evidence-based change project that focuses on providing patients with the option of telemedicine office visits.

Background

In 2010, approximately 51. 4 million inpatient surgeries were performed in the US according to the National Center for Health Statistics (CDC/NCHS, 2010). Wound complications can be an important cause of postoperative morbidity following a laparotomy (Mizeell, Sanfrey, Collins, 2014). Acute wound care is needed in all patients with surgical and traumatic wounds, when an incision is made this creates a wound which will need further attention. There are a multitude of ways to address these wounds such as wet to dry dressings, dry packing strips, wound vac systems, and if needed further surgery such as a skin graft. These wounds can then become chronic

when they have failed to proceed through the reparative process to produce anatomic and functional integrity in 12 weeks (Sen, 2009). Both acute and chronic wounds can become a significant financial burden on both the healthcare system and the patient’s themselves.

Significance

With the sheer number of surgeries listed above, this will create wounds that need to be managed appropriately. Not only are wounds created by surgery, they can also be created by trauma or massive soft tissue infections (Park, Copeland, Henry & Barbul, 2010). Part of this management may be further surgical interventions to restore the fascia or possibly watchful waiting. In our facility in 2014, 3349 patients were evaluated by our wound care specialist. Of these 695 patients had surgically created wounds and approximately 656 were managed with wound vacs (G. Caldwell, personal communication, January 20, 2015). These patients will need to be followed in the outpatient setting for ongoing wound assessments, possible change in wound management, or further surgical intervention if indicated. The outpatient care to these patients will include discussions on proper nutrition to promote wound healing, activity levels, timing of dressing changes, and ongoing assessments of the wounds. It can create a significant burden to patient and caregiver to travel to office visits for ongoing assessment of the wounds which can take as little as ten to fifteen minutes to examine once they have arrived back to the exam room. This short office visit can create a significant burden to the patient and their caregiver, this burden can include ability to keep themselves clean throughout the trip, financial, and time-strain.

PICO Question and Components

Evidence-based practice (EBP) can be described as a “ life-long problem solving approach to clinical decision-making that involves the conscientious use of the best available evidence with one’s own clinical expertise and patient values and preferences to improve outcomes for individuals, groups, communities, and systems” (Melnyk & Fineout-Overholt, 2011). EBP will help to ensure high quality, safe, relevant, and up-to-date care while at the same time improving patient outcomes (Robb & Shellenbarger, 2014). One of the ways to create EBP in a way that will yield the most relevant information from a search is to form a question in the PICOT format. The PICOT format is composed of the following: “ P” will describe the patient population, “ I” will reveal the intervention or issue of interest, “ C” will reveal the comparison intervention or status, “ O” will reveal the outcome, and “ T” will reveal the time frame in which the intervention/issue of interest will accomplish the outcome (Melnyk & Fineout-Overholt, 2011). For the purpose of this paper, the author will include all components listed except for time which will be addressed at another juncture.

Population

The population of focus will be outpatient postoperative patients in the home health setting. The patient population will be those with acute/chronic wounds, ages eighteen and up, both male and female patients with no restrictions on ethnicity. The wounds will likely be compromised of complex abdominal wounds, however no limit will be placed on the type/cause of the wound. The patient’s will live in North Carolina or South Carolina and reside

within a 4 hour drive from Charlotte, NC. No restrictions will be placed on the agency providing home health services to the patient.

Intervention

Telemedicine is defined by the World Health Organization (WHO) to be the practice of healthcare using video, interactive audio, and/or data communications (Chanussot-Deprez & Contreras-Ruiz, 2008). With the use of telemedicine the patients will be able to stay in their own home. This will also provide an enhanced team based approach because we will have both the patient, patient's caregiver if applicable, and the home health nurse. This will provide accurate documentation of wound measurements. The appropriate wound care will then be provided by the home health nurse, and if applicable the wound vac will be re-applied.

Comparison

The comparison group will be a standard office visit. The standard office visit will consist of the patient and their caregiver coming to our surgical practice, in one of our two locations. The patient will be required to wait for their appointment time and wait as required for the provider to see them. If a wound vac is present, this will be removed in the office and will not be re-applied per standard operating procedures. The patient will have a temporary dressing replaced and will then need the home health nurse to come to their home upon their arrival to re-apply the wound vac. This consists of a standard office visit in our practice.

Outcome

The anticipated outcome, will be no effect on wound healing when using telemedicine. For the practitioner, one important aspect of examination of the wound is not only using your sense of sight but also your sense of smell. The smell of a wound can be indicative of necrotic tissue that requires further debridement or possibly a wound infection. This sense will be missing with telemedicine and the practitioner will need to rely heavily on the home health nurse for this aspect of assessment. Another outcome for this study will be increased patient satisfaction. The patient with a complex abdominal wound may have difficulty at baseline maintaining adequate coverage for the drainage, this is more of a challenge when you add frequent position changes associated with traveling to a health care provider’s office.

In summary, a postoperative surgical patient will require care for the surgical wound in an outpatient setting. This care can be frustrating for the patient, the patient’s caregiver, and the home health nurse. With the addition of telemedicine to a surgical practice this will decrease the burden of traveling to a standard office visit as well as enhance multi-disciplinary care for the patient. It is the hope of the author that for complex wounds that remain difficult to manage in the outpatient setting, the inpatient wound ostomy nurses who provided care inpatient will be able to assist more in the outpatient setting by providing continuity of care.

Conclusion

With every surgery performed a resultant wound is created. Wounds can also be created by trauma or massive necrotizing soft tissue infections (Park, Copeland, Henry & Barbul, 2010). The surgical wound can heal without

difficulty and the patient returns to his activities of daily living, however a multitude of wound complications can occur delaying wound healing. Some wound complications will require further surgery, however due to the nature of these wounds surgery may need to be delayed for up to one year or longer. This can cause caregiver strain and for the patient can take away many of the freedoms we enjoy on a daily basis. As part of a standard office visit the patient is expected to arrange transportation to our office, wait for his/her appointment time, have their wound examined, and then if a wound vac is used they are expected to have this re-applied when they get back to their home by the home health nurse. With the addition of telemedicine to the patient's postoperative care, they would be able to have a multidisciplinary team visit them in the home using telemedicine resources. This would significantly decrease the burden travel can create for these patients with complex wounds.

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