NCPD 1.5 contact hrs Nursing Continuing Professional Development

Male External Catheter Care and Maintenance

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Male external catheter (MEC) use on rehabilitation units is an intervention that nursing staff may use to address incontinence while maintaining the dignity and modified independence of their patients. This nursing practice does not require a physician order and allows nurses to use their clinical judgment and supports nurse autonomy. However, without the oversight of a provider and patient care orders, the potential to negatively impact the patient with lack of proper care and maintenance is a concern for consideration by all rehabilitation nurses. Development of best practice guidelines from nursing literature can facilitate high-quality nursing care and improve patient satisfaction by reducing the risk of complications and negative outcomes.

Clinical Inquiry

On the neurorehabilitation unit at Sinai Hospital of Baltimore, condom catheters (MECs) are often applied by nurses or nursing assistants to prevent episodes of urinary incontinence overnight or while the patient is participating in therapy. The MEC is seen as a simple solution because it is easily applied and allows nurses the autonomy to choose this method of urinary collection device without a physician order.

However, without proper care and maintenance, use of an MEC places the patient at risk of adverse events, including infection or damage to the skin of the penis. Occasionally, poor clinical practice has been observed within this acute rehab unit and other areas of the hospital. Poor practice includes the use of tape or Tegaderm on the penis, adhesive buildup in pubic hair, poor hygiene practices, and lack of documentation of care related to MEC use (M. Stiller, personal communication, July 26, 2022). To understand the best practices related to MEC use, a literature search was completed with the PICO(T) question, "In hospitalized males, how does best practice for external urinary catheter maintenance compared to current practice affect patient outcomes?"

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Literature Search

The Cumulated Index to Nursing and Allied Health Literature and PubMed databases were used to search articles published within the past 5 years using the search terms "condom catheter," "external catheter," "male external catheter AND urinary," "penile sheath," and "urinary sheath."

A total of 856 articles were identified. Articles were excluded if they were about pediatric patients, from community nursing journals, or available in a language other than English. After a cursory review of titles and abstracts, 842 articles were eliminated. Eleven articles were critically appraised for the literature review. This included four relevant articles retrieved from bibliographies that were less than 10 years old from publication date.

Literature Review

Effects of External Catheter Use

Use of an MEC can improve patient quality of life by preventing episodes of incontinence, which require additional nursing time for patient hygiene and clothing laundering, detectable odor, and embarrassment (Geng et al., 2016; Nazarko, 2018; Smart, 2014). Although patients are present on an acute rehabilitation unit, staff foster increasing independence during the patient's recovery. Use of devices that limit interruption of therapy time or sleep because of incontinence care needs are considered an asset by staff, patients, and caregivers. Staff convenience as well as patient preference have led to use of an MEC for patients who are not continent of urine but do not require an indwelling catheter. Nursing care time is decreased by use of an MEC because incontinence care is not necessary (Smart, 2014).

As previously stated, use of the condom catheter increases risk to the patient. Negative consequences of its use include risk of

- infection (Bagley & Severud, 2021; Geng et al., 2016; Nazarko, 2018; Saint et al., 2020; Zaghbib et al., 2019),

- pressure injury (Bagley & Severud, 2021; Geng et al., 2016; Smart, 2014),
- skin irritation (Bagley & Severud, 2021; DaSilva et al., 2019; Geng et al., 2016; Smart, 2014; Zaghbib et al., 2019),
- edema (DaSilva et al. 2019; Saint et al., 2020; Smart, 2014),
- compression complications (Geng et al., 2016; Jabbour et al., 2018; Özkan et al., 2015; Zaghbib et al., 2019), and
- necrosis (Jabbour et al., 2018; Zaghbib et al., 2019).

These complications counteract the goal of healthcare facilities to do no harm to their patients. Without proper care and maintenance, the risk of urinary tract infection for male patients with an MEC is comparable to patients with an indwelling Foley catheter (Saint et al., 2020). Taking care to ensure that there are no kinks in the device or dependent loops in the tubing is imperative as urine that does not freely flow into the collection bag can sit against the patient's skin causing irritation and/or bacterial growth (Bagley & Severud, 2021; Geng et al., 2016; Jabbour et al., 2018). Leakage from the condom catheter is a complication that can deter its use and increase the risk of skin complications (Bagley & Severud, 2021; DaSilva et al., 2019; Geng et al., 2016; Nazarko, 2018; Smart, 2014). Proper skin care of patients using these devices is paramount to reducing risk of harm.

Hygiene

To determine a standard of care, understanding an evidence-based frequency of hygiene (pericare) is necessary. Hygiene frequency closely correlates with device change, as a new catheter should be applied after pericare is completed. The consensus in the literature is that routine pericare and device change should be completed daily (Bagley & Severud, 2021; DaSilva et al., 2019; Geng et al., 2016; Gray et al., 2016, 2020; Jabbour et al., 2018; Nazarko, 2018; Özkan et al., 2015; Smart, 2014). Pericare should also be completed with any pro re nata device changes (Geng et al., 2016; Gray et al., 2020; Özkan et al., 2015). Proper hygiene not only reduces infection risk but also allows for proper skin care and assessment.

Skin Assessment

Skin assessment is part of a nursing shift assessment and should include assessment of the skin of the penis and documentation of any changes or abnormalities. With the use of a clear product, it is possible to observe the skin through the device. During daily device changes and hygiene care, the skin can be more thoroughly assessed for changes. Skin care and assessment are essential (Bagley & Severud, 2021; Geng et al., 2016; Gray et al., 2020; Jabbour et al., 2018; Özkan et al., 2015; Smart, 2014; Zaghbib et al., 2019) to preventing complications from use of an MEC.

Fit of the MEC

The risk of compression complications, pressure injury, and leakage can all be reduced by proper fit of the catheter. Utilization of a measurement tool quickly assists the nurse or nursing assistant in determining the proper size for the catheter. Measuring for correct fit is a component of proper use of external catheters (Gray et al., 2016, 2020; Özkan et al., 2015; Smart, 2014) and has a positive effect on its use (Bagley & Severud, 2021; Geng et al., 2016; Jabbour et al., 2018; Nazarko, 2018; Zaghbib et al., 2019). Measurement tools vary by manufacturer, and multiple sizes are available for MECs. The most common causes of necrosis and strangulation are use of the wrong size of catheter or use of adhesive tape around the penis (Jabbour et al., 2018; Zaghbib et al., 2019). Incorporating the use of measuring devices into nursing practice will have a positive impact on patients; there will be no need for staff to consider using tape to secure the device.

Evidence-Based Recommendations

Based on guidelines discussed in nursing literature, a set of evidence-based recommendations was created that positively impact the care provided to patients in a neurorehabilitation setting. The recommendations include development of standardized procedures based on the best practice guidelines in literature and educating nurses and nursing support staff on these guidelines.

Although evidence-based recommendations exist for catheter-associated urinary tract infection (CAUTI) prevention with use of indwelling catheters, there is no guidance regarding infection prevention with use of MECs. CAUTI prevention bundles are used to reduce risk of infection, and ongoing education is provided to nursing staff. In addition, quality metrics data are tracked related to CAUTI to evaluate outcomes and quality of patient care. With proper documentation of MEC use, it would be feasible to use quality metrics data related to MEC use in evaluation of proper care and maintenance.

Recommendations for best practice guidelines related to MEC use include:

- daily hygiene/pericare with device change,
- use of a measurement tool to ensure correct fit,
- skin assessment with shift assessments,

- proper documentation of tasks related to external catheter care and maintenance, and
- education on best practice guidelines.

Education

Education for nurses should include indications for use of an external catheter, measurement, proper application, and monitoring (DaSilva et al., 2019; Geng et al., 2016; Jabbour et al., 2018; Smart, 2014). This education can be provided by various means, including computer-based courses, in-services, written policy review, or peer-to-peer consultation.

Applying Evidence-Based Literature to Nursing Practice

Nurses can incorporate best practice recommendations into their nursing practice to provide high-quality care to their male patients with incontinence. As patients progress in their rehabilitation, the goal of daytime and nighttime continence may be achieved, allowing the nurse to reduce or eliminate use of an external catheter. After receiving education on the best practice guidelines, nurses have responsibility to educate nursing assistants on the proper way to care for and maintain MECs.

Healthcare facilities should incorporate the use of measuring tools and adequate quantities of supplies available to staff. Additional research is necessary to determine the return on investment for adoption of these best practice guidelines into nursing practice and the reduction in complications such as urinary tract infections, pressure injuries, or other skin alterations in male patients using external catheters.

Conclusion

Components of care most commonly discussed in the literature include skin assessment, device change, pericare, and correct sizing. The findings identified in the literature were compiled to create best practice guidelines. Utilization of these best practice guidelines will ensure that patients receive high-quality care during their time on the rehabilitation unit and reduce the risk of infectious processes or skin alterations that would negatively impact their recovery and length of stay.

Conflict of Interest

The author declares no conflict of interest.

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