
Elizabeth Watt
Jennifer Lillibridge

Nursing abounds with rituals and routines that guide every day clinical practice. The purpose of this research study was to explore nursing practices concerned with the timing of urinary catheter removal in adult acute care patients. The researchers sought to determine current practices and the perceived underlying rationale for these practices. Are current practices guided by unwritten rules or based on scientific rationale? An understanding of current practices has the potential to contribute to establishing scientific principles on which rational nursing care can be based.

Literature Review

While there is some discussion in the nursing literature concerning the general practices related to catheter care, little mention is made about the rationale regarding the time of day that urinary catheters are removed (Roe, 1992). The timing seems to be based on the preferences of medical and/or nursing staff, with little or no apparent scientific rationale. Only three published studies were found that addressed the actual time of day that urinary catheters are removed. There is an assumption in this literature that urinary catheters are traditionally removed in the morning, usually at 6:00 am (Crowe, Clift, Duggan, Bolton, & Costello, 1994; Noble, Menzies, Cox, & Edwards, 1990; Wyman, 1987). Anecdotal evidence would seem to support this assumption. No published studies have been found that document the actual current practices regarding the time of day urinary catheters are removed.

Wyman (1987) reported on a prospective randomized trial of 103 male patients, all of whom underwent urethral catheterization following transurethral resection of the prostate. Patients in the study were randomly placed into two groups and had catheters removed either early in the morning or late at night. Wyman proposed that catheters are usually removed early in the morning on the assumption that there will be a decreased likelihood of the patient developing urinary retention in the early hours of the following morning (for example, retention problems could be more easily addressed by physicians during the day hours). He also suggested that there may not be any physiologic principles supporting the removal of catheters at different times of the day. Further, Wyman speculated that if the catheter is removed in the evening, the patient is likely to sleep through the night, awaken in the morning with a full bladder, and be more apt to quickly return to normal voiding patterns.

Noble et al. (1990) studied the effects of urinary catheter removal at midnight. These authors supported Wyman's
Table 1.
Time of Day Catheters Were Removed

<table>
<thead>
<tr>
<th>Time</th>
<th>Number (n=59)</th>
<th>Percentage %</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:00 am</td>
<td>10</td>
<td>16.9</td>
</tr>
<tr>
<td>Midnight</td>
<td>20</td>
<td>33.9</td>
</tr>
<tr>
<td>Other *</td>
<td>29</td>
<td>49.2</td>
</tr>
</tbody>
</table>

* Nursing convenience or at time of medical round

(1987) assumption that the 6:00 am removal time is based on the idea that it prevents subsequent urinary retention at “unsocial” hours. However, Noble et al. (1990) questioned the validity of this assumption and agreed with Wyman’s speculation that midnight removal would allow patients to return to a normal voiding pattern more quickly. Noble and colleagues proposed that this outcome will thereby contribute to decreased length of hospital stay. Interestingly Noble and colleagues did not provide any scientific rationale for their choice of midnight as a more appropriate removal time.

More recently, an Australian study by Crowe et al. (1994) reported on the results of a randomized study of midnight removal of catheters. This study used assumptions (as opposed to actual findings) from previous literature (Noble et al., 1990; Wyman, 1987) to justify decisions for midnight and 6:00 am removal times.

Based on the assumption from these studies, and the apparent confusion about the rationale for the time of day that urinary catheters are removed, it was evident that further investigation was needed to determine current practices and underpinning rationale.

Methodology

Sample Two adult acute care wards at each of four hospital sites (two private and two public) were used for data collection. A purposive convenience sample (Polit & Hungler, 1991) was obtained consisting of adults who had undergone surgery and had a urinary catheter inserted as part of their postoperative care. Data collection on individual wards took place over a 2 to 6 week period. All patients who were admitted to each ward during this time who subsequently had urinary catheters inserted were included. In total, 59 patients participated in the study. Fifty-five of the patients were admitted to hospital for general medical or surgical health concerns, while two were admitted for urinary retention and had subsequent urologic surgery and two had a medical diagnosis of renal calculi. None of the patients with gynecologic health problems underwent vaginal surgery.

Both men (35%) and women (65%) were represented in the sample. Ages ranged from 32 to 90 years (mean age of 66 years). Thirty-six percent of patients had undergone gastrointestinal surgery, 25% orthopedic surgery, and the remaining cases (39%) had a mix of medical or surgical neurologic, gynecologic, and urologic health problems. Fifty-eight percent of patients had a urinary catheter inserted as part of their routine care, the remainder (42%) of patients had catheters for monitoring fluid balance, urinary retention postoperatively, or assessing renal function. All patients had a standard two-way Foley catheter.

Methods Two structured questionnaires were used to elicit information on current nursing practices related to the time of day of catheter removal and the rationale upon which those practices were based. The first questionnaire collected demographic data including medical diagnosis and surgical procedures. Data collected about catheters included the reason for catheter insertion, the catheter type, date of insertion, and specified and actual time of removal. Additional information was sought concerning who initiated removal of the catheter and how it was documented. Registered nurses on each ward site were asked to complete the questionnaire for each patient who fulfilled the study criteria.

Nurse unit managers and associate unit managers of each ward (n=16) completed a second questionnaire regarding their understanding of the rationale for the time of day urinary catheters are routinely removed. Specific questions elicited information about the profile of the ward, ward policies, and practices regarding time of day that urinary catheters are removed, and their understanding of the rationale for this policy.

Ethical Considerations

Permission to conduct this research study was granted by the La Trobe University, Faculty of Health Sciences, Human Research Ethics Committee. Ethics approval was granted by all hospitals prior to commencing data collection. Because the research did not involve any change in current therapies and there was no direct contact by the researchers with hospitalized patients, patient consent was not required. Confidentiality of patients and participating hospital staff was maintained by not