WHO recommendation on duration of bladder catheterization after surgical repair of simple obstetric urinary fistula

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Recommendation

For women in the postoperative period after the surgical repair of a simple obstetric urinary fistula, short duration bladder catheterization (7 to 10 days) is recommended as an alternative to longer duration of catheterization.

Publication history

First published: 2018

Updated: no update planned

Assessed as up-to-date: 2018

Remarks

- The Guideline Development Group (GDG) acknowledges that there are several ways of defining the severity of fistula. For the purposes of this recommendation, the GDG considered “simple” fistula as a mid-anterior vaginal wall fistula with minimal scarring and with a diameter of 3 cm or less.

- For fistula cases that are not considered simple, an option different to the one recommended in this guideline may be required.

- The GDG acknowledges the variation in the use of bladder catheter after fistula surgery and notes that some surgeons may consider “short” duration of catheterization to be less than 7 days. However, for the purposes of this recommendation, the GDG defines short duration as 7 to 10 days.

- This recommendation is applicable to any context where women experience simple obstetric urinary fistula due to obstructed labour.

- The GDG accepts the uncertainty in the outcomes for shorter and longer duration of bladder catheterization in light of other benefits, such as improvement in patients’ comfort, potential reduction in the risk of infections associated with catheterization, and decrease in patients’ needs for health services.
While shorter hospitalization associated with shorter postoperative bladder catheterization would increase the availability of fistula care services (so that more patients could potentially be treated), this should be carefully balanced with the quality of services (i.e. the provision of a holistic care package to women who are recovering from obstetric fistula repair).

Background

An obstetric fistula is an abnormal opening between a woman’s genital tract and her urinary tract and/or rectum caused by prolonged obstructed labour. Obstructed labour is associated with soft tissue ischaemia resulting from compression by the fetal head against the pelvic bones. When the mother’s pelvis is too narrow or the baby is too large or presenting in an abnormal position, labour can last several days and often results in the death of the baby and/or the mother. If the mother survives, she could develop a fistula and become unable to control her rectal and/or urinary functions and be constantly soiled and/or wet.

While obstetric fistula is a rare condition in high-income countries,(1) in sub-Saharan Africa and South Asia prevalence is estimated at 1.6 and 1.2 per 1000 women, respectively.(2) Most obstetric urinary (vesicovaginal) fistulae can be repaired surgically and the routine postoperative care of these patients involves the use of an indwelling urinary catheter to promote continuous urine drainage and to allow tension-free healing of the surgical scar.(3) The duration of routine postoperative bladder catheterization is not standardized and varies widely in clinical practice, ranging from 5 to 42 days, with direct health and budgetary implications.(4, 5) Long duration of bladder catheterization to allow complete healing can be inconvenient for the woman, her family and care providers. A long duration of bladder catheterization translates into the need for longer hospitalization in low-income countries, since these women cannot be managed as outpatients because of their catheter needs. Long bladder catheterization is also associated with more discomfort and inconvenience to patients, increased risk of infection and erosion related to catheterization, more intensive nursing care and more cost per patient.(6) Shorter periods of postoperative bladder catheterization have been tested in simple cases of obstetric fistula and shown to be effective in allowing complete healing with improved patient comfort and potentially lower risks of catheter-related urinary tract infections.(7)

The surgical repair of obstetric fistulae depends on the availability of operating rooms and adequate bed space for the recovery period, trained surgeons with specialized skills and, in many cases, funding from donors to support the operations and the postoperative care of these patients. In most contexts in low- and middle-income countries (LMICs), the need for fistula repair services far exceeds the available human and infrastructural capacity of the health system. A shorter duration of bladder catheterization would mean shorter hospital stays and consequently increased numbers of fistula patients who could be treated in existing facilities.

Evidence-based guidance on the duration of bladder catheterization after surgery can improve the health and well-being of women with fistula.

Methods

The recommendation was developed using standardized operating procedures in accordance with the process described in the “WHO handbook for guideline development”, guided by the GRADE approach.(8) Outcomes used for this recommendation were aligned with the prioritized outcomes from the WHO recommendation on duration of bladder catheterization after surgical repair of simple obstetric urinary fistula (2018).(9)

A systematic review was conducted on the duration of bladder catheterization after surgical repair of simple obstetric urinary fistula.(10) In the review, randomized controlled trials relevant to the key question were
screened by review authors, and data on relevant outcomes and comparisons were extracted. Evidence profiles (in the form of GRADE tables) were prepared for comparisons of interest, including the assessment and judgments for each outcome, and the estimated risks.

WHO convened a Guideline Development Group (GDG) meeting on recommendations on duration of bladder catheterization after surgical repair of simple obstetric urinary fistula in 2018, where this recommendation was developed. The GDG comprised of a group of independent experts, who used the evidence profiles to assess evidence on effects on the pre-specified outcomes. GDG members discussed the balance between desirable and undesirable effects, overall quality of supporting evidence, values and preferences of stakeholders, resource requirements, cost-effectiveness, acceptability, feasibility and equity, to formulate the recommendation. Remarks were added to clarify the recommendation, and aid implementation.

**Recommendation question**

For this recommendation, we aimed to answer the following question:

- For women in the postoperative period after the surgical repair of a simple obstetric urinary fistula (P), is shorter duration of bladder catheterization (10 days or less) (I) as effective as longer duration (more than 10 days) (C), in preventing repair breakdown (O)?

**Evidence Summary**

Evidence on the duration of bladder catheterization after surgical repair of simple obstetric urinary fistula was derived from the systematic review that was conducted for the purposes of the development of this guideline.(10) The systematic review included two RCTs with a combined sample of 684 women.(6, 7)

The two included trials were conducted in eight African countries (the Democratic Republic of the Congo, Ethiopia, Guinea, Kenya, Niger, Nigeria, Sierra Leone and Uganda) and recruited women with a simple urinary fistula that was closed after surgery (with outcome determined by dye test). Both studies were designed to show non-inferiority of two durations of bladder catheterization.

Barone et al., 2015, included women with simple obstetric urinary fistula as determined by the surgeon after repair surgery. Nardos et al., 2012, included women with simple obstetric urinary fistula assessed at physical exam before surgery.

Barone et al. excluded women who were pregnant, any fistula was not simple or was multiple, and any fistula that was radiation induced, associated with cancer, or due to lymphogranuloma venereum. Nardos et al. excluded women with a history of fistula repair, and any current vesicovaginal fistula with circumferential involvement of the urethra.

Both trials compared shorter with longer duration of bladder catheterization postoperatively. The longer duration was the same in both trials (14 days), whereas the shorter time was 10 days in Nardos et al. and 7 days in Barone et al.

Barone et al. reported the primary outcome (fistula repair breakdown after catheter removal) based on dye test results in all participants. Nardos et al. defined cure (the primary outcome) as the absence of leakage after catheter removal and confirmed it with a dye test only in symptomatic women.
Five outcomes are considered “critical” in the context of length of postoperative bladder catheterization. There were no statistically significant differences between shorter versus longer duration of bladder catheterization for four critical outcomes: (i) the risk of fistula repair breakdown before hospital discharge (risk ratio [RR]: 1.14, 95% confidence interval (CI): 0.49–2.64; 1 study, 495 women; low-quality evidence); (ii) the risk of fistula repair breakdown after hospital discharge (RR: 1.64, 95% CI: 0.81–3.31; 1 study, 495 women; moderate-quality evidence); (iii) urinary incontinence after hospital discharge (RR: 1.16, 95% CI: 0.62–2.18; 1 study, 495 women; low-quality evidence); and (iv) extended hospital stay (RR: 9.33, 95% CI: 0.51–172.41; 1 study, 495 women; moderate-quality evidence). The fifth critical outcome – maternal satisfaction with care – was not reported in any of the studies.

The remaining four outcomes are classified as “important” in the context of postoperative bladder catheterization. There were no statistically significant differences between shorter versus longer duration of bladder catheterization for three outcomes: (i) post-repair urinary infection (RR: 5.18, 95% CI: 0.25–107.44; 1 study, 495 women; low-quality evidence); (ii) urinary incontinence during hospital stay (RR: 1.15, 95% CI: 0.54–2.43; 1 study, 189 women; very low-quality evidence); and (iii) urinary retention after catheter removal (RR: 1.34, 95% CI: 0.79–2.27; 2 studies, 684 women; moderate-quality evidence). The fourth important outcome – the cost of care – was not reported in any of the studies.

**Implementation considerations**

- The successful introduction of this recommendation into national programmes and health-care services depends on well-planned and participatory consensus-driven processes of adaptation and implementation. The adaptation and implementation processes may include the development or revision of existing national guidelines or protocols based on this recommendation.
- The recommendation should be adapted into a locally appropriate document that can meet the specific needs of each country and health service. Any changes should be made in an explicit and transparent manner.
- A set of interventions should be established to ensure that an enabling environment is created for the use of the recommendations, and that the behaviour of the healthcare practitioner changes towards the use of this evidence-based practice.
- In this process, the role of local professional societies is important and an all-inclusive and participatory process should be encouraged.

**Research implications**

The GDG did not identify further research priorities on this topic.

**Related Links**

WHO recommendations on duration of bladder catheterization after surgical repair of simple obstetric urinary fistula (2018) –[full document](#)

Supporting systematic reviews:
References


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