



URINARY DIVERSION AND INTERMITTENT CATHETERIZATION

There is a need for Intermittent Catheterization (IC) following several of the different surgical options used for urinary diversion at present. The use for IC in this category of patients is likely to increase over time as more and more patients receive neobladder or continent cutaneous diversions.

Radical cystectomy (RC) is the complete removal of the bladder and it is, together with the urinary diversion that follows, considered the most difficult surgical procedures within urology.^{1,2} RC is in the majority of cases performed as a treatment for patients with muscle-invasive bladder cancer but there can also be other indications for the procedure.³ Several different categories of urinary diversions exist, with different procedures and techniques used; the main categories are listed and explained below:

Non-continent cutaneous conduit

A conduit from a part of the intestines (normally ileum or colon) is constructed. It is non-continent, i.e. acts simply as a passage allowing urine to leak into an external collection device outside of the body.¹

Continent cutaneous diversion

A new bladder is constructed from a segment of the bowel (ileum or colon), with a passage from the new bladder to an outlet at the body surface. The outlet includes a construction, i.e. a tissue flap or equivalent, that makes it continent and it requires catheterization to be emptied.¹

Continent orthotopic diversion (Neobladder)

A new bladder is constructed from a segment of the bowel and connected to the intact urethra, using the urethral sphincter to gain continence after the surgery.¹

Only some of the urinary diversions listed above will involve IC. The non-continent cutaneous conduit does not require any catheterization, but for a continent cutaneous diversion catheterization is mandatory for all patients. The situation is not as simple for the continent orthotopic diversions; it is often regarded as a preferred method since it *“eliminates the need for cutaneous stoma... or intermittent catheterization”*.⁴ However, in order to protect the upper urinary tract many patients with neobladder will eventually need IC.^{1,2,4-16}

Many different methods on how to construct a neobladder have been developed; using different parts of the intestines and constructing the new reservoir in various manners.^{12,15} Studies analyzing differences in the need for IC between different groups are often biased by too small sample sizes or other confounding factors, but there are some tendencies towards a higher need for IC for those with an ileal neobladder, and that the need for IC in this group increases over time.¹⁵

Based on current available literature it is concluded that all patients undergoing a continent cutaneous diversion will be requiring IC and it is proposed that approximately 10% of the male patients receiving continent orthotopic diversion (Neobladder) and approximately half of the female patients receiving the surgery are requiring IC. Adjustments taking mortality rate into account should be considered when calculating the amount of patients needing IC following urinary diversions, as mortality rates in these patient groups are significant.

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