Nephrostomy and Biliary Tube Management: A Review

**Context**

Nephrostomy and biliary tubes assist in draining urine or bile, respectively. They are most commonly used when a blockage — such as a kidney stone, tumour, or abscess — prevents normal drainage.

**Technology**

Nephrostomy tubes, which are placed into the kidney, and external biliary tubes, which are placed into the bile duct, are catheters inserted through the skin to drain fluids out of the body. The tubes require ongoing care — such as dressing changes, skin cleansing, and tube flushing — to prevent complications (internal biliary tubes, which drain into the small intestine, do not require ongoing care).

Complications of nephrostomy tubes include urinary tract infection; renal abscess or sepsis; blood in the urine; local inflammation of the skin; and catheter displacement, dislodgement, or fracture.

Complications of external biliary tubes include blockage, infection, pain, leakage, accidental dislodgement, and, if stents are present, fracture leading to intestinal obstruction or perforation.

Proper care is considered to be an important aspect of preventing complications.

**Issue**

A review of the clinical evidence regarding the management of nephrostomy and external biliary tubes, as well as of the evidence-based guidelines, will help inform management strategies for the prevention of related complications.

**Methods**

A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

**Key Messages**

- No clinical evidence regarding the management of nephrostomy and biliary tubes was found.
- Available guidelines* on the management of nephrostomy and biliary tubes recommend:
  - ensuring adequate fluid intake
  - using hand hygiene or wearing sterile gloves when changing dressings or bags
  - maintaining proper skin care
  - inspecting the catheter for kinks, uncapping and flushing the tubing, and, in the case of nephrostomy tubes, encouraging oral fluid intake if a blockage is suspected.

*These guidelines should be regarded with caution; the methodology on which they are based is unclear.

**Results**

The literature search identified 582 citations, with 27 additional articles identified from other sources. After screening the abstracts, none of these studies met the criteria for inclusion in this review.