



CUA Best Practice Report on Catheter Use

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Learning objectives

- As a result of attending this session, participants will be able to:
 - Compare the impact of different catheter types, materials, and techniques on catheter related complications
 - Recognize the importance of patient perspective in the selection of catheter
 - Assess the economic implications of catheter selection and usage



Catheter use

- Urinary retention
- Urinary incontinence
- Neurogenic lower urinary tract dysfunction
- Indwelling catheters:
 - Urethral
 - Suprapubic
- Intermittent catheterization
 - Caretaker
 - Self



Objectives

- Review the evidence around the use of
 - **Long-term** urinary catheters
 - In patients with **chronic** conditions
 - Make *practice recommendations* for physicians in Canada
- Focus on intermittent catheterization
- Grading of Recommendations Assessment, Development, and Evaluation (GRADE)



Indwelling catheters

- Initially after SCI
- Avoid in long-term:
 - Except for quadriplegic patients with impaired dexterity
 - Bedridden
 - IC is difficult or impossible
- SPC:
 - Independence
 - Sexuality
 - Less epididymitis

IC: intermittent catheterization; SCI: spinal cord injury; SPC: suprapubic catheterization



Intermittent catheterization

- Advantages:
 - Less mechanical urethral erosion
 - Less bladder cancer/stones
 - Less urosepsis
- Challenges:
 - Pain
 - Urinary tract infections
 - Urethral trauma
 - Urethral strictures



Evidence for selection

Recommendation	Strength of statement	Quality of evidence
We recommend individualizing the selection of appropriate bladder management strategy (IC, indwelling urethral or suprapubic catheter) in accordance with anatomic factors, bladder characteristics, motor and cognitive functions, patient preference and associated quality of life.	Strong	Moderate

IC: intermittent catheterization



Evidence for selection cont'd

1. Catheter-related complications:
 - Catheter-associated infections
 - Urethral complications
 - Urethral trauma
 - Urethral strictures
2. Patient perspective
3. Economic perspective



CA-UTI

Recommendation	Strength of statement	Quality of evidence
We recommend using intermittent catheters over indwelling catheters for long-term use due to a lower risk of UTIs. Routine use of antimicrobial coated catheters is not recommended.	Strong	Moderate
For those using intermittent catheters, we suggest using single PVC (as opposed to multiple use PVC), and special hydrophilic-coated catheters or pre-lubricated catheters, as they may decrease the frequency of UTIs.	Weak	Low

PVC: polyvinyl chloride catheters; UTI: urinary tract infection



CA-UTI cont'd

Catheter type and material

- Favor prelubricated or hydrophilic catheters

IC technique

- Evidence inadequate

IC: intermittent catheterization



Urethral trauma

Recommendation	Strength of statement	Quality of evidence
We suggest using hydrophilic catheters as they may cause less urethral trauma.	Weak	Moderate



Urethral trauma cont'd

Catheter type and material

- Favor hydrophilic catheters

IC technique

- Evidence inadequate

IC: intermittent catheterization



Urethral strictures

Recommendation	Strength of statement	Quality of evidence
There is no evidence to suggest that the type of intermittent catheter impacts urethral stricture formation.	Weak	Weak



Urethral strictures cont'd

Catheter type and material

- No difference

IC technique

- Data insufficient

IC: intermittent catheterization



Patient perspective

Promote intermittent catheterization:

- Less restrictions on daily activities
- Patient independence
- Improves quality of life

Improve adherence

- Support
- Access to materials
- Avoid complications



Patient perspective cont'd

Recommendation	Strength of statement	Quality of evidence
We recommend offering hydrophilic or prelubricated catheters to patients because of an improved bladder related QOL.	Strong	Moderate

QOL: quality of life



Patient perspective cont'd

Catheter type and material

- Favor hydrophilic or prelubricated catheters

IC technique

- Insufficient data

IC: intermittent catheterization



Economic analysis

Recommendation	Strength of statement	Quality of evidence
We suggest offering patients, if possible, hydrophilic catheters, as they are cost-effective compared to single-use uncoated catheters due to the decreased incidence of UTIs and increased QOL.	Moderate	Moderate

QOL: quality of life; UTI: urinary tract infection



Economic analysis cont'd

Catheter type and material

- Hydrophilic catheter more cost-effective:
 - Increased patient satisfaction leads to lower cost per QALY

IC technique

- Re-use of catheters is cost-effective

IC: intermittent catheterization; QALY: quality-adjusted life-year



Conclusions

- Not one-size fits all...
- Selection of ideal intermittent catheter type/technique multifactorial
- If possible, propose hydrophilic-coated or prelubricated catheters
- Re-use of PVC catheters may be considered in certain cases

PVC: polyvinyl chloride catheters