

Male urethral trauma

Epidemiology, aetiology and pathophysiology:

- Anterior male urethral injury**

The bulbar urethra is the most common site affected by blunt trauma. In bulbar injuries, the bulb is compressed against the pubic symphysis, resulting in rupture of the urethra at the site of compression. Possible mechanisms are straddle injuries or kicks to the perineum.

A penile fracture can be complicated by a urethral injury in approximately 15% of cases.

Penetrating anterior injuries are rare and are usually caused by gunshot wounds, stab wounds, dog bites, impalement, or penile amputations.

Iatrogenic injury is the most common type of urethral trauma.

- Posterior male urethral injuries**

Blunt posterior urethral injuries are almost exclusively related to pelvic fractures and the risk increases with fracture configuration severity. These injuries are referred to as pelvic fracture urethral injuries (PFUI) and are mainly caused by road traffic accidents. They are divided into partial or complete ruptures. In complete ruptures, there is a gap between the disrupted ends of the urethra, which fills up with scar tissue.

Injuries of the bladder neck and prostate are rare and mostly occur at the anterior midline of both the bladder neck and prostatic urethra.

Concomitant injuries to the head, thorax, abdomen and/or spine are frequent (up to 66%).

Penetrating injuries of the pelvis, perineum, or buttocks (mainly gunshot wounds) can also damage the posterior urethra but are extremely rare in the civilian setting. There is a high probability of associated injuries (approx. 90%), mainly intra-abdominal

The associated injuries which occur with both blunt and penetrating posterior urethral injuries can be life-threatening, and if so, will govern the patient's assessment and treatment.

Delayed morbidities of posterior urethral injuries include strictures, incontinence and erectile dysfunction, all of which may have a detrimental effect on the patient's quality of life.

Diagnostic evaluation and management:

Recommendations	Strength rating
Provide appropriate training to reduce the risk of traumatic catheterisation.	Strong
Evaluate male urethral injuries with flexible cysto-urethroscopy and/or retrograde urethrography.	Strong
Evaluate female urethral injuries with cysto-urethroscopy and vaginoscopy.	Strong
Treat iatrogenic anterior urethral injuries by transurethral or suprapubic urinary diversion.	Strong
Treat partial blunt anterior urethral injuries by suprapubic or urethral catheterisation.	Strong
Treat complete blunt anterior urethral injuries by immediate urethroplasty, if surgical expertise is available, otherwise perform suprapubic diversion with delayed urethroplasty.	Weak
Treat pelvic fracture urethral injuries (PFUIs) in haemodynamically unstable patients by transurethral or suprapubic catheterisation initially.	Strong
Perform early endoscopic re-alignment in male PFUIs when feasible.	Weak
Do not repeat endoscopic treatments after failed re-alignment for male PFUI.	Strong
Treat partial posterior urethral injuries initially by suprapubic or transurethral catheter.	Strong
Do not perform immediate urethroplasty (< 48 hours) in male PFUIs.	Strong
Perform early urethroplasty (two days to six weeks) for male PFUIs with complete disruption in selected patients (stable, short gap, soft perineum, lithotomy position possible).	Weak
Manage complete posterior urethral disruption in male PFUIs with suprapubic diversion and deferred (at least three months) urethroplasty.	Strong
Perform early repair (within seven days) for female PFUIs (not delayed repair or early re-alignment).	Strong

