

POSTERIOR URETHRAL STRICTURES IN MALES:

Non-traumatic posterior urethral stenosis

Several treatment modalities including conservative management, endoluminal, open or minimally invasive surgical procedures are currently available, depending on patient's goals and health status.

Endoluminal management of non-traumatic posterior urethral stenosis

Dilatation of non-traumatic posterior urethral stenosis

This procedure can be performed under loco-regional anaesthesia. Dilatation is used for vesicoureteral anastomotic stricture (VUAS) or radiation-induced bulbomembranous strictures (BMS), with most cases involving patients who were not previously treated for their stricture.

Patency rates vary widely from 0-89%. The risk of de novo urinary incontinence (UI) is low (0-11%) and no other complications have been reported.

Endoscopic incision/resection of non-traumatic posterior urethral stenosis

Direct vision internal urethrotomy (DVIU) is commonly used for VUAS and radiation-induced BMS. The patency rates range of 25-80% for cold/hot knife and 69-100% for laser incisions. Avoid aggressive cuts at 6 and 12 o'clock positions, especially after radiotherapy. De novo UI after DVIU ranges from 0-10%. Transurethral resection (TUR) may also be considered, with patency rates of 40.2% for VUAS and 58.3% for BMS.

Post-dilatation/direct vision internal urethrotomy strategies for non-traumatic posterior urethral stenosis

Intermittent self-dilatation (ISD): can be offered for recurrent posterior stenosis after dilation/DVIU, especially for patients unfit/unwilling for surgery or with radiation-induced BMS.

Intralesional injections: to stabilize luminal fibrosis and reduce recurrence risk, antifibrotic agents like corticosteroids or MMC have been used.

Patency rates range from 50-100% for corticosteroids and 50-94% for MMC.

Urethral stent: Stents have been used in the posterior urethra with low patency rates (47-60%) and high risk for UI (19-82%).

Lower urinary tract reconstruction for non-traumatic posterior urethral stenosis

If endoluminal treatment repeatedly fails or in cases of completely obliterated posterior stenosis, lower urinary tract (LUT) reconstruction may be considered.

Redo Vesico-Urethral Anastomosis (ReDo VUA) for VUAS after Radical Prostatectomy

ReDo VUA can be performed via retropubic, perineal, abdominoperineal, or robot-assisted approaches. The procedure must be done in a tension-free manner, with different approaches based on VUAS characteristics. Non-irradiated patients have 60-91% patency, while radiotherapy may cause complications like bladder toxicity and urethral necrosis. Artificial urinary sphincter (AUS) implantation is typically delayed for 3-6 months post-surgery.

Posterior stenosis after surgery for benign prostatic obstruction

Bladder neck reconstruction using local flaps for refractory BNS shows 83-100% patency, with 0-14% de novo incontinence. Minimally invasive approaches are preferred. BMS after TURP or prostatectomy are treated with EPA or augmentation urethroplasty, showing similar patency rates (~81-85%). The risk of incontinence is up to 25% due to proximity to the sphincter.

Radiation/high-energy induced posterior strictures

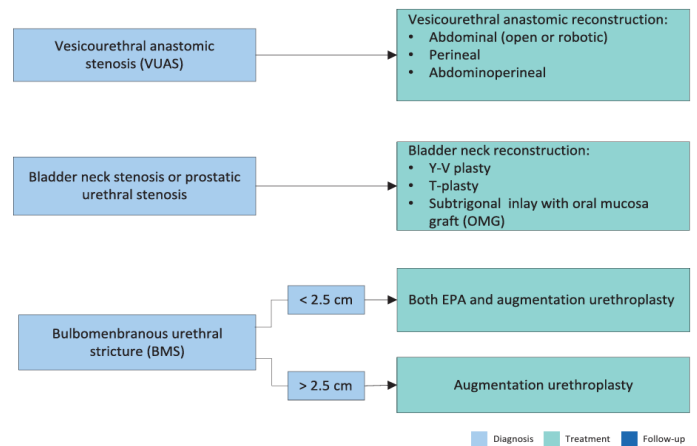
Salvage prostatectomy is an option for refractory cases, but carries risks like incontinence and VUAS. For impaired bladder function, supravescical diversion is recommended. A new "pull-through" technique for urethral reconstruction shows promise, with 50% of patients achieving social continence, but requires further validation.

Extirpative surgery and urinary diversion for non-traumatic posterior urethral stenosis

In complex or recurrent cases, urinary diversion (with or without cystectomy) is the last option, depending on bladder capacity and symptoms.

Cystectomy can relieve bladder pain and spasms, with high patient satisfaction, though some may require bowel diversion.

Recommendations	Strength rating
Perform visually controlled dilatation or direct vision internal urethrotomy (DVIU) as 1 st line-treatment for a non-obliterative vesico-urethral anastomosis stricture (VUAS) or radiation-induced bulbomembranous strictures (BMS).	Weak
Do not perform deep incisions at the six and twelve o'clock position during DVIU for VUAS or radiation-induced BMS.	Strong
Perform transurethral resection (TUR) or "hot-knife" DVIU as 1 st line-treatment for patients with non-obliterative bladder neck stenosis (BNS) after surgery for benign prostatic obstruction.	Strong
Perform repeat endoluminal treatments in non-obliterative VUAS or BNS in an attempt to stabilise the stricture.	Weak
Warn patients about the risk of de novo urinary incontinence (UI) or exacerbation of existing UI after endoluminal treatment.	Weak
Do not perform endoluminal treatment in case of VUAS, BMS and BNS with complete obliteration.	Strong
Do not use stents for strictures at the posterior urethra.	Weak



Recommendations	Strength rating
Perform ReDo vesico-urethral anastomosis (VUA) in non-irradiated patients and irradiated patients with adequate bladder function with obliterative vesico-urethral anastomosis stricture or vesico-urethral anastomosis stricture refractory to endoluminal treatment.	Weak
Warn patient that urinary incontinence (UI) is inevitable after transperineal ReDo VUA and that subsequent anti-UI surgery might be needed in a next stage, after at least three to six months.	Strong
Offer ReDo VUA by retropubic approach if the patient is pre-operatively continent.	Weak

Recommendations	Strength rating
Perform bladder neck reconstruction with Y-V or T-plasty for treatment refractory bladder neck stenosis (BNS).	Weak
Warn patients about de novo urinary incontinence after reconstruction for BNS or bulbomembranous urethral strictures with previous benign prostatic obstruction surgery as aetiology.	Strong

Recommendations	Strength rating
Use either excision and primary anastomosis (EPA) or augmentation urethroplasty for short (< 2.5 cm) radiation-induced bulbomembranous strictures (BMS) refractory to endoscopic treatment depending on surgeon's experience.	Weak
Perform augmentation urethroplasty for long (> 2.5 cm) radiation-induced BMS.	Weak
Warn patients about the risk of de novo incontinence and new onset erectile dysfunction after urethroplasty for radiation-induced BMS.	Strong
Offer salvage prostatectomy in motivated and fit patients with adequate bladder function in case of a prostatic stricture due to irradiation or high-energy treatment.	Weak

Recommendations	Strength rating
Perform urinary diversion in recurrent or complex cases with loss of bladder capacity and/or incapacitating local symptoms.	Weak
Perform cystectomy during urinary diversion in case of intractable bladder pain, spasms and/or haematuria.	Weak