Urology CHEAT SHEETS

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EAU Guidelines on Urethral Strictures

Definition, epidemiology, aetiology, classification and diagnostic evaluation

DEFINITION:

In males, urethral stricture is defined as a narrowed segment of the urethra due to a process of fibrosis and cicatrisation of the mucosa and surrounding tissue. Meatal stenosis is generally accepted as a short distal narrowing at the meatus, without involvement of the fossa navicularis. Female urethral stricture is defined as a 'fixed anatomical narrowing' causing reduced urethral calibre. Majority of series define a urethral calibre < 14 Fr as diagnostic for female stricture.

EPIDEMIOLOGY:

In males, mean age is 45 years old. The anterior urethra is most frequently affected (92.2%), in particular the bulbar urethra.
In females, the incidence increases over 64 years old and a true stricture occurs in only 0.08-5.4% of women with refractory LUTS.
In children, most strictures are traumatic: iatrogenic causes or external trauma. **In female-to-male transgender patients, approximately 51% will suffer a urethral stricture. Strictures in male-to-female transgender patients occur in 14.4% of cases and arise almost exclusively at the neomeatus.**

AETIOLOGY AND PREVENTION:

1. **Sexually transmitted infections:** Urethritis due to sexually transmitted infection in particular gonorrhoea, was previously a major cause of urethral strictures in well-resourced countries accounting for 40% of all cases.

Recommendation	Strength rating
Advise safe sexual practices, recognise symptoms of sexually transmitted infection and provide access to prompt investigation and treatment for men with urethritis.	Strong

2. **Inflammation:** Lichen sclerosus involves the urethra in 20% of cases and is the most common cause of panurethral stricture disease (48.6%).
3. **External urethral trauma:** The second most common cause of stricture formation in adults.
4. **Iatrogenic urethral injury:** One of the most common causes of strictures in well-resourced countries.
   Preventing iatrogenic urethral injury represents the main way in which urologists can prevent urethral strictures.

Recommendations	Strength rating
Avoid unnecessary urethral catheterisation.	Strong
Implement training programmes for physicians and nurses performing urinary catheterisation.	Strong
Do not use catheters larger than 18 Fr if urinary drainage only is the purpose.	Weak
Avoid using non-coated latex catheters.	Strong

Transurethral surgery is the most common cause of iatrogenic urethral stricture (41% of all causes)

5. **Others:** failed hypospadias repair, congenital or idiopathic.

The cause of female urethral stricture is idiopathic in 48.5% and iatrogenic in 24.1%. Radiation therapy and infections are rare causes.
The commonest segment of urethra affected is the mid- or mid-to-distal (58%). Panurethral strictures are rare (4%).

CLASSIFICATION:

Classification according to stricture location will affect further management.

The male urethra is divided into:
- **Anterior urethra** (surrounded by spongious tissue): meatus, penile urethra and bulbar urethra.
- **Posterior urethra:** membranous urethra, prostatic urethra and bladder neck.

The female urethra is approximately 4 cm long and arbitrarily divided in an upper, mid and lower part.

EAU classification according to the degree of urethral narrowing

Category	Description	Urethral lumen (French [Fr.])	Degree
0	Normal urethra on imaging	-	-
1	Subclinical strictures	Urethral narrowing but ≥ 16 Fr	Low
2	Low grade strictures	11-15 Fr	
3	High grade or flow significant strictures	4-10 Fr	High
4	Nearly obliterative strictures	1-3 Fr	
5	Obliterative strictures	No urethral lumen (0 Fr)	

DIAGNOSTIC EVALUATION:

History taking and physical examination are key in diagnosis.

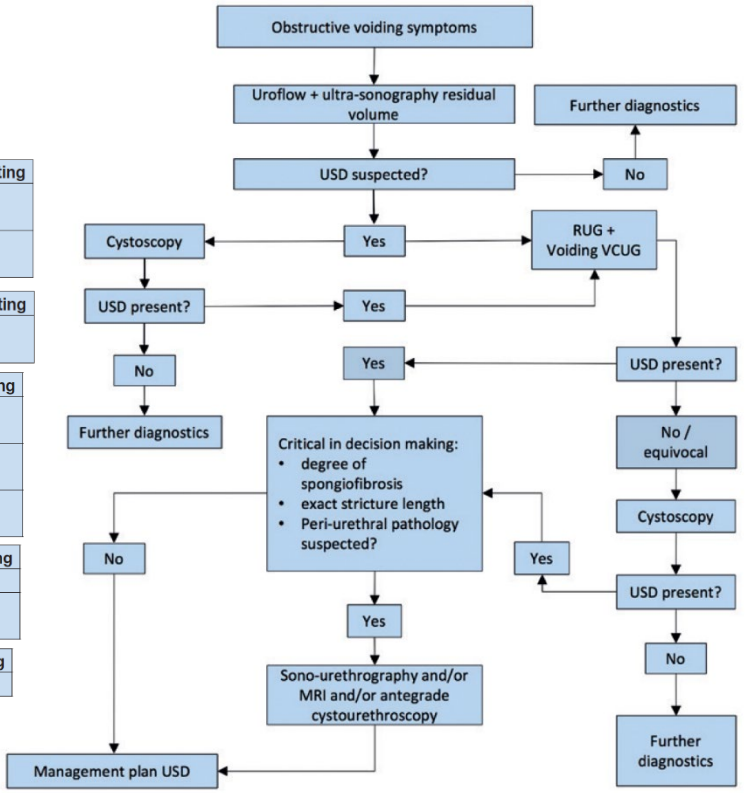
Recommendations	Strength rating
Use a validated patient reported outcome measure (PROM) to assess symptom severity and impact upon quality of life in men undergoing surgery for urethral stricture disease.	Strong
Use a validated tool to assess sexual function in men undergoing surgery for urethral stricture disease.	Strong

Recommendation	Strength rating
Perform uroflowmetry and estimation of post-void residual in patients with suspected urethral stricture disease.	Strong

Recommendations	Strength rating
Perform retrograde urethrography to assess stricture location and length in men with urethral stricture disease being considered for reconstructive surgery.	Strong
Combine retrograde urethrography with voiding cystourethrography to assess (nearly)-obliterative strictures, stenoses and pelvic fracture urethral injuries.	Strong
Use clamp devices in preference to the Foley catheter technique for urethrographic evaluation to reduce pain.	Weak

Recommendations	Strength rating
Perform cystourethroscopy as an adjunct to imaging if further information is required.	Weak
Combine retrograde urethroscopy and antegrade cystoscopy to evaluate pelvic fracture urethral injuries as an adjunct to imaging if further information is required.	Weak

Recommendation	Strength rating
Consider MRI urethrography as an ancillary test in posterior urethral stenosis.	Strong



MRI=Magnetic resonance imaging; RUG=retrograde urethrography, USD=urethral stricture disease; VCUG=voiding cystourethrogram

EAU Guidelines Dissemination Committee