be the result of NLUTD or a manifestation of unrelated urological disease such as BPH or stress urinary incontinence. If their urinary tract condition has changed over time, and a clinical assessment changes their risk stratification, they should be followed up according to their new category.

STATEMENT SEVENTEEN: In patients with the moderate- or high-risk NLUTD who experience a change in signs and symptoms, new complications (eg, autonomic dysreflexia, urinary tract infections, stones), or upper tract or renal function deterioration, the clinician may perform multichannel urodynamics. ***(Clinical Principle)***

UDS performed for specific symptoms or cause often yield important findings that may result in treatment changes. In multiple studies following NLUTD patients with sign or symptom changes such as increased incontinence, recurrent UTIs, changes in renal function, or new hydronephrosis, UDS revealed changes in bladder function that required a change in bladder management method or medical or surgical therapy.[18] UDS findings may result in a change in risk stratification to high-risk if concerning features are found (see Table 1).

STATEMENT EIGHTEEN: In the NLUTD patient with concomitant hematuria, recurrent urinary tract infections, or suspected anatomic anomaly (eg, strictures, false passage), clinicians should perform cystoscopy. (*Moderate Recommendation; Evidence Level: Grade B)*

Any patient with painless gross hematuria requires upper tract imaging (i.e., CT urogram or renal US) and a cystoscopy. Patients with indwelling catheters or those who perform CIC are at risk of urinary tract irritation or catheter trauma, but this cannot be determined without cystoscopic investigation. Benign bladder lesions, urethral strictures, or calculi will also be effectively diagnosed with a cystoscopy. NLUTD patients with difficult urethral catheter passage or hematuria with catheterization can have urethral strictures or a false passage from catheter trauma. Cystoscopy can effectively diagnose these conditions and may prompt treatment of a stricture or a change in catheterization technique after careful observation of the patient performing CIC.

STATEMENT NINETEEN: In NLUTD patients, clinicians should not perform screening/surveillance cystoscopy. (*Strong Recommendation; Evidence Level: Grade B)*

STATEMENT TWENTY: In NLUTD patients with a chronic indwelling catheter, clinicians should not perform screening/surveillance cystoscopy. (*Strong Recommendation; Evidence Level: Grade B)*

NLUTD bladder cancer patients often present with advanced disease at a younger age and with unfavorable pathology, such as squamous cell carcinoma which is responsible for 25-81% of bladder cancers in the SCI population.[19] It has been suggested that surveillance cystoscopy in this population might be beneficial in the early detection of bladder cancer. However, a systematic review of nine studies has shown that cystoscopy and cytology are poor screening tests for bladder cancer in NLUTD patients[15] and overall, there remains an absence of high-level evidence that supports initial or annual cystoscopic surveillance for bladder cancer in this population.[19] A urologic history alone is likely a better screening tool than cystoscopy.[14]

STATEMENT TWENTY-ONE: In NLUTD patients with indwelling catheters, clinicians should perform interval physical examination of the catheter and the catheter site (suprapubic or urethral). (*Moderate Recommendation; Evidence Level: Grade C)*

Indwelling catheters are chronic foreign bodies present in the urinary tract and their site of entry is inherently at risk for complications. The urethra is at risk for catheter hypospadias (i.e., penile spatulation) in men and dilation of the bladder outlet and urethral loss in women. Patients with NLUTD are at particular risk; up to 23% of men with NLUTD and a urethral catheter suffer from urethral erosion.[20,21] Securing the catheter properly is one method to reduce this risk.[22] Suprapubic catheters avoid urethral complications but can erode through the abdominal wall if improperly secured.

STATEMENT TWENTY-TWO: In NLUTD patients with indwelling catheters who are at risk for upper and lower urinary tract calculi (eg, patients with spinal cord injury, recurrent urinary tract infection, immobilization, hypercalciuria), clinicians should perform urinary tract imaging every 1-2 years. ***(Moderate Recommendation; Evidence Level: Grade C)***

Indwelling catheters increases the risk of UTIs[23] and is a source of chronic bacteriuria, both of which are risk factors for bladder and upper tract calculi. Bladder stones prevalence ranges from 8% to 41%[20,23–26] in patients with indwelling catheters and can go undetected without imaging until they are very large. The advantage of detecting stones when small is that they can be irrigated in clinic, while those that are slightly larger can be managed with a simple cystolitholapaxy. Upper tract stones are also common in this patient population occurring in 6-32% of patients.[23,24,26] For this reason, renal and bladder ultrasound are required in moderate- or high-risk NLUTD patients with an indwelling catheter.