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REVIEW

Current Approaches for the Diagnosis and Conservative Treatment of Stress Urinary Incontinence - A Guideline of Guidelines

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Abstract

Urologists utilize evidence-based guidelines organized by urological organizations in the management of stress urinary incontinence (SUI). The objective of this study is to provide guidance in the clinical management of stress urinary incontinence (SUI) by reviewing key guidelines.

We conducted a medical literature analysis in the following databases: PubMed, Medline, Embase, National Guideline Clearinghouse, the National Institute for Health and Care Excellence, and Cochrane Library. We also manually searched the websites of the following international and national societies to identify relevant guidelines for inclusion in this review: the International Consultation on Incontinence, American College of Obstetrics and Gynecology, American Urogynecologic Society, American Urological Association/Society of Urodynamic, Female Pelvic Medicine and Urogenital Reconstruction, National Institute for Health and Care Excellence, European Association of Urology, and Canadian Urological Association. The recommendations in the guidelines are summarized in different areas, including the diagnostic standards of SUI, examination and evaluation methods, and conservative treatment methods. This 'guideline of guidelines' presents the similarities and differences between prominent authorities in the management of SUI.

Keywords: Guidelines; lower urinary tract symptoms; pressure-flow study; stress urinary incontinence

INTRODUCTION

Stress urinary incontinence (SUI) refers to unintentional leakage of urine that occurs during activities involving physical exertion (such as sports), as well as during episodes of coughing or sneezing (1). Urinary incontinence (UI) has a negative effect on the social activities of patients, including social interactions, physical exercise and sexuality (2). Of women with SUI, 77.5% state that they have bothersome symptoms, and 28.8% report moderate and moderate-severe symptoms (3). The prevalence of SUI in adult women is 14.9%, and it has the highest prevalence among all incontinence types (2, 4). The widespread occurrence of SUI and its potential consequences for patients are widely acknowledged. In the evaluation and treatment of patients with incontinence, an accurate diagnosis is as important as evaluating its impact on the patient's quality of life (5).

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Due to the aging population and the increasing number of elderly people, SUI increasingly leads to the use of significant healthcare resources, including conservative treatment, surgical treatment, and management of complications (6, 7). To date, many independent professional organizations and countries have established various guidelines to guide clinicians and standardize the diagnosis, treatment and follow-up processes of patients with incontinence (8). Clinical practice guidelines are an important component of medicine since they provide physicians and other healthcare professionals with evidence-based advice on the management of care for patients with diseases or other clinical conditions (9). However, guidelines issued by organizations or countries may represent patient populations affected by very different health systems and, in some cases, external factors. Thus a standardized recommendation may not be universally applicable or valid. Therefore, in this study, we aimed to establish a common view concerning the approach to patients with SUI by considering current guidelines from different venues.

Methodology

We performed a medical literature analysis of the following databases: PubMed, Medline, Embase (using the Ovid interface), National Guideline Clearinghouse, the National Institute for Health and Care Excellence (NICE), Cochrane Library search for the period from January 2010 to November 2020 to identify relevant guidelines addressing SUI in women.

Inclusion criteria and exclusion criteria

The study included consensus statements and clinical guidelines in the English language providing recommendations on the management of patients for the diagnosis and treatment of SUI. Guidelines written specifically for local regions, those without full text or with only abstracts, and old version of the updated guidelines of the same organization were excluded from the study.

Guidelines Reviewed

Two researchers reviewed the identified guidelines. Table 1 presents the guidelines by the publishing organization and year of publication and/or update. Additionally, we conducted a manual search on the websites of the following international and national societies to identify relevant guidelines for inclusion in this review: the International Consultation on Incontinence (ICI), American College of Obstetrics and Gynecology (ACOG), American Urogynecologic Society (AUGS), American Urological Association (AUA)/Society of Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction (SUFU), National Institute for Health and Care Excellence (NICE), European Association of Urology (EAU), and Canadian Urological Association (CUA).

ICI produced the sixth edition of recommendation in 2017 (first published in 1998) on a number of topics initially analyzed by subcommittees, in collaboration with the International Scientific Committee. The ICI guideline recommendations are established through a review of the available published literature, along with subjective opinion of a group of recognized experts in the field (10).

ACOG regularly releases practical bulletins and evidence-based documents to summarize current information on the clinical management and techniques of gynecological problems. Similar to previous EAU guidelines, the recommendations of the ACOG guideline are based on the quality and quantity of A-C grade evidence. In collaboration with AUGS, ACOG first released practice bulletins for women with UI in 2005. This bulletin was revised in 2015 and reaffirmed in 2018 (11).

AUA primarily emphasized on surgical interventions for female SUI and conducted a meta-analysis from the literature review in 1997 which was most recently updated in collaboration with SUFU in 2017. The aim of the AUA guideline was to offer clinicians standards, recommendations, and choices to assist them in the management of SUI (12). In addition, AUA cooperated with SUFU to create a separate guideline for the diagnosis and treatment of overactive bladder (OAB), referred to as the AUA/SUFU OAB guideline (13).

The NICE guideline concerns the management of women with UI and was last updated in 2019 after several updates since it was first published in 2006. The ICI guideline similarly provides recommendations for the management of patients with pelvic organ prolapse. The NICE group uses its own synthesis of evidence and a systematic review of the available literature to generate recommendations using the OVID platform (14).

The EAU guideline was first published in 2001 and initially based on both ICI and NICE literature reviews as the core framework. In later updates, Excerpta Medica dataBASE, MedLine and Cochrane Center publications were used. The EAU guidelines are updated annually, and we took into account the most recent updates in the current study. In 2018, the EAU guideline switched to the modified Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) system, in which the previous grade

recommendations of 'A', 'B' and 'C' were replaced by 'Strong' and 'Weak' categories (15). The CUA guideline first presented its UI recommendations in 2005 and was updated in 2012 based on the latest PUBMED, Cochrane Center publications and MedLine reviews. The grading of recommendation is similar to the updated EAU grading system, but an additional Grade D recommendation has been made available for inconclusive recommendations (16).

Table 1. Guidelines reviewed

Guideline	Year of publication/update
EAU	2019
AUA/SUFU	2017
CUA	2012
ICI	2017
ACOG	2018
NICE	2019

EAU: European Association of Urology; **AUA:** American Urological Association; **SUFU:** Society of Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction; **CUA:** Canadian Urological Association; **ICI:** International Consultation on Incontinence; **ACOG:** American College of Obstetrics and Gynecology; **NICE**: National Institute for Health and Care Excellence.

RESULTS

Initial Evaluation

The guidelines are not necessarily comprehensive, but they offer a valuable overview of the evidence-based management of index patients.

All guidelines recommend conducting an office evaluation as the initial and crucial step in the evaluation of women with UI. The initial workup should include a detailed history, physical examination, assessment of the severity of symptoms, degree of bother, presence (or absence) of urgency, other lower urinary tract symptoms and treatment expectations(17). In addition, urinary tract infection (UTI) and postvoid residual urinary volume (PVR) should be assessed. A simple cough stress test should be done and, if positive, provides objective confirmation of the diagnosis of SUI. Furthermore, all guidelines emphasize the significance of obtaining a thorough and detailed medical and surgical history and considering the possibility of other disorders that can cause and/or complicate SUI.

The AUGS, EAU, and NICE guidelines clearly indicate the importance of determining the effects of hematuria, history of recurrent UTI, pelvic surgery or radiotherapy, continuous discharge of urine indicating the presence of fistulas, fecal incontinence (NICE only), difficulty voiding or suspected neurological disease, pad use, and SUI-related symptoms on the activities of the daily lives of women (5, 14, 17).

In addition to the urological history, a detailed medical and neurological (e.g., diabetes, multiple sclerosis, lumbar disc disease, and stroke) history is recommended. While the ICI, AUGS, ACOG and AUA/SUFU guidelines recommend a neurological assessment for all patients presenting with UI, the EAU and NICE guidelines do not recommend it as standard practice (5, 10, 11, 14, 17, 18). A complete list of drugs, including prescription and nonprescription medications used by the patients should be compiled. Clinicians should be aware that there are drugs that can affect the bladder and urethra or cause voiding difficulties (5, 11, 19).

Although there is a lack of high-quality evidence-based information showing that physical examination improves the management of patients, all guidelines concur that conducting this examination is a crucial component of the evaluation and diagnosis of SUI. All guidelines suggest that a diagnosis of SUI can be made by physical examination provided that there is an observable manifestation of urine leakage accompanied by increased abdominal pressure (positive cough stress test). The AUA guideline recommends that stress testing should be conducted as a component of the evaluation of patients presenting with UI (12). The AUA/SUFU SUI guideline provides a 'clinical principle' suggesting that SUI should be evaluated in the supine and standing positions and with a full bladder (minimum bladder volume 300 mL) prior to any surgical intervention (12). The ACOG (Level C) and AUA (Expert Opinion) guidelines state that the use of traditional methods, such as the Q-tip or cotton swab test in the evaluation of urethral mobility during the physical examination of SUI can be effective in the treatment decision (11, 12). However, the NICE guideline does not recommend using the Q-tip test (or the Bonney, Marshall and Fluid-Bridge tests) in the evaluation of SUI (Evidence Level 4) (14). According to the AUGS guideline, if the standing cough stress test is negative and the patient reports symptoms of SUI, multichannel urodynamic testing (UDS) should be performed (5).

All guidelines agree that in addition to assessing the presence of incontinence on physical examination, an evaluation of the general status (mental status, obesity, mobility) of the patient, abdominal examination, and assessment of pelvic floor muscles and pelvic organ prolapse (POP) are also necessary. In addition, the NICE guideline

endorses pelvic floor assessment for patients with SUI to determine whether pelvic floor muscle training (PFMT) can be recommended (Expert Opinion) (14). The CUA (Grade C), EAU and ICI guidelines recommend pelvic floor muscle evaluation (10, 16, 17). ACOG, AUGS and EAU guidelines suggest evaluating the presence of POP on physical examination to differentiate complicated SUI. The presence of POP may reduce or cover up the severity of SUI symptoms; therefore, they recommend that all pelvic compartments (anterior, posterior and apical) should be examined in detail. Examination of the pelvic compartments may also reveal the presence of a fistula or an ectopic ureter opening into the vagina (5, 11, 17). In addition, rectal examination is valuable in assessing anorectal pathologies and fecal impaction, which can be related to UI in older women (5). Table 2 presents the detailed recommendations of all guidelines during the initial evaluation of patients.

Table 2. Initial evaluation

Recommendation	EAU	AUA/SUFU	CUA	ICI	ACOG	NICE
Detailed history to characterize UI	+	+	+	+	+	+
Detailed partum history	+				+	
Pad test	+	+		+		+
Exclusion of other diseases (e.g., ectopic ureter and malignancy)	+				+	
Detailed physical examination	+	+	+	+	+	+
Neurological examination		+		+	+	
Stress test for the objective evaluation of SUI		+			+	
Bladder/voiding diary	+			+		+
Questionnaires	+		+	+		

EAU: European Association of Urology; **AUA:** American Urological Association; **SUFU:** Society of Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction; **CUA:** Canadian Urological Association; **ICI:** International Consultation on Incontinence; **ACOG:** American College of Obstetrics and Gynecology; **NICE:** National Institute for Health and Care Excellence; **UI:** urinary incontinence; **SUI:** stress urinary incontinence; **ICIQ:** ICI Questionnaire

Questions and Questionnaires

The varying scope and purpose of each guideline leads to differences concerning the use and recommendations regarding questionnaires. The EAU guideline includes the use of appropriate validated questionnaires in the 'Strong' category of recommendations in the standard evaluation of patients with UI. However, EAU acknowledges that there is lack of evidence supporting the use of questionnaires in the follow-up of patient response to treatment, since these questionnaires are validated in patients without UI (17). The CUA and ICI guidelines recommend the use of the ICI Questionnaire (ICIQ) in conjunction with additional questionnaires as a first choice 'Grade A' recommendation in the assessment of the specific clinical condition in patients with UI. In the CUA guideline, questionnaires received a 'Grade B' recommendation (10, 16). Similarly, according to AUA, an evaluation of patient expectations is recommended as a 'Panel Consensus (12). The NICE guideline endorses the use of questionnaires to assess the impact of UI-specific symptoms on quality of life and post treatment status. In addition, similar to other guidelines, the NICE guideline also recommends the use of ICIQ-like questionnaires (14). Although the ACOG guideline does not contain specific statements concerning the use of questionnaires, it advocates the use of validated questionnaires to assess the discomfort and severity of SUI symptoms (11). Despite the recommendations of these guidelines, two systematic reviews evaluating eight different questionnaires in the diagnosis of UI reported a low level of questionnaire use in the diagnosis of SUI (20, 21).

In addition to the use of questionnaires, some guidelines

suggest the use of a voiding to document micturition frequency, amount voided, number of pads per day, and UI episodes in the initial evaluation of UI. The ICI and NICE guidelines recommend a 3-day diary while the AUGS and ACOG guidelines recommend a four- to five-day diary (5, 10, 11, 14). To reveal the patient's day time and night time status and evaluate the response to treatment for similar purposes, the EAU guideline recommends the use of a three- to seven-day voiding diary (Strong) (17). Although the guidelines recommend various timeframes for the voiding diary, the NICE guideline states that the optimal duration is unclear and that the use of a minimum three-day voiding diary may prevent variations in the daily activities of patients. However, the NICE guideline does not routinely recommend the use of voiding diary in the evaluation of patients with UI (14). The AUA/SUFU guideline is less insistent on the use of voiding diary than other guidelines; it does not provide a general recommendation concerning the use of a voiding diary in all patients, but it states that a three- to seven-day diary can be used to determine baseline symptoms and response to treatment (12).

Initial Diagnostic Tests

All guidelines agree on the necessity of a urine analysis (UA) to determine the presence of UTI in the diagnosis or prior to the treatment decision. Similar to other guidelines, the EAU guideline states that every patient should undergo UA in the presence of UTI because UI may worsen, or UI may be a sign of UTI. However, it has been determined that nursing home patients with asymptomatic bacteriuria do not benefit from antibiotic therapy in terms of UI (Evidence Level 2) (17). For dipstick UA, a clean midstream or catheterized urine sample should be taken, and if UA is negative, uncomplicated SUI should be considered (19). According to the NICE guideline, every patient with UI should undergo UA to screen for erythrocytes, glucose, protein, leukocytes, and nitrites in the urine. In order to prevent unnecessary testing and reduce the burden on the healthcare system, a routine urine culture analysis is not indicated in patients with SUI who have negative UA (14).

In addition to the guidelines' consensus on UA being the first diagnostic test, it is also recommended that if the patient has a complaint of incomplete emptying or a distended bladder, the PVR should be examined. However, this value should be interpreted with caution since there is no consensus on abnormal PVR (22). Based on the Value of Urodynamic Evaluation (ValUE) trial, ACOG accepts PVR < 150 mL as normal and states that further testing before SUI surgery is unnecessary for patients with this value (11, 23). However, according to the EAU and NICE guidelines, patients with recurrent UTI receiving treatments that may cause or worsen voiding dysfunction, including SUI surgery should be monitored for PVR using ultrasound or catheterization (14, 17). Furthermore, the ACOG (Level A), AUA/SUFU SUI (Clinical Principle) and AUGS guidelines state that PVR assessment should be performed in cases where surgery is considered to evaluate overflow UI (3, 11, 12).

The guidelines' recommendations concerning the use of the pad test in UI assessment vary. The EAU guideline states that the pad test provides Level 2 evidence in the diagnosis of UI (16). The use of the pad test for the quantification of UI is recommended by the EAU (Weak) and AUA (Recommendation) guidelines (12, 17). The 24-hour pad test to be performed at home is sufficient in terms of accuracy (17). On the other hand, the ICI guideline states that the use of pad test is discretionary during the assessment of the UI, and 24-hour testing should be performed if it is to be undertaken (10). According to the NICE guideline, the evidence supporting the use of the pad test is inconclusive and of low quality, with conflicting findings. This guideline does not recommend the routine use of the pad test in the evaluation of UI in women but considers it to be useful in the evaluation of treatment effect (Evidence Level 4) (14). In addition, the EAU and NICE guidelines indicate that the pad test should be repeated to evaluate treatment, but there is no evidence that the use of this affects results (14, 17).

When evaluating female SUI through physical examination, the majority of guidelines indicate that assessment of urethral mobility can guide treatment decisions. The AUA (Expert Opinion) and ACOG (Level C) guidelines both recommend evaluating urethral mobility during the physical examination of women with SUI (11, 12). The Q-tip, Marshall, Bonney and Fluid-Bridge tests are conventional methods used to evaluate urethral mobility (24). However, due to the lack of evidence supporting their usefulness in clinical evaluation, NICE does not recommend their use (14).

In certain cases such as an indefinite diagnosis, hematuria, OAB symptoms, neurogenic bladder, history of prior pelvic surgery, high-grade POP, and a negative stress test in the presence of SUI symptoms, initial diagnostic tests may be insufficient and there may be a need to use advanced tests; e.g., cystoscopy, UDS, and imaging studies (12). In certain clinical situations, urinary incontinence may be caused by a fistula, and therefore testing with dyes to stain urine may be helpful. The CUA guideline recommends cystoscopy if there is a fistula suspicion (16). In contrast, the AUA guideline states

that cystoscopy plays no role in the evaluation of patients with normal urinalysis and those with no additional lower urinary tract abnormalities, who are planned to undergo surgical treatment for SUI, but intraoperative cystoscopy can be performed during certain surgical procedures (12). In the AUGS and NICE guidelines do not recommend routine endoscopic evaluation of the urethra and bladder in the assessment of UI (3, 14). In addition, according to NICE, ultrasound (only PVR assessment) and additional imaging methods should not be used during the routine evaluation of women with UI (14).

Urodynamic Studies

Urodynamic testing is a general term describing measurements that evaluate the performance and abnormalities of the lower urinary tract. UDS allows making clinical observations, determining the underlying causes of symptoms, and measuring related pathophysiological processes while directly evaluating lower urinary system function through the measurement of relevant physiological parameters (25).

There is no consensus about the indications for UDS amongst the guidelines, but all agree that UDS is not required uncomplicated SUI in the index patient after exclusion of urge incontinence) and that it will not change the outcomes of conservative or drug treatment (26). In addition, there is no association between the outcomes of urethral function tests and success or failure after SUI surgery (17). However, women with complicated SUI might find it advantageous to undergo multichannel urodynamic testing and other diagnostic tests before considering of treatment, particularly surgery (3, 18). These recommendations are based on the ValUE trial, in which 630 patients with uncomplicated SUI were included and the addition of UDS during the examination was reported not to affect surgical results (23). The EAU guideline states that, when indicated, UDS should be performed in accordance with the 'Good Urodynamic Practice' standards defined by the International Continence Society (17). While the AUA/SUFU guideline recommends considering the option of performing UDS in patients with UI who are planned to undergo invasive treatment, the ICI and EAU (Weak) guidelines indicate UDS should be considered if its results are expected to change treatment advice and management (10, 12, 17). The AUA/SUFU SUI guideline states that UDS can be disregarded in index patients with clear signs of SUI who accept treatment (Conditional Recommendation, Evidence Level B) and undertaken in non-index patients (Expert Opinion) (12). The AUA/SUFU guideline includes a total of 19 statements on four disease states related to UDS: SUI/POP, OAB, urge UI (UUI) + mixed UI (MUI), and neurogenic bladder + lower urinary tract symptoms. Almost all of the statements on UI in the AUA/SUFU guideline are based on Grade C evidence or expert opinion. However, the AUA/SUFU UDS recommendations have remained unchanged since their publication in 2012 (12). The ACOG and NICE guidelines do not recommend UDS in patients with uncomplicated SUI detected during clinical examination. However, they suggest that UDS should be performed in patients scheduled for surgery, who have predominant UUI or MUI, anterior or apical POP, voiding dysfunction, and a history of previous surgery for SUI (11, 14). In addition, according to the NICE guideline, preoperative multichannel filling and voiding cystometry should not be performed in cases where SUI or stress-predominant MUI can be identified based on examination findings and clinical history. UDS is recommended in such cases if there is urge-predominant MUI or the type of UI cannot be determined, a history suggesting voiding dysfunction, a history of previous SUI surgery, or anterior or apical prolapse (14).

Treatments

Conservative Management

In patients seeking treatment for SUI, treatment decisions should take into account the degree of discomfort their symptoms cause. Since SUI can significantly impact quality of life, the treatment decision should be made considering its capacity to relieve discomfort caused by the symptoms. Treatment options for SUI range from conservative management to surgery. When a patient experiences minimal subjective discomfort resulting from SUI, it is recommended to conduct a thorough evaluation to explore non-surgical conservative treatment options (Expert Opinion) (12). All guidelines recommend that conservative treatment be tried before invasive treatment as it has the least risk of harm. Conservative treatment options include behavioral modification, PFMT (with or without biofeedback), support pessaries for continence, scheduled voiding, urethral inserts, and pharmacotherapy. There is substantial evidence supporting the positive effects of weight loss in improving UI among obese patients, and the EAU, ICI, NICE and AUGS guidelines all present weight loss as a recommendation in overweight patients with UI (3, 10, 14, 17). Weight loss and its maintenance is included as a 'Grade A' recommendation in the CUA guideline and 'Strong' recommendation in the EAU guideline (16, 17). According to the NICE guideline, patients with UI whose body mass index is >30 kg/m^2 should

lose weight (14).

The EAU makes a 'Strong' recommendation of bladder training as the primary therapy in patients with SUI and endorses scheduled voiding for adults with UI (17). Bladder training (regulation of fluid intake, caffeine restriction, keeping healthy bowel habits, and scheduled voiding) is included as a first-line treatment option for patients with UI in the CUA guideline, as well as the EAU guidelines (16). The NICE guideline recommends six weeks of bladder training in the treatment of UI (14). Reduced caffeine intake, which is a part of bladder training and behavioral modification, is recommended by all guidelines in the management of UI. The EAU guideline states that caffeine restriction does not reduce UI but decreases urgency and frequency in patients (17). Suggested modifications, such as scheduled voiding and regulation of excessive fluid intake, are included as 'Grade B' recommendations in the CUA guideline in order to reduce UI symptoms, while they are well-validated recommendations in the guidelines of other groups, such as NICE (14, 16). However, the EAU guideline states that there is conflicting information concerning the efficacy of fluid modification in improving UI symptoms (17). Smoking cessation receives a 'Grade C' recommendation from CUA, while EAU emphasizes the lack of evidence on UI symptom improvement with smoking cessation (16, 17). There is no consistent evidence indicating that the treatment of constipation alone, which is considered a conservative approach, improves UI (Evidence Level 4), but the EAU guideline has the 'Strong' recommendation that patients with the coexistence of constipation and UI should be informed about bowel management (17).

PFMT stabilizes the urethra and increases urethral closure pressure. All the guidelines recommend PFMT for the treatment of SUI and agree that a waiting time of three months should elapse to see improvement in patients when applying PFMT. Recent literature also supports the guidelines indicating that PFMT improves UI and quality of life in women with SUI (27). The EAU guideline offers PFMT as the first-line therapy for elderly and postnatal patients with UI (17). The NICE guideline recommends that PFMT is as effective as surgery in half of patients with SUI and should be undertaken as the first-line therapy in this patient group. It also suggests that patients who benefit from at least three months of PFMT treatment should continue the program. However, it does not recommend routinely combining PFMT with electrical stimulation (14). The AUA guideline states, as 'Clinical Principle', that women with SUI or stress predominant MUI should be informed about alternative non-surgical options or vaginal devices (continence pessary, vaginal inserts, and PFMT) (12). According to the EAU guideline, the improvement of SUI with the use of vaginal devices in selected patients is supported by Level 2a evidence, and the use of pads and/or containment devices is included as a 'Strong' recommendation in the treatment of patients with UI (17).

Although the guidelines offer a variety of options for the treatment of SUI, they do not take into account every patient scenario or provide clear timelines for when conservative management should be discontinued to plan definitive treatment (Table 3).

Table 3. Conservative management

Recommendation	EAU	AUA/SUFU	CUA	ICI	ACOG	NICE
Scheduled voiding	+	+	+	+	+	
Restriction of fluid			+		+	+
Smoking cessation	+		+			
Weight loss	+		+	+	+	+
Treatment of constipation	+				+	
PFMT	+	+	+	+	+	+
Counselling women on the availability of non-surgical options		+			+	
Drug Therapy	+			+		+

EAU: European Association of Urology; **AUA:** American Urological Association; **SUFU:** Society of Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction; **CUA:** Canadian Urological Association; **ICI**: International Consultation on Incontinence; **ACOG:** American College of Obstetrics and Gynecology; **NICE:** National Institute for Health and Care Excellence; **PFMT:** pelvic floor muscle training

Drug Therapy

Duloxetine, a serotonin/norepinephrine reuptake inhibitor, has obtained approval for the treatment of SUI in Europe but not by the United States Food and Drug Administration. Duloxetine inhibits presynaptic re-uptake in the sacral spinal cord of the neurotransmitters serotonin and norepinephrine, which are considered to increase the stimulation of the pudendal nerve, and thus the urethral sphincter tone (28). Although duloxetine is superior to PFMT in the treatment of SUI, the usage of this medications often leads to a high discontinuation rate due to notable gastrointestinal and central nervous system side effects. (28). In the EAU guideline, the role of duloxetine 40 mg twice daily in the treatment of SUI is based on Level 1a evidence. It is recommended (Strong) that duloxetine treatment should be considered in selected patients with SUI symptoms for whom surgery is not considered and that withdrawal should be achieved with dose titration in cases where necessary due to its high side-effect profile (17). The ICI guideline indicates duloxetine therapy for the temporary treatment of UI (10). Similar to other guidelines, the NICE guideline also recommends duloxetine in patients with predominant SUI who prefer pharmacological management and do not agree to surgery (14).

CONCLUSION

The issue of SUI must be addressed in a multifaceted manner and requires a multifaceted perspective on diagnosis, treatment, diverse patient populations, and disease states. This paper summarized the current approaches in the diagnosis and treatment of patients with SUI in light of the current guidelines. This study did not provide a comprehensive analysis of every guideline, but it highlighted notable similarities and differences among them.

Most of the guidelines discussed in this review have similar recommendations for the initial evaluation of patients and the use of conservative treatments. During the initial assessment of these patients, a detailed history should be taken and the degree of SUI and its impact on quality of life should be questioned. Invasive tests and imaging methods should not be preferred during the initial evaluation in patients with uncomplicated SUI, and UDS should be performed only in cases in which the results might alter the diagnosis and treatment decisions. Conservative treatment options include behavioral modifications, PFMT, support pessaries for continence, scheduled voiding, urethral inserts, and pharmacotherapy. Among these options, PFMT and pharmacotherapy stand out in the treatment of SUI and have higher recommendation ratings. Although the reviewed guidelines have similar recommendations concerning the management of SUI, the conclusions of organizations establishing these guidelines can vary due to the differences in available facilities and regulatory agencies across countries, dissimilar expectations of patient populations, limitation of national expenditures and costs, and evidence on which they based their recommendation levels.

Key Points:

1- The reviewed guidelines are not comprehensive in answering all questions but can provide practical evidence-based information on 'index patients'.

2- The initial evaluation of SUI should include taking a detailed history and performing a physical examination.

3- UDS should be used in the presence of recurrent SUI after complicated SUI or failure of invasive treatments.

4- The reviewed guidelines recommend a gradual approach to the treatment of SUI, starting with conservative treatment and progressing to more invasive procedures as needed.

5- There was little agreement about the initial evaluation except that all guideline panels recommended performing urinalysis, history and physical exam – no other diagnostic modalities were recommended by more than half of the panels.

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Author Contribution

B M Kaynar : Data collection or management, Manuscript writing/editing.

S Kalkan : Protocol/project development, Data collection or management, Data analysis, Manuscript writing/editing.

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