

Acceptance date: 31/10/2024

CARE PROTOCOL FOR THE MANAGEMENT OF NON-NEUROGENIC FEMALE URINARY INCONTINENCE IN PRIMARY HEALTH CARE

Shany Guzzo Consorte

Franciscan University, Faculty of Medicine
Santa Maria, Rio Grande do Sul
<https://orcid.org/0009-0006-5539-2277>

João Otávio Borges Espíndola

Franciscan University, Faculty of Medicine
Santa Maria, Rio Grande do Sul
<https://orcid.org/0009-0005-3066-8495>

Thiago Augusto Zanoelo

University Center of Pato Branco, Faculty of
Medicine, Pato Branco, Paraná
<https://orcid.org/0000-0001-9944-205X>

Júlia Nascimento Engleitner

Franciscan University, Faculty of Medicine
Santa Maria, Rio Grande do Sul
<https://orcid.org/0009-0000-0432-4596>

Luane Dornelles Loureiro

Franciscan University, Faculty of Medicine
Santa Maria, Rio Grande do Sul
<https://orcid.org/0009-0006-2528-5905>

Pedro Freitas Medeiros

Franciscan University, Faculty of Medicine
Santa Maria, Rio Grande do Sul
<https://orcid.org/0009-0002-5166-7860>

Leonardo Paz Medeiros

Franciscan University, Faculty of Medicine
Santa Maria, Rio Grande do Sul
<https://orcid.org/0009-0007-1324-7319>

All content in this magazine is licensed under a Creative Commons Attribution License. Attribution-Non-Commercial-Non-Derivatives 4.0 International (CC BY-NC-ND 4.0).



Gean Scherer da Silva

Federal University of Santa Maria, Faculty of
Medicine
Santa Maria, Rio Grande do Sul
<https://orcid.org/0000-0003-2792-9031>

Maria Eduarda Moreira Menezes

University of Vale do Rio dos Sinos, Faculty
of Medicine
São Leopoldo, Rio Grande do Sul
<https://orcid.org/0009-0005-2640-9474>

Nathan Speth Eichner

Federal University of Pelotas, Faculty of
Medicine
Pelotas, Rio Grande do Sul
<https://orcid.org/0009-0006-0328-5795>

Marcio Pedroso Saciloto

Gynecologist and Obstetrician, Federal
University of Santa Maria
Professor of Medicine at Franciscan
University
Santa Maria, Rio Grande do Sul
<https://orcid.org/0009-0003-1957-0679>

Abstract: Urinary incontinence is a complaint of involuntary loss of urine, which is highly prevalent worldwide, especially in women and with advancing age. It can be evaluated as a symptom, a sign or a condition that has negative repercussions in various areas of a woman's life. There are several pathophysiological mechanisms for the continence process to function properly and, when there is an alteration in one of these mechanisms, incontinence can develop. Based on its pathophysiology and symptoms, non-neurogenic UI is classified into four main types: stress, urge, mixed and overflow. In view of this, a detailed anamnesis, clinical physical examination and targeted complementary tests are essential in Primary Health Care, so that interventions can be carried out as quickly as possible, whether by conservative treatment, pharmacological treatment or surgery. The aim of this study is to provide medical professionals in Primary Health Care with guidance on the management and treatment of incontinent patients, as well as the indications, therapeutic interventions and when there is a need and priority for referral to specialized services. A care protocol will therefore be drawn up to guide general practitioners in the care of women with non-neurogenic urinary incontinence, improving quality of life and resolving problems in Primary Health Care.

Keywords: Urinary incontinence. Primary Health Care. Management.

LIST OF ABBREVIATIONS, ACRONYMS AND SYMBOLS

CID	International Classification of Diseases
cmH ₂ O	Centimeter of water
UAE	<i>European Association of Urology</i>
FDA	<i>Food and Drug Administration</i>
IC	Confidence Interval
ITU	Urinary Tract Infection
UI	Urinary incontinence
IUE	Stress Urinary Incontinence
IUM	Mixed Urinary Incontinence
IUU	Urge Urinary Incontinence
WHO	World Health Organization
PFM	Strengthening the pelvic muscles
PFMT	Pelvic Floor Muscle Training
POP	Pelvic Organ Prolapse
SOP-Q	<i>Pelvic Organ Prolapse Quantification System</i>
PubMed	<i>National Library of Medicine</i>
RPM	Post-Micturition Waste
RR	Relative Risk
SBH	Overactive bladder syndrome
SciELO	<i>Scientific Electronic Library Online</i>
SUS	Unified Health System

INTRODUCTION

Urinary incontinence (UI) is a condition that is increasingly prevalent worldwide, especially in women and with advancing age. It is defined as the complaint of involuntary loss of urine that can be reported by the patient and/or caregiver. With a multifactorial etiology, it has repercussions that compromise the patient's quality of life, both in physical, social and economic terms. Because it generates social exclusion, many women do not seek care, which makes it difficult to quantify the real incidence and prevalence of UI - up to 50% worldwide (Lukacz *et al.*, 2024a; Passos *et al.*, 2023).

The presence of UI can be divided based on its etiology into neurogenic - such as traumatic spinal cord injury, multiple sclerosis or stroke - and non-neurogenic - such as intrinsic urethral sphincter insufficiency

or detrusor hyperactivity. In this protocol, non-neurogenic UI will be addressed. In this sense, numerous situations can lead to or aggravate UI, the main ones being: female gender, advanced age, pregnancy and type of delivery, menopause, previous urogenital surgeries and different lifestyles (Bergo *et al.*, 2024; Comissão Nacional de Incorporação de Tecnologias, 2019).

In a simple and more prevalent way, UI can still be classified as stress (SUI) - due to hypermobility of the bladder neck or intrinsic urethral sphincter defect -, urgency (SUI) - associated with detrusor overactivity -, mixed (MUI) - when there is concomitant SUI and UI - and overflow - due to incomplete emptying of the bladder, without a specific trigger (Bergo *et al.*, 2024; Brasil, 2020; Comissão Nacional de Incorporação de Tecnologias, 2019; Passos *et al.*, 2023).

The treatment of UI varies according to its classification and severity, as well as the patient's health condition. Conservative management is the primary option for starting treatment, and behavioral interventions and exercise practices aim to rehabilitate the pelvic muscles. In turn, non-conservative management, medication or surgery is used in the minority of incontinent patients (Lukacz *et al.*, 2024a; Passos *et al.*, 2023).

It is therefore essential to carry out an assessment with a detailed anamnesis, physical examination and complementary tests in primary care, so that interventions can be implemented in the early stages of the disease process. Those who have no evidence of a satisfactory response to primary care management should be referred promptly to a specialist for secondary or tertiary care.

Given that incorrect/insufficient assessment and management can lead to poor resolution of the problem in primary health care, it is necessary to draw up a care protocol to guide management, whether conservative or

not, as well as indications, therapeutic interventions and the need for referral to a specialist, with the aim of providing better care and optimizing the first approach.

BACKGROUND

UI is a highly prevalent and costly condition among women, causing social exclusion, interfering with the patient's physical and mental health and compromising their quality of life (Passos *et al.*, 2023). Therefore, a complete clinical history is essential to provide information on the most appropriate therapeutic approach for each patient.

In addition, it is also common for patients with no indication for surgical treatment to be referred to specialized care, where they are counter-referred back to primary care, where they could have been treated properly from the outset. Consequently, this increases the waiting time for secondary care, while at the same time the principle of resoluteness is not fulfilled by Primary Health Care.

In view of this, whether it's conservative management or non-conservative management, which is indicated in a minority of cases, there is a clear need to draw up a manual to guide health professionals (doctors) on the indications for treatment and when to consult a specialist, based on the patient's symptoms. With this in mind, the aim is to guarantee comprehensive care and resolution, which are ethical doctrinal principles that the Sistema Único de Saúde (SUS) prioritizes.

OBJECTIVES

General objective

To draw up a care protocol, based on evidence from the current literature on the subject, in order to guide professionals in the first approach to patients with non-neurogenic urinary incontinence, optimizing referral to the specialized referral service.

Specific objective

- a) To propose a tool to assist general practitioners in the investigation, diagnosis and management of non-neurogenic female urinary incontinence in Primary Health Care;
- b) Reduce waiting times for specialized care with cases that can be followed up in primary care;
- c) Guaranteeing the guidelines of the National Primary Care Policy: resolution, longitudinality and coordination of care.

THEORETICAL REFERENCE

HISTORY

In 1979, the definition of UI was “the involuntary loss of urine that is a social or hygienic problem and is objectively demonstrable” (Bates *et al.*, 1979). However, in recent years, the definition has been updated by the *International Continence Society*, a global institution that leads research and multidisciplinary education in continence, and is now defined as “the complaint of involuntary loss of urine” (Haylen *et al.*, 2010). It was only in 1998 that UI ceased to be characterized merely as a symptom and was included as a disease in the International Classification of Diseases (ICD) of the World Health Organization (WHO) (Higa; Lopes; Reis, 2008).

Because it is classified as a disease, it can be assessed as a symptom, a sign or a condition that has a negative impact on different areas of a woman's life, whether physical, psychological, emotional or social, as well as having substantial economic costs, which leads to a poorer quality of life for patients in different age groups, from young to old (Botlero *et al.*, 2008).

EPIDEMIOLOGY

Nowadays, UI is a common pathology in women, affecting all age groups, especially the more advanced ones. Prevalence rates vary between different studies depending on the use of different definitions, the heterogeneity of the populations studied and population sampling procedures (Milsom; Gyhagen, 2019).

In the foreground, the prevalence of UI in the world can be as high as 50%, and it is two to three times more prevalent in women than in men (Guerra *et al.*, 2023). Thus, approximately 20 to 30% of women at a young age are incontinent, rising to 30 to 40% of women in middle age, which continues until the onset of old age, when it increases by around 10% (Nascimento *et al.*, 2022). Today, with the inversion of the traditional age pyramid, unlike in 1950, the base of the pyramid is growing, which has a direct impact on the increase in cases of UI.

Secondly, in Brazil, although many women report the presence of UI, there is a lack of research into the real prevalence and incidence of UI in the Brazilian health field. It is estimated that, at most, 37% of the female population up to middle age suffers from UI, while in elderly women the prevalence can reach up to 72% (Evangelista *et al.*, 2021).

In terms of classification, UI is divided into six types: stress, urgency, mixed, deviation, overflow and functional (or transient) incontinence (Passos *et al.*, 2023). According to the National Consensus on Urogynecology, by Guerra *et al.* (2021), stress UI is the most frequent and accounts for up to 39% of cases in women. In turn, urgency UI has a prevalence of 1 to 7% when compared to mixed UI with a prevalence of up to 25%, these are related to comorbid conditions that occur with age. Thus, stress UI, urgency UI and mixed UI are the most common types of female UI.

RISK FACTORS

The main risk factors for the development of UI in women are highlighted below. However, it is worth noting other associated factors, which are no less important, such as: medical comorbidities (diabetes, stroke and depression), previous urogenital surgeries and lifestyle choices (smoking and high-impact exercise). Finally, also described below, in a contradictory and non-conclusive way, is ethnicity/race (Lukacz *et al.*, 2024a).

Age

Age is considered the main risk factor for UI in women, the prevalence of which increases proportionally with increasing age, especially from the climacteric and menopause onwards, as well as the aging of the pelvic floor and the comorbidities that accompany it (Lukacz *et al.*, 2024a; Passos *et al.*, 2017).

Obesity

Obesity is a risk factor for both the development and worsening of UI; obese women are three times more likely to develop UI, especially SUI, than non-obese women (Nyggaard *et al.*, 2008; Passos *et al.*, 2023). When it comes to SUI, weight reduction is associated with improvement and resolution of UI (Lukacz *et al.*, 2024b). Theoretically, excess body weight has the effect of increasing abdominal pressure, which in turn increases bladder pressure and urethral mobility, leading to SUI (Bump *et al.*, 1992).

Pregnancy, parity and type of delivery

One of the explanations for the higher occurrence of UI in female patients is due to their reproductive life. These include hormonal changes, an enlarged uterus, changes to the pelvic floor during pregnancy and trauma suffered during labor (Adaji *et al.*, 2010; Dietz, 2013). In this sense, the loss of urine during pregnancy can be identified

in up to 85% of pregnant women and there is an increase in the prevalence and severity of symptoms over the course of pregnancy. This condition is caused by the overload on pelvic support and suspension, which ends up altering the previous statics (Handa, 2023; Passos *et al.*, 2023).

When it comes to increased parity leading to pelvic floor disorders, it is more prevalent among women who have given birth to at least one child, with the rate increasing proportionally to the increase in parity. In turn, this effect is more prominent in women before the menopause, since after the age it replaces the impact of parity (Handa, 2023).

Finally, with regard to the type of delivery, puerperal women who give birth vaginally are more likely to develop UI and pelvic organ prolapse compared to those who deliver by caesarean section. This evidence stems from greater exposure to pelvic floor injuries and trauma. However, representative studies include that caesarean section does not prevent the development of UI (Handa, 2023).

Menopausal Genitourinary Syndrome

Physiologically, the menopause leads to a reduction in the production of the hormone oestrogen, with an estimated 95% decline in oestradiol levels from the pre-menopausal state to the post-menopausal state (Bachmann *et al.*, 2022). In the meantime, in addition to the genital tract, the urinary tract also undergoes changes due to hypoestrogenism. This leads to the so-called Menopausal Genitourinary Syndrome and some of its consequences include: increased urinary frequency and stress incontinence, dysuria and episodes of repeated urinary tract infection (UTI) (Bachmann *et al.*, 2022).

It is noteworthy that studies suggest that oral estrogen hormone replacement therapy can result in the development or exacerbation of UTI (Bachmann *et al.*, 2022; Passos *et al.*,

2017). However, vaginal estrogen can improve continence, decrease urinary urgency and UTI episodes (Bachmann *et al.*, 2022). In this sense, studies point to a paradox between the estrogen hormone being a cause or a consequence of UTI.

Family history

There is an association between the genetic component and UI, which may be higher in patients with a family history (Aniulis *et al.*, 2021). In the epidemiological study carried out by Hannestad *et al.* (2004), it was concluded that the risk was higher for daughters (relative risk (RR) 1.3, confidence interval (CI) 95% 1.2-1.4) and sisters (RR 1.6, CI 95% 1.3-1.9) of women with incontinence. Studies indicate a low contribution of heredity to SUI (Nguyen *et al.*, 2011).

Ethnicity/race

Data on the association of UI with race or ethnicity is conflicting. Some studies report that SUI is more common in non-Hispanic white women compared to women of African-American or Asian-American origin. Other studies, on the other hand, report no differences between the groups (Harding *et al.*, 2024; Lukacz *et al.*, 2024a).

PHYSIOPATHOLOGY

The storage and elimination of urine are physiologically complex processes. To make them happen, different muscles, parasympathetic, sympathetic, somatic and sensory nerves need to work together. If any of these structures fails, their integrated functioning will be altered, compromising both the filling and emptying phases of the urinary bladder, which may have repercussions in the form of incontinence (Passos *et al.*, 2023).

According to Cândido *et al.* (2017), the most commonly found causes of UI are grouped into two types: those resulting from

primary or secondary bladder alterations and those resulting from urethral disorders. Thus, as a symptom in the storage phase, UI can be classified into: stress urinary incontinence (SUI), urge urinary incontinence (UUI), mixed urinary incontinence (MUI), incontinence by detour, incontinence by overflow and functional or transient incontinence (Passos *et al.*, 2023).

However, there is some disagreement about the classifications in various literatures. Based on the terminology literature of the *International Continence Society*, the following are added to the classification: continuous UI, enuresis and situational types (UI due to cognitive impairment, mobility difficulties and UI due to sexual activity) (Gajewski *et al.*, 2018). These types are presented and defined in Table 1. When it comes to pregnant and post-pregnant women, more recent terminologies in conjunction with the *International Urogynecological Association* have been published and are described in Table 2 (Doumouchtsis *et al.*, 2022).

Among the various classifications, the main forms of non-neurogenic UI are: SUI, UUI and MUI. When the incontinent person presents characteristics of continuous urine loss or dripping in the scenario of incomplete bladder emptying, it is called overflow UI (Lukacz *et al.*, 2024a). These will be covered more precisely in the course of this protocol.

CLASSIFICATION

Stress urinary incontinence

SUI is defined as the involuntary loss of urine through the external urethral meatus, synchronous with exertion, sneezing or coughing, which can increase intra-abdominal pressure. Stress UI occurs due to a deficiency in bladder and urethral support, a role played by the pelvic floor muscles, or due to weakness/injury of the urethral sphincter. As

a result, in situations of exertion, intravesical pressure exceeds intraurethral pressure, leading to urinary leakage (Brasil, 2020; Girão *et al.*, 2015; Passos *et al.*, 2023).

According to studies carried out by Holroyd-Leduc *et al.* (2008), SUI is the most prevalent subtype in women up to the age of 65, accounting for 50 to 66% of cases, reducing to 25 to 33% in women over the age of 65, due to the fact that UI and MUI are more frequent. This is due to the risk factors related to SUI, such as: pregnancy and type of delivery, high-impact physical exercise and obesity - the first two are commonly evident until the onset of old age (Guerra *et al.*, 2021).

In this sense, it is worth pointing out that SUI has two subtypes: hypermobility of the bladder neck (due to alterations in the extrinsic urethral mechanism, secondary to changes in the position of the bladder neck and proximal urethra) and intrinsic urethral sphincter defect (physiologically, this refers to the incompetence of the sphincter mechanisms to maintain similar pressure levels in the bladder and proximal urethra) (Passos *et al.*, 2023).

Finally, according to the current 2024 *European Association of Urology* (EAU) guideline, SUI can also be classified as uncomplicated or complicated. As a definition, uncomplicated incontinence is when there has been no previous surgery for SUI, extensive pelvic surgery or extensive radiotherapy; absence of genitourinary prolapse, voiding symptoms and medical conditions affecting the lower urinary tract, such as neurogenic dysfunction (Harding *et al.*, 2024). Complicated SUI, on the other hand, are women who are contrary to the above, plus overactive bladder and significant UI.

Types	Definition
Stress urinary incontinence	Complaint of involuntary loss due to exertion, sneezing or by coughing
Urge urinary incontinence	Complaint of involuntary loss of urine associated with Urgency
Mixed urinary incontinence	Complaint of involuntary loss associated with urgency and straining, sneezing or coughing
Enuresis	Complaint of intermittent incontinence that occurs during periods of sleep
Continuous urinary incontinence	Complaint of continuous involuntary loss of urine
Urinary incontinence due to cognitive impairment	Complaint of periodic urinary incontinence that the individual with cognitive impairment reports having occurred without being aware
Urinary incontinence due to mobility difficulties	Complaints of not being able to get to the toilet in time for urination due to physical or medical incapacity
Activity urinary incontinence Sexual	Individual report of urinary incontinence during or associated with sexual activity
Other situational types of urinary incontinence	Laughing incontinence or incontinence associated with epileptic seizures, among others

Table 1 - Updates on the different types of urinary incontinence by the *International Continence Society*

Source: Prepared by the author based on Fernandes *et al.* (2022).

Types	Definition
Urinary incontinence associated with pregnancy	Complaints of involuntary loss of urine during pregnancy
Postpartum urinary incontinence	Complaint of involuntary loss of urine that occurs during the postpartum period and up to 12 months after delivery
Postpartum stress urinary incontinence	Complaint of involuntary loss of urine due to straining, sneezing or coughing, experienced for the first time during the postpartum period and up to 12 months after delivery
Postpartum urge urinary incontinence	Complaint of involuntary loss of urine associated with urgency, experienced for the first time during the postpartum period and up to 12 months after delivery
Postpartum mixed urinary incontinence	Complaint of involuntary loss associated with urgency and straining, sneezing or coughing, also experienced for the first time during the postpartum period and up to 12 months after delivery
Post-coital urinary incontinence	Complaint of involuntary loss of urine during or after intercourse experienced for the first time during the postpartum period and up to 12 months after childbirth; this complaint can be further divided into that which occurs with penetration and that which occurs with orgasm

Table 2 - Updates on the different types of incontinence in pregnancy and postpartum by the *International Continence Society and the International Urogynecological Association*

Source: Prepared by the author based on Doumouchtsis *et al.* (2022).

Urge urinary incontinence

UII is defined as the loss of urine accompanied by urgency. Incontinent women with this disorder complain of a lack of control over urination when they have urinary urgency or when they feel their bladder is full, thus initiating urination and being unable to control it. This condition is the result of involuntary contraction of the detrusor muscle (detrusor hyperactivity); simply put, it occurs when bladder contraction exceeds the urethral occlusion capacity generated by the sphincter (Brasil, 2020; Passos *et al.*, 2023).

The study by Komesu *et al.* (2016) reported that the prevalence of UI increases proportionally with age. Thus, from the age of 70, the chances of being incontinent as a result of UI double compared to the age of 60 and up to the age of 100 this chance increases ninefold. Among the causes that lead to UI are: reduced mobility, UTI/changes in the urinary microbiome that lead to irritation of the bladder mucosa and modification, identifiable or not, of bladder innervation (Brasil, 2020; Liao *et al.*, 2021).

Furthermore, various neurological alterations can lead to UI, such as: cortical lesions due to the cerebral cortex having an inhibitory role in involuntary bladder contractions and alterations in different neurotransmitters. It is well known that when patients have neurological diseases associated with UI, it is called neurogenic bladder or neurogenic hyperactivity (Liao *et al.*, 2021; Passos *et al.*, 2017).

In recent times, the overactive bladder syndrome (OABS) has gained prominence, which is characterized by the presence of urgency (commonly accompanied by increased frequency and nocturia), with or without incontinence, in the absence of urinary infection or diseases that can cause it. As a curiosity, as a precursor to UI, there is the entity called *dry overactive bladder*, which is when the patient has symptoms of urgency (more than four episodes in the last four weeks), polyuria (more than eight episodes a day) and nocturia, but does not have urinary leakage (Passos *et al.*, 2023).

Mixed urinary incontinence

The definition of MUI is the concomitance of SUI and UUI, respectively, insufficiency of urethral occlusion associated with detrusor overactivity (Brasil, 2020). Its prevalence increases considerably between the eighth and tenth decade of life (Komesu *et al.*, 2016) due to the combination of risk factors associated with SUI and UUI.

Overflow urinary incontinence

Overflow UI is defined as cases of continuous urine loss, without a specific trigger, due to incomplete emptying of the bladder. This condition occurs when the urinary bladder has an increased volume in the absence of effective contraction of the detrusor muscle, which can be the result of an infravesical obstruction or a hyporeflexic bladder due to previous comorbidities. In this sense, the clinical picture usually

includes nocturia, a weak urinary stream and, to a lesser extent, pelvic discomfort (Bergo *et al.*, 2024; Passos *et al.*, 2023).

EVALUATION

According to Lukacz *et al.* (2024a), despite the high worldwide prevalence of UI, it is estimated that around 50% of adult women suffer from UI, and only 25 to 61% of incontinent women seek care. In addition, according to a cohort study carried out with incontinent patients in Primary Health Care, only 37.2% of patients received management according to the guidelines and no more than 17.7% were referred to a specialist within a year of diagnosis, of which more than a quarter did not attend the appointment (Luebke *et al.*, 2024).

This divergence can be triggered by various factors, including: a lack of knowledge of UI as a sign, a symptom or a condition that has negative repercussions on different areas of a woman's life (UI being considered a normal part of ageing), a lack of communication between patients and health professionals and, not least, incorrect/insufficient assessment and management by professionals.

Clinical history

The first step in assessing incontinent patients is to take a detailed history. This aims to clarify the symptoms present, such as their duration, frequency, evolution and severity, and is essential for guiding the doctor in the diagnosis and therapeutic orientation. In this way, underlying causes may be treatable or require further assessment, either with the help of complementary tests or with the help of a specialist (Guerra *et al.*, 2021; Passos *et al.*, 2023).

For this to happen, it is essential to look at past medical history, family history and lifestyle habits, such as caffeine intake, which has been postulated to exacerbate UI due to its smooth muscle stimulant and diuretic effects. Therefore, there are a few topics that

Medicines		Effect on bladder function
Antihistamines	First generation H1 receptor antagonists - Brompheniramine, Chlorpheniramine, Clemastine and Hydroxyzine	Decreased contractility through anticholinergic effect
Benzodiazepines	Chlordiazepoxide, Clonazepam, Temazepam and Triazolam	Impaired urination due to muscle relaxant effect
Diuretics	Furosemide, Hydrochlorothiazide, Spironolactone and Amiloride	Increased urine production, contractility or emptying rate
ACE inhibitors	Enalapril, Lisinopril and Ramipril	Decreased contractility; chronic cough

Table 3 - Effect of selected drugs on bladder function

Source: Prepared by the author based on Lukacz *et al.* (2024a).

Stress UI (SUI)		Emergency UTI (UTI)
Triggering factors	Effort, according to degree: I - Coughing, laughing, sneezing II - Gait, loads, sport III - Minimal effort, change of position	Spontaneous Sometimes: changes in position, perception of running water or sexual activity
Stress UI (SUI)		Emergency UTI (UTI)
Form of appearance	Orthostatic position Unexpectedly (absence of imperiousness)	Variable Intense and painful urge to urinate
Type	Short and not very abundant spray, synchronous with the effort	Abundant loss
Frequency urination	Normal	Polaciuria, nocturia or enuresis
Perception by patient	Attempt to inhibit by contracting the thighs	Perceived loss without possible inhibition
Associated pain	Absent	May be present

Table 4 - Classification of UI type from clinical history based on the 2021 National Consensus on Urogynecology

Source: Prepared by the author based on Guerra *et al.* (2021).

should be investigated: comorbidities, the use of medication that can trigger UI (see Box 3), gynecological and obstetric history and previous urogenital surgery or radiotherapy. In this way, UI can be categorized into one of three main types: exertional, urgent or mixed - based on its typical symptomatology, which is exemplified in Chart 4 (Guerra *et al.*, 2021; Lukacz *et al.*, 2024a; Silva *et al.*, 2017).

Physical examination

The physical examination is part of the routine gynaecological investigation of women complaining of UI, targeting the systems that may be related to the condition, in order to reproduce and characterize incontinence, assess pelvic support and exclude associated disorders (for example, neurological, when more specific suspicions arise) (Fine; Antoni; Appell, 2004; Passos *et al.*, 2023).

The examination should begin with the patient in the lithotomy position, with the aim of inspecting the areas of the vulva, vaginal wall and pelvic floor. The presence of atrophy in the vaginal wall may be indicative of postmenopausal hypoestrogenism, a risk factor for developing UI. Furthermore, when the incontinent woman has pelvic organ prolapse - commonly associated with SUI - this should be quantified, using the *Pelvic Organ Prolapse Quantification System (POP-Q)* scale. It is worth noting that abdominal examination is essential in the assessment, in order to palpate possible abdominal masses or a full bladder (Guerra *et al.*, 2021; Harding *et al.*, 2024; Passos *et al.*, 2023).

Urethral mobility can be assessed using the *Q-tip test*, paying attention to urethral hypermobility. However, having this condition is not predictive of being incontinent and,

if it is, it is a predictive factor of therapeutic success - a test that is no longer used in clinical assessment. Another test that can be carried out is the *stress test*, done with the patient in the lithotomy position - positive predictive value of 78 to 97% - and, if necessary, in an orthostatic position, in which the patient must have a full bladder and cough and/or perform the Valsava maneuver. If there is involuntary loss of urine coinciding with exertion, the result is predictive of SUI, and may also be related to detrusor overactivity (Guerra *et al.*, 2021; Passos *et al.*, 2023).

Complementary tests

Urine analysis

According to the latest world *guidelines*, qualitative urine tests and, when necessary, uroculture are an integral part of the initial assessment of incontinence. It is worth noting that urinalysis is considered a screening test as well as a diagnostic test, important for identifying or excluding hematuria, proteinuria, glycosuria, pyuria and bacteriuria (Guerra *et al.*, 2021).

According to the EAU *Guidelines on Management of Non-Neurogenic Female Lower Urinary Tract Symptoms* (2024), urinalysis negative for nitrites and leukocyte esterase is evidence 3 to exclude UTI and a strong recommendation to re-evaluate UTI after treatment of UTI if concomitant UTI is present. In addition, asymptomatic bacteriuria in elderly patients should not be routinely treated to improve UTI (Harding *et al.*, 2024).

Voiding diary and quality of life surveys

Questionnaires to quantify symptoms and urination diaries are part of the initial assessment and allow patients to record their symptoms over a longer period of time. They can be used to facilitate diagnosis, monitor the effectiveness of treatment and even be a

tool for therapeutic intervention, since the incontinent woman has greater control over her bladder function. However, there are limitations in determining the causes that led to UI (Guerra *et al.*, 2021; Passos *et al.*, 2023).

Various models are available according to the patient's needs, so it is recommended that the patient uses it for at least three days. Among the variables, the date, time, frequency of UI episodes, use of absorbents, intensity of urgency, activity at the time of loss and, if possible, quantification of urodynamic variables, such as micturition volume and total 24-hour or nocturnal urinary volume, can be recorded (Harding *et al.*, 2024; Passos *et al.*, 2023).

Finally, in a recent development in the health field, quality of life surveys are reliable and easy to apply. They are filled in by the incontinent woman in order to assess her quality of life in different aspects - physical, social, psychological and economic - in relation to her health condition. These allow for a better understanding of the patient and her adaptation to the diagnosis and treatment. There are several questionnaires related to pelvic floor dysfunction, some of which have already been validated in Portuguese, such as the *King's Health Questionnaire* (Guerra *et al.*, 2021; Passos *et al.*, 2023).

Urodynamic studies

Urodynamic studies make it possible to accurately determine the patient's urinary disorder by analyzing the measurement of pressures at various points in the lower urinary tract. These are divided into: non-invasive tests, without the insertion of catheters, such as: uroflowmetry, measurement of post-micturition residual (PMR) and bladder ultrasound; and invasive tests, with the insertion of catheters, probes or needles, such as: cystometry, pressure-flow study, urethral profile and electromyography (Guerra *et al.*, 2021; Passos *et al.*, 2023).

According to the EAU guideline, PMR is indicated in all patients who have complaints originating in the lower urinary tract during the initial assessment (Harding *et al.*, 2024). This test measures the amount of urine remaining in the bladder after urination using catheterization or ultrasound, the latter being preferable. RPM monitoring is also strongly recommended for patients undergoing treatment that may cause or worsen voiding dysfunction. There are differences between studies when it comes to the volume value considered abnormal, and it may be reasonable to consider a PVR volume > 100 as significant or the proportion of the total bladder volume that is emptied by the patient, using the formula: Bladder emptying efficiency (BVE) = emptied volume (VV)/(VV+PVR) × 10, being the most reliable parameter for measurement.

However, urodynamic assessment in all incontinent patients is controversial. This is due to the lack of standardization of the parameters used, the use of catheters that can interfere with SUI and artificial situations that do not reproduce the situations experienced daily by the patient. Therefore, the main indications for invasive studies are: the type of UI after clinical and physical examination is inconsistent or the clinical findings do not correlate, when there is therapeutic failure, alterations in urinary flow and retention or associated genital prolapse and when surgical therapeutic treatment is planned (controversial when the incontinent woman has SUI). It is worth emphasizing that clinical diagnosis and cystometric findings may not be related; asymptomatic women may present abnormalities in urodynamic tests (Burkhard *et al.*, 2020; Guerra *et al.*, 2021; Passos *et al.*, 2023).

It is also worth mentioning, with regard to the two categories of SUI, that there is a presumption of diagnosis based on the results of the urodynamic assessment. Hypermobility of the bladder neck is presented in the

urodynamic assessment with urine leakage pressure values greater than 90 cmH₂O and, in turn, is indicative of an intrinsic urethral sphincter defect when the urine leakage pressure is less than 60 cmH₂O; intermediate values may mean an association of the two mechanisms (Passos *et al.*, 2023).

Others

Imaging tests improve the visualization of anatomical and functional abnormalities that can lead to UI. The main ones are ultrasound and magnetic resonance imaging, the former being more widely used due to its lower cost and greater availability. However, imaging tests of the upper and lower urinary tract should not be performed in order to assess UI (Burkhard *et al.*, 2020).

Differential diagnoses

The patient's assessment should rule out some conditions that can have the same clinical manifestations as UI. These include: urethral diverticula and vaginal discharge, which can lead to the presence of post-micturition drip; the detection of palpable masses in the pelvic region and foreign bodies, which can compromise the nerves responsible for proper bladder function; and fistulas, which can be indicative of the presence of urine in the vagina. Finally, cystitis and urinary infections should be ruled out, which can be proven with qualitative urine tests (Brasil, 2020; Guerra *et al.*, 2021; Passos *et al.*, 2017).

REFERRAL TO A SPECIALIST

There is no need for all incontinent patients to be referred to a specialist via Primary Health Care. As such, there are a minority of cases requiring specialized care, the indications being: uncertainty in diagnosis, associated abdominal or pelvic pain, macroscopic or microscopic hematuria with malignancy factors in the absence of UTI, history of repeat UTI,

history of pelvic surgery or radiotherapy, presence of alterations on physical examination requiring surgical intervention or by patient choice, sudden onset of incontinence when there are associated neurological symptoms and UTI unresponsive to optimized clinical treatment for three months (Harding *et al.*, 2024; Lukacz *et al.*, 2024a; UFRGS, 2023).

With this in mind, the descriptive content sent to the specialist should preferably include: detailed clinical assessment and physical examination (when there are alterations, quantify them); description with date of urine analysis and uroculture and complementary exams, if carried out; clinical treatment carried out for UI (lifestyle changes, pelvic muscle exercises and bladder training, with duration); and, if discussed with teleconsultancy (for example, Telehealth of the state of Rio Grande do Sul), attach protocol number (UFRGS, 2023).

TREATMENT

UI must be managed with a multidisciplinary approach - doctors, physiotherapists and nutritionists - in order to resolve it through conservative, pharmacological or surgical management, which is determined according to the incontinent woman's clinical condition. Therefore, it is essential to be aware of the risks and benefits of the interventions, making sure that the patient and/or companion are informed about the options available for treatment, as well as their expectations (Lino, 2011; Passos *et al.*, 2023).

In addition, there are non-therapeutic interventions indicated for temporary or long-term management when there is complete failure of treatment or absolute contraindications to it - a minority of patients due to lack of adherence. These include products that help collect urine (permanent or intermittent catheters and absorbents), preventive products (vaginal devices) and products that block urinary leakage (urethral devices) (Passos *et al.*, 2023).

Conservative treatment

Conservative treatment for UI means any intervention that does not include a pharmacological or surgical approach. These include non-invasive, low-cost treatments, with few adverse effects and dependent on the effectiveness of the incontinent person. This is the initial therapeutic approach (first line of treatment) for patients with UI, which are indicated for all patients and only in cases of pharmacological/surgical contraindication, when they refuse other treatments or those awaiting surgery (Guerra *et al.*, 2021). Generally, before considering starting therapies subsequent to conservative treatment, one should wait six weeks in order to assess response; if beneficial, treatment can be extended (Lukacz *et al.*, 2024b).

Therefore, the most commonly used therapies include: behavioral measures, such as weight loss - in cases of overweight patients, the reduction has a greater impact when it is SUI - treatment for constipation when there is one, dietary changes and water intake - reducing caffeine consumption reduces episodes of UI and water restriction can be adopted at night to reduce episodes of nocturia - physical exercise and reducing smoking because it is associated with incontinence (Guerra *et al.*, 2021; Passos *et al.*, 2023). It is worth emphasizing that incontinence sufferers who drink excessive amounts of fluids during the day should normalize their intake, unless advised by their doctor to drink more (Lukacz *et al.*, 2024b).

Furthermore, because it is an acquired function, pelvic muscle rehabilitation exercises play an important role in the lives of incontinent women. This is the common goal of treatments that use perineal exercises, vaginal cones, electrostimulation and *biofeedback*, which, due to the increase in muscle tone and contractile force, lead to the recovery of the fast-response fibers of the striated urethral sphincter, essential to the continence mechanism. Easy-to-perform pelvic floor muscle

exercises (*Kegel*) are recommended for all types of incontinence, especially stress incontinence, and the basic regimen is three sets of 8 to 12 sustained contractions for 8 to 10 seconds each three times a day. This approach should be carried out for at least 15 weeks (Guerra *et al.*, 2021; Lukacz *et al.*, 2024b; Passos *et al.*, 2023).

According to a study by Woodley *et al.* (2017), and reiterated by Harding *et al.* (2024), pelvic floor muscle training can be used to prevent UI in pregnancy and the postpartum period. A Cochrane review concluded that Pelvic Floor Muscle Training (PFMT) in women who were incontinent or not during pregnancy produced a 26% lower risk of UI during pregnancy and the mid-postpartum period. In addition, pregnant continent women who exercised Pelvic Floor Muscle Training (PFM) during pregnancy were 62% less likely to experience UI in late pregnancy and had a 29% lower risk of UI three to six months after delivery.

Other techniques include timed urination associated with the use of a voiding diary, with the aim of correcting habits associated with urinary frequency and helping to control urgency - the intervals are gradually increased until the patient is urinating every three to four hours without UTIs or frequent urgency, topical estrogens in peri- or post-menopausal women with UI and vaginal atrophy, used for a minimum of 3 months to bring benefits - oral estrogen therapy is not recommended as it is a risk factor for UI, and, recently, studies have brought alternative and complementary medicine (Guerra *et al.*, 2021; Lukacz *et al.*, 2024b; Passos *et al.*, 2023).

Pharmacological and surgical treatment

Stress urinary incontinence

If the first-line treatments described above are not sufficient, second-line treatment is recommended. According to the US *Food and Drug Administration* (FDA), there is no approved pharmacological therapy for SUI (Lukacz *et al.*, 2024b). However, even if they don't bring significant improvements in symptoms in the long term, some drugs are used, such as: Duloxetine - an antidepressant - which acts by inhibiting the reuptake of serotonin and norepinephrine, which increases the motor activity of the periurethral striated muscles. If prescribed, it is recommended to re-evaluate the patient 4 to 12 weeks after starting treatment, in order to assess therapeutic efficacy (Lukacz *et al.*, 2024b; Passos *et al.*, 2023).

Surgical treatment is indicated in cases of UI due to anatomical defects, but its efficacy is sometimes low (when related to MUI), unlike the recurrence rate. In this sense, it is essential to explain the objectives and complications to the patient before the procedure. There are different corrective surgeries, such as: pubo-vaginal and mid-urethral *slings*, colposuspension (associated with a higher risk of pelvic organ prolapse - POP - in the long term) and artificial sphincter (rarely used). Middle urethral *slings* are the first choice of treatment for uncomplicated SUI because they have lower complication rates and shorter surgical and subsequent hospitalization times (Guerra *et al.*, 2021; Jelovsek; Reddy, 2024; Lukacz *et al.*, 2024b; Passos *et al.*, 2023).

Finally, other specialized treatments with limitations in the literature are: periurethral injections (which aim to create coaptation and urethral resistance, but are less effective and require replication in the medium term), the use of stem cells, radiofrequency and laser (Guerra *et al.*, 2021; Lukacz *et al.*, 2024b).

Urge urinary incontinence

Pharmacotherapy is the second line of treatment for UI, and this should be associated with the first line when indicated. The drugs used are mainly antimuscarinic agents (Oxybutynin is the most commonly used), which act by relaxing the smooth contractility of the bladder, and/or beta-3 adrenergic agonists (Mirabegron), which act by stimulating the receptors in the bladder responsible for relaxing the smooth muscle - similar efficacy to antimuscarinics, but with fewer adverse effects (Lukacz *et al.*, 2023; Passos *et al.*, 2023).

In this sense, the initial improvement of pharmacological treatment begins after two weeks and takes up to 12 weeks to optimize, requiring medical reassessment in the meantime. For incontinent patients with an inadequate response, adherence to conservative measures should be confirmed, after adjusting the drug (dose and/or class) or combined therapy with two classes (antimuscarinic and beta-3 adrenergic) (Harding *et al.*, 2024; Lukacz *et al.*, 2023; Passos *et al.*, 2023).

In addition to the above, other drugs are a contradictory option in the literature for managing UI, such as: alpha adrenergic receptor antagonists and antidepressants (such as Imipramine) which lead to an increase in cystometric capacity and volume in the first involuntary contraction when there is neurogenic detrusor hyperactivity. Some of the medications used to treat UI are shown in Table 5. When well indicated (ongoing symptoms with adequate pharmacological therapy or who are unable to tolerate pharmacotherapy), advanced therapies can be beneficial to the patient, such as tibial nerve stimulation and botulinum toxin injection - risk of urinary retention and repeated UI - in addition to the limited duration of the response (Harding *et al.*, 2024; Lukacz *et al.*, 2023; Passos *et al.*, 2023).

When there is no response to other types of treatment, surgical management is indicated, and the options are neuromodulation,

augmentation cystoplasty and urinary diversion. The first uses continuous stimulation of the sacral region in S3 to stimulate detrusor and sphincter activity, which improves the continence mechanism. The second uses a segment of bowel in the bladder wall and has been used with varying degrees of success for refractory overactive bladder, with the patient being advised of the high risk of clean intermittent self-catheterization. Finally, the third includes ileal conduit urinary diversion, orthotopic neobladder and heterotopic neobladder (Guerra *et al.*, 2021; Harding *et al.*, 2024; Passos *et al.*, 2023).

Mixed urinary incontinence

When there is no response to conservative management, treatment is started according to the prevalent type of UI: stress or urgency. When medication is used, either antimuscarinic drugs or beta-3 agonists when there is a predominance of UI, or Duloxetine when there is a predominance of SUI. If these interventions are not sufficient, surgical treatment with a mid-urethral *slings* is usually used (Harding *et al.*, 2024; Lukacz *et al.*, 2024b; Passos *et al.*, 2017).

LIMITATIONS IN PRIMARY HEALTH CARE

There are limitations that must be taken into account in the management of incontinent patients in Primary Health Care, including: the patient's low level of education and the lack of a satisfactory *doctor-patient* relationship (such as explaining her clinical condition and possible adverse effects of medications), an inconsistent approach with screening for UTIs by health professionals, the high cost of and difficult access to prescribed medications - when they are not available free of charge - and prolonged waiting times, whether to start multi-professional follow-up or to carry out initial and/or complementary tests. As a result, there is a huge gap between the ideal global recommendations and primary health care at a national level.

METHODOLOGY

This is a care protocol structured on the basis of up-to-date literature and in accordance with the best scientific evidence available. The protocol was developed in three stages: literature search and evaluation, protocol development and flowchart drafting.

LITERATURE SEARCH AND EVALUATION

The literature search was carried out in Gynecology textbooks, in the electronic sources *Scientific Electronic Library Online (SciELO)*, *National Library of Medicine (PubMed)* and *UpToDate*. The following descriptors were used to conduct the search: urinary incontinence AND management AND need for a specialist. The articles chosen were published and read in full by the researchers and inde-

pendent reviewer Márcio Pedroso Saciloto. The selected articles were approved by the reviewer and are included in this literature review and care protocol.

INCLUSION CRITERIA

Patients who meet all the above criteria will be included in the study:

- a) Female patients;
- b) Patients over 18 years of age, adult or elderly;
- c) Patients complaining of non-neurogenic UI.

EXCLUSION CRITERIA

Patients who meet these criteria will be excluded from the study:

- a) Patients who did not meet all the inclusion criteria.

SPECIAL CASES

Not applicable.

FACTORY	POSOLOGY	CONTRAINDICATIONS
First option		
Oxybutynin hydrochloride* LR or LE (Antimuscarinic)	LR - 2.5mg 1cp, VO, 3×/day; can be used up to 10 mg 1cp, VO, 3×/day LE - 10 mg 1cp, VO, 1×/day	<ul style="list-style-type: none"> • Hypersensitivity to components • Closed-angle glaucoma • Partial or total obstruction of the gastrointestinal tract • Among others.
Mirabegron (β3 agonist)	25 - 50mg 1cp, VO, 1x/day	<ul style="list-style-type: none"> • Hypersensitivity to components • Severe hypertension • Under 18s • Among others.
Alternatives		
Tolterodine tartrate LR or LE (Competitive acetylcholine antagonist)	LR - 2 mg 1cp, VO, 2×/day LE - 4 mg 1cp, VO, DU	<ul style="list-style-type: none"> • Hypersensitivity to components • Urinary or gastric retention • Uncontrolled narrow-angle glaucoma • Severe ulcerative colitis or toxic megacolon
Darifenacin hydrobromide (Selective M3 receptor inhibitor)	7.5mg - 15mg, VO, 1x/day	<ul style="list-style-type: none"> • Hypersensitivity to components • Urinary or gastric retention • Uncontrolled narrow-angle glaucoma
Imipramine** (Tricyclic antidepressant)	10 - 50mg 1cp, VO, 1x/day	<ul style="list-style-type: none"> • Hypersensitivity to components • Concomitant use with selective reversible MAO-A inhibitors, such as Moclobemide • During recovery from acute myocardial infarction

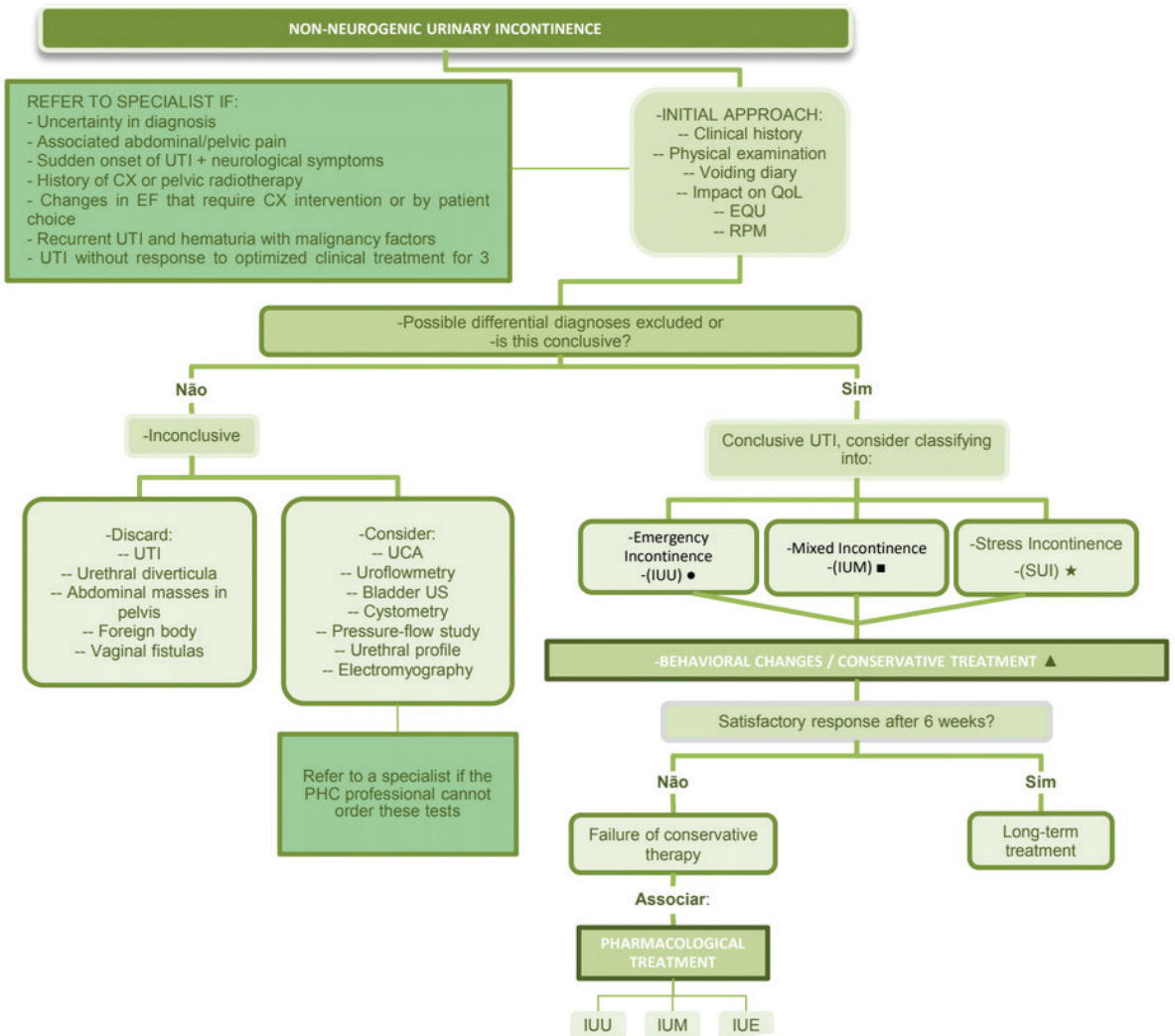
Chart 5 - Medication options for urge urinary incontinence

Legend: DU, single dose; LE, extended release; LR, rapid release; NE, level of evidence; VO, oral route.

*Available free of charge from the pharmacy in the state of Rio Grande do Sul. ** Available free of charge from the pharmacy in the municipality of Santa Maria/RS.

Source: Prepared by the author based on Sociedade Portuguesa de Ginecologia (2021), Passos *et al.* (2023), Astellas (2021), Aspen Pharma (2022), Cristália (2024), Farmacia Digital do RS (2024) and Prefeitura Municipal de Santa Maria (2024).

FLOWCHART



Caption:
UTI synchronous with exertion, sneezing or coughing.
Concomitant SUI and UTI.
● UTI accompanied by urgency.

Adequate bowel function, control of previous comorbidities and fluid intake (avoid: caffeine, alcoholic beverages and excess fluids in general); physical exercise; weight loss and containment systems, if necessary; urination by schedule and increased interval between urination; urgency suppression maneuvers; if vaginal atrophy, vaginal estrogens and PFMT.

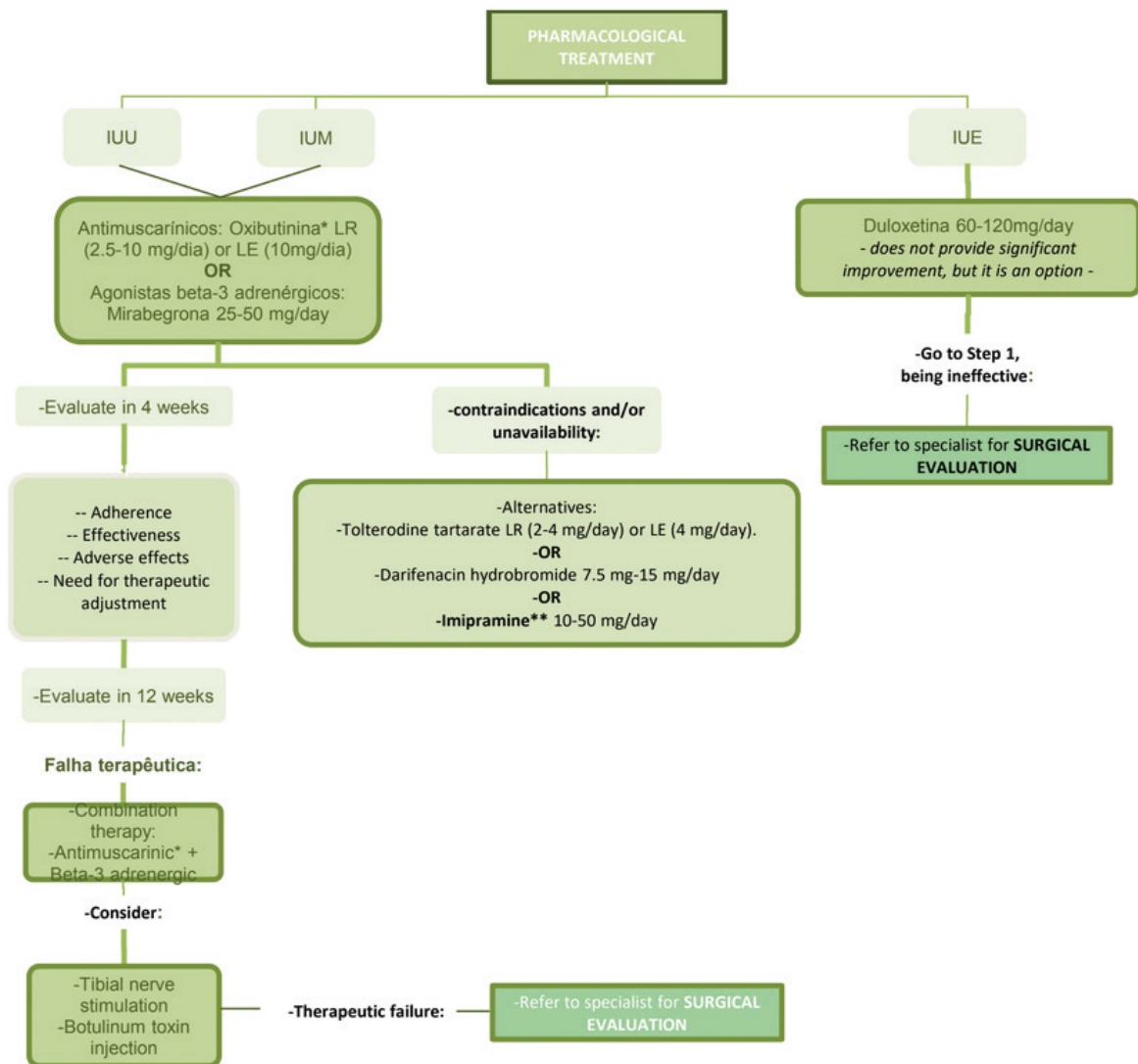
* Available free of charge from the Rio Grande do Sul State Pharmacy.

** Available free of charge from the Santa Maria/RS Municipal Pharmacy.

Acronyms:
CX - Surgery / Surgical.
PE - Physical examination.
EQU - Qualitative Urine Test.
UTI - Urinary Tract Infection.
UI - Urinary Incontinence.
PFMT - Pelvic Floor Muscle Training.
QoL - Quality of Life.
RPM - Post-micturition residue.
UCA - Uroculture Test.
US - Ultrasound.

Figure 1 - Management of non-neurogenic female urinary incontinence in primary health care (1)

Source: Prepared by the author (2024).



Caption:

UTI synchronous with exertion, sneezing or coughing.

Concomitant SUI and UTI.

● UTI accompanied by urgency.

Adequate intestinal function, control of previous comorbidities and fluid intake (avoid: caffeine, alcoholic beverages and excess fluids in general); physical exercise; weight loss and health systems restraint, if necessary; urination by schedule and increasing the interval between urinations; maneuvers to suppress the urge to urinate.

urgency; if vaginal atrophy, vaginal estrogens and PFMT.

* Available free of charge from the Rio state pharmacy Grande do Sul.

** Available free of charge from the Santa Maria/RS Municipal Pharmacy.

Acronyms:

CX - Surgery / Surgical.

PE - Physical examination.

EQU - Qualitative Urine Test.

UTI - Urinary Tract Infection.

UI - Urinary Incontinence.

PFMT - Pelvic Floor Muscle Training.

QoL - Quality of Life.

RPM - Post-micturition residue.

UCA - Uroculture Test.

US - Ultrasound.

Figure 2 - Management of non-neurogenic female urinary incontinence in primary health care (2)

Source: Prepared by the author (2024).

REFERENCES

- ADAJI, S. E. *et al.* Suffering in silence: pregnant women's experience of urinary incontinence in Zaria, Nigeria. **European Journal of Obstetrics & Gynecology and Reproductive Biology**, Amsterdam, v. 150, n. 1, p. 19-23, 2010.
- ANIULIS, P. *et al.* Association of gene polymorphisms with women urinary incontinence. **Open Medicine**, Warsaw, v. 16, n. 1, p. 1190-1197, 2021.
- ASPEN PHARMA. **Enablex**[®]. Serra, 2022. Disponível em: https://uploads.consultaremedios.com.br/drug_leaflet/Bula-Enablex-Paciente-Consulta-Remedios.pdf. Acesso em: 26 ago. 2024.
- ASTELLAS. **Myrbetric**[®]. São Paulo, 2021. Disponível em: https://www.astellas.com/br/system/files/bula_myrbetric_profissional.pdf. Acesso em: 16 ago. 2024.
- BACHMANN, G. *et al.* Genitourinary syndrome of menopause (vulvovaginal atrophy): Clinical manifestations and diagnosis. **UpToDate**, [S. l.], 15 abr. 2022. Disponível em: <https://www.uptodate.com/contents/genitourinary-syndrome-of-menopause-vulvovaginal-atrophy-clinical-manifestations-and-diagnosis#!>. Acesso em: 15 fev. 2022.
- BATES, P. *et al.* The standardization of terminology of lower urinary tract function. **Journal of Urology**, Baltimore, v. 121, p. 551- 554, 1979.
- BERGO, P. A. *et al.* Incontinência urinária: prevalência, classificação e manejo na população adulta. **Brazilian Journal of Health Review**, Curitiba, v. 7, n. 2, p. 1-13, mar./abr. 2024.
- BOTLERO, R. *et al.* Age-specific prevalence of, and factors associated with, different types of urinary incontinence in community dwelling Australian women assessed with a validated questionnaire. **Maturitas**, Limerick, v. 62, n. 2, p. 134-139, 2008.
- BRASIL. Ministério da Saúde. Secretaria de Atenção Especializada à Saúde. Secretaria de Ciência, Tecnologia e Insumos Estratégicos. **Portaria Conjunta nº 1, de 09 de janeiro de 2020**. Aprova o Protocolo Clínico e Diretrizes Terapêuticas da Incontinência Urinária não Neurogênica. Brasília: Ministério da Saúde, 2020.
- BUMP, R. *et al.* Obesity any lower urinary tract function in women: effect of surgically induced weight loss. **American Journal of Obstetrics and Gynecology**, St. Louis, v. 166, p. 392, 1992.
- BURKHARD, F. C. *et al.* **EAU guidelines on urinary incontinence in adults**. The Netherlands: European Association of Urology, 2020.
- CÂNDIDO, F. J. L. F. *et al.* Incontinência urinária em mulheres: breve revisão de fisiopatologia, avaliação e tratamento. **Visão Acadêmica**, Curitiba, v. 18, n. 3, p. 67-80, 2017.
- COMISSÃO NACIONAL DE INCORPORAÇÃO DE TECNOLOGIAS. **Protocolo clínico e diretrizes terapêuticas incontinência urinária não neurogênica**: relatório de recomendação. Brasília: Ministério da Saúde, 2019.
- CRISTÁLIA. **Imipra**[®]. Itapira, 2024. Disponível em: <https://www.cristalia.com.br/index.php/produto/109/bula-paciente>. Acesso em: 26 ago. 2024.
- DIETZ, H. P. Pelvic floor trauma in childbirth. **Australian and New Zealand Journal of Obstetrics and Gynaecology**, Melbourne, v. 53, n. 3, p. 220-230, 2013.
- DOUMOCHTSIS, S. K. *et al.* An International Continence Society (ICS)/ International Urogynecological Association (IUGA) joint report on the terminology for the assessment and management of obstetric pelvic floor disorders. **Continence**, Amsterdam, v. 4, dec. 2022.
- EVANGELISTA, D. R. *et al.* Prevalência de incontinência urinária em idosas e impacto na qualidade de vida. **Brazilian Journal of Health Review**, Curitiba, v. 4, n. 1, p. 1588-1602, jan./fev. 2021.

FERNANDES, A. *et al.* **Relatório da Sociedade Internacional de Continência sobre a terminologia para Disfunção Neurogênica do Trato Urinário Inferior em Adultos (DNTUIA)**. Bristol: ICS, 2022.

FINE, P. M.; ANTONINI, T. G.; APPELL, R. A. Clinical evaluation of women with lower urinary tract dysfunction. **Clinical Obstetrics and Gynecology**, Philadelphia, v. 47, n. 1, p. 44-52, 2004.

GAJEWSKI, J. B. *et al.* An International Continence Society (ICS) report on the terminology for adult neurogenic lower urinary tract dysfunction (ANLUTD). **Neurourology and Urodynamics**, New York, v. 37, n. 3, p. 1152-1161, 2018.

GIRÃO, M. J. B. C. *et al.* **Tratado de uroginecologia e disfunções do assoalho pélvico**. Barueri: Manole, 2015.

GUERRA, A. *et al.* **Consenso nacional sobre uroginecologia: secção portuguesa de uroginecologia**. 2. ed. Coimbra: SPG, 2021.

GUERRA, M. J. J. *et al.* Validação do “international consultation on incontinence questionnaire urinary incontinence quality of life module”. **Revista Gaúcha de Enfermagem**, Porto Alegre, v. 44, p. 1-7, 2023.

HANDA, V. L. Effect of pregnancy and childbirth on urinary incontinence and pelvic organ prolapse. **UpToDate**, [S. l.], 18 jan. 2023. Disponível em: <https://www.uptodate.com/contents/effect-of-pregnancy-and-childbirth-on-urinary-incontinence-and-pelvic-organ-prolapse>. Acesso em: 10 set. 2024.

HANNESTAD, Y. S. *et al.* Familial risk of urinary incontinence in women: population based cross sectional study. **BMJ**, [S. l.], v. 329, n. 7471, p. 889-891, 2004.

HARDING, C. K. *et al.* **EAU Guidelines on Management of Non-Neurogenic Female Lower Urinary Tract Symptoms**. The Netherlands: European Association of Urology, 2024.

HAYLEN, B. T. *et al.* An International urogynecological association joint report on the terminology for female pelvic floor dysfunction. **Neurourology and Urodynamics**, New York, v. 29, n. 1, p. 4-20, 2010.

HIGA, R.; LOPES, M. H.; REIS, M. J. Fatores de risco para incontinência urinária na mulher. **Revista da Escola de Enfermagem da USP**, São Paulo, v. 42, n. 1, p. 187-192, 2008.

HOLROYD-LEDUC, J. M. *et al.* What type of urinary incontinence does this woman have? **JAMA**, Chicago, v. 299, n. 12, p. 1446-1456, 2008.

JELOVSEK, J. E.; REDDY, J. Female stress urinary incontinence: choosing a primary surgical procedure. **UpToDate**, [S. l.], 19 abr. 2024. Disponível em: <https://www.uptodate.com/contents/female-stress-urinary-incontinence-choosing-a-primary-surgical-procedure>. Acesso em: 23 ago. 2024.

KOMESU, Y. *et al.* Epidemiology of mixed, stress, and urgency urinary incontinence in middle-aged/older women: the importance of incontinence history. **International Urogynecology Journal**, Heidelberg, v. 27, n. 5, p. 763-772, 2016.

LIAO, A. *et al.* **Ginecologia e obstetrícia Febrasgo para o médico residente**. 2. ed., rev. e ampl. Barueri: Manole, 2021.

LINO, N. D. **Dieta para redução de peso e circunferência da cintura versus dieta com restrição de alimentos irritativos vesicais no tratamento da incontinência urinária**. 2011. 108 f. Dissertação (Mestrado em Ciências Médicas) - Universidade Federal do Rio Grande do Sul, Porto Alegre, 2011.

LUEBKE, M. C. *et al.* Referral and prescription patterns for female patients with urinary incontinence. **Urogynecology**, Philadelphia, v. 30, n. 5, p. 489-497, may 2024.

LUKACZ, E. S. *et al.* Female urinary incontinence: evaluation. **UpToDate**, [S. l.], 29 mar. 2024a. Disponível em: <https://www.uptodate.com/contents/female-urinary-incontinence-evaluation>. Acesso em: 15 fev. 2022.

LUKACZ, E. S. *et al.* Female urinary incontinence: treatment. **UpToDate**, [S. l.], 22 fev. 2024b. Disponível em: <https://www.uptodate.com/contents/female-urinary-incontinence-treatment>. Acesso em: 07 fev. 2022.

LUKACZ, E. S. *et al.* Urgency urinary incontinence/overactive bladder (OAB) in females: treatment. **UpToDate**, [S. l.], 01 dec. 2023. Disponível em: <https://www.uptodate.com/contents/urgency-urinary-incontinence-overactive-bladder-oab-in-females-treatment>. Acesso em: 22 fev. 2022.

MILSOM, I.; GYHAGEN, M. The prevalence of urinary incontinence. **Climacteric**, London, v. 22, n. 3, p. 217-222, 2019.

NASCIMENTO, F. H. *et al.* Incontinência urinária: aspectos epidemiológicos, fisiopatológicos e manejo terapêutico. **Brazilian Journal of Development**, Curitiba, v. 8, n. 10, p. 65563-65576, oct. 2022.

NGUYEN, A. *et al.* Nongenetic factors associated with stress urinary incontinence. **Obstetrics and Gynecology**, St. Louis, v. 117, n. 2, p. 251-255, 2011.

NYGAARD, I. *et al.* Prevalence of symptomatic pelvic floor disorders in US women. **JAMA**, Chicago, v. 300, n. 11, p. 1311-1316, 2008.

PASSOS, E. P. *et al.* (Orgs.). **Rotinas em ginecologia**. 7. ed. Porto Alegre: Artmed, 2017.

PASSOS, E. P. *et al.* (Orgs.). **Rotinas em ginecologia**. 8. ed. Porto Alegre: Artmed, 2023.

PREFEITURA MUNICIPAL DE SANTA MARIA. **Relação municipal de medicamentos essenciais**: resumo 2024. Santa Maria: PMSM, 2024.

RIO GRANDE DO SUL. **Farmácia digital**. Porto Alegre, 2024. Disponível em: <https://farmaciadigital.rs.gov.br/>. Acesso em: 26 set. 2024.

SILVA, C. P. *et al.* Incontinência urinária: uma breve revisão da literatura. **Acta Médica**, Porto Alegre, v. 38, n. 7, 2017.

SOCIEDADE PORTUGUESA DE GINECOLOGIA. **Consenso Nacional sobre Uroginecologia 2021**: secção portuguesa de uroginecologia. 2. ed. Coimbra: Sociedade Portuguesa de Ginecologia, 2021.

UNIVERSIDADE FEDERAL DO RIO GRANDE DO SUL. Secretaria Estadual da Saúde. **RegulaSUS**: protocolos de regulação ambulatorial - ginecologia: versão digital 2023. Porto Alegre: TelessaúdeRS UFRGS, 2023.

WOODLEY, S. J. *et al.* Pelvic floor muscle training for prevention and treatment of urinary and faecal incontinence in antenatal and postnatal women. **Cochrane Database of Systematic Reviews**, Oxford, v. 12, n. 12, dec. 2017.