Continence 8 (2023) 101055

Contents lists available at ScienceDirect

Continence

journal homepage: www.elsevier.com/locate/cont

Transgender and gender diverse (TGD) inclusivity in the investigation of lower urinary tract symptoms—Fundamental considerations for evaluation

Ella Schofield [a], Marcus Drake [b], Rachel Tindle [c], Tina Rashid [d], Constance Shiridzinomwa [c], Paul Abrams [c], Julie Bohr [e], Katherine Anderson [c,*]

[a] University of Bristol, United Kingdom
[b] Imperial College London, United Kingdom
[c] Bristol Urological Institute, United Kingdom
[d] St. George's Hospital, London, United Kingdom
[e] Centre for Transgender Surgery Kliniken Essen-Mitte, Germany

ARTICLE INFO

Keywords:
Transgender
Gender diverse
Lower urinary tract symptoms
Investigations
Urodynamics

ABSTRACT

Lower urinary tract symptoms (LUTS) are a common urological complaint. Transgender and gender diverse (TGD) individuals who have undergone masculinising or feminising genital gender-affirmation surgery (gGAS) experience a higher incidence of LUTS. Clinical assessment of LUTS involves symptom questionnaires, which are often gender-binary, and intimate examinations, which can be a source of distress if conducted without appropriate care. Inadequate clinical knowledge of complex anatomy following gGAS can cause further patient discomfort. Urodynamic studies often form an integral part of a urological assessment. These involve multichannel catheterisation. If performed by an inexperienced clinician, this can be a risky procedure for those who have undergone masculinising gGAS, as the reconstructed urethra is more fragile, tortuous and stenosed. The potential consequences of perforation are grave, risking the compromise of the functional and aesthetic outcomes of the original procedure. With this in mind, we highlight key areas during the investigation of LUTS where specific considerations for ensuring TGD inclusivity could be made.

Contents

1. Introduction

Between 0.3–4.5% of adults identify as transgender and gender diverse (TGD). Lower urinary tract symptoms (LUTS) are a common reason for urology consultation, and it follows that a proportion of TGD people will experience LUTS. In addition, there is a high rate of urological complications (including LUTS) after both masculinising and feminising genital gender-affirmation surgery (gGAS) [1–4]. The World Professional Association for Transgender Health (WPATH) Standards of Care 2022 recommends life-long urological follow up for patients who have undergone metoidioplasty or phalloplasty [2]. These are external genital surgical procedures which create a phallus, either from the virilised clitoral body (metoidioplasty), or by using a flap to lengthen the urethra and create a neophallus (phalloplasty) [2]. It thus stands to reason that all urology departments are likely to have clinical encounters with TGD patients who may require investigations for LUTS.

Assessment of LUTS usually involves patient questionnaires, intimate examination, and, if indicated, urodynamic studies. Commonly used questionnaires are currently gender binary (only allowing patients to be either 'female' or 'male'), intimate examinations can be a

* Corresponding author.
E-mail address: kate.anderson@ubc.ca (K. Anderson).

https://doi.org/10.1016/j.cont.2023.101055

Table 1
Transgender and gender diverse terminology.

Term	Definition
Sex assigned at birth	A person's status of female, male or intersex, based on physical characteristics
Gender identity	A person's deeply felt, intrinsic sense of their own gender. This may align with the sex assigned at birth, or differ from it
Cisgender	The term applied when a person's gender identity is the same as the gender socially attributed to the sex assigned at birth e.g. male sex and male gender
Transgender and Gender Diverse (TGD)	Where the gender identity differs from the gender socially attributed to the sex assigned at birth
Gender-affirmation surgery	Surgery to alter primary and/or secondary sex characteristics so they align with gender identity
Misgender	Use of language that does not reflect a person's gender identity e.g. pronoun (she), title (Mr)
Gender-binary terminology	Specifies only two gender identities: female or male
Gender-inclusive terminology	Allows for a diverse range of gender identities

source of distress, and urodynamic studies involve urethral and rectal catheterisation. These "standard" investigations can have significant psychological consequences if performed in an inconsiderate or inattentive manner by healthcare professionals. In the UK, 40% of transgender people report a negative experience whilst accessing healthcare due to their gender identity. These include having their specific needs disregarded (21%), avoiding treatment due to fear of a negative reaction (18%) and receiving inappropriate curiosity (18%) (UK Government Equalities Office National LGBT Survey (2018)

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/721704/LGBT-survey-research-report.pdf).

In this paper we describe key issues that may arise for TGD patients during urological investigation of LUTS and suggest potential solutions. Adherence to the principles outlined may mitigate healthcare avoidance by TGD individuals due to anticipated discrimination, and reduce distress experienced during LUTS assessment.

2. Methods

We sought to identify key areas in the investigation of LUTS where specific considerations for ensuring TGD inclusivity could be made. A narrative review of the literature was performed. A search was made in August 2022 for representative articles on which to base discussion for the consensus statements. We searched on PubMed, supplemented with manual searches of reference lists from retrieved articles. Searches were restricted to English language. No restriction was made on the date of publication. Search terms used were: "transgender", "gender diverse", "gender-affirming surgery", "sex reassignment surgery", "genital reconstructive surgery", "lower urinary tract", "urology" and "urodynamics". Terminology used in this paper was aligned with the definitions provided by the WPATH Standards of Care 2022 [Table 1] [2].

3. Results

Five key areas of the LUTS investigative process were identified for consideration. These were: patient communications, the clinical environment, history taking, examination, and urodynamic studies. Some of the key areas where practice should support TGD patients are set out in Table 2.

Patient Communications. Appointment letters conventionally address patients by their gendered title. This title may not reflect the patient's gender identity. The British Medical Association (BMA) Equality and Diversity Guidance suggests that doctors instead address written correspondence using an initial and surname. in practice, the process of a dictated letter being converted into the correspondence posted to the patient goes through administrative steps, some of which are potentially automated. All steps need to be aligned with this recommendation to ensure correspondence truly matches the aspiration. Patients may wish to alter their title, name, gender and/or sex on their medical records, but this change can take time to come into effect across all health system records. Given the wide range of electronic health records in use, each hospital will need to consider how this can reliably and efficiently be achieved. The BMA also highlights that some patients may have specific requirements if others in their household are unaware of the patient's gender identity. If written communications are produced with the patient's previous name and/or gender, the BMA recommends apology and proactivity by the healthcare team to minimise recurrence.

LUTS are initially assessed with bladder diaries and questionnaires. Commonly used questionnaires include the International Consultation on Incontinence Questionnaires (ICIQ). These questionnaires are separated into a male LUTS questionnaire (ICIQ-MLUTS) and a female LUTS questionnaire (ICIQ-FLUTS). In practice, the overlap between the two questionnaires is considerable, enabling a merged version which avoids the binary male/ female label, and can suitably be completed by any patient. Patients who have undergone feminising gGAS could also use the PROGRESS (Patient Reported Outcomes in Genital Reconstructive Surgeries) questionnaire, which has been recently validated and includes a subsection on urinary function [5]. There is no currently validated questionnaire for patient reported outcomes following masculinising gGAS. All tools administered by clinical departments need to be reviewed to ensure they are suitable for all patients, and that if any question related to gender is present that it is free text, or that sufficient options are available. Consequently, the ICIQ advisory group is looking to develop a tool which meets those requirements. In future, this should be an element recognised in the development of all clinical assessment tools.

Prior to urodynamics studies, patients are conventionally sent a clinic or hospital-specific urodynamics leaflet explaining the nature of the investigations. Urodynamics leaflets should avoid gender-binary references, such as stating that "women" may keep their bra on whilst undressing for urodynamics or attributing binary genders to external genitalia. Instead, gender-neutral terminology such as stating "You may keep any underclothes on the top part of your body for the test" should be used. Leaflets should aim to explain urodynamics in a clear and accessible way, so that patients come prepared and with a full understanding of what is involved. They should also detail the clinical indications for urodynamics.

The Clinical Environment. This should aim to promote gender inclusivity. Waiting rooms and clinic rooms could display visible LGBTQIA+ pamphlets and posters. Gender-neutral bathrooms should be available. Healthcare professionals can foster an inclusive environment by wearing rainbow lanyards.

Table 2
Potential TGD issues in the clinical setting, with possible solutions.

Potential issue	Possible solution
Patient communications	
Gendered titles on appointment letters	Use first initial and surname. Once known, patient preferences must be documented in electronic health records
Separate male and female LUTS questionnaires	Offer a questionnaire with all LUTS which any patient can complete
LUTS quality of life questionnaire provides only 'male' and 'female' option for gender	Form to ask for both sex and gender, with comprehensive options for both
Gender-binary references in urodynamics leaflets	Gender-inclusive references in urodynamics leaflets
Clinical Environment	
Gendered bathrooms, no visible signs of gender inclusivity	Gender neutral bathrooms, rainbow lanyards, LGBTQIA+ posters
No routine sharing of pronouns during introductions in the clinic	Pronoun badges, routine introductions with pronouns
History taking	
Insensitive questioning (such as during the obstetric history, medication history, or surgical history)	Sensitive and informed enquiry which focuses on anatomy and medical conditions
Examination	
Inadequate knowledge of external genital anatomy following gGAS +/- surgical complications	Advice from or referral to more experienced colleagues. Open and clear patient communication.
Neglecting prostate examination in people who have undergone vaginoplasty	Awareness of need for prostate examination
Urodynamic studies	
Urethral catheterisation is a more challenging and risky procedure after gGAS	Very careful approach. Documentation of urethral meatus location, catheter size and type, and special techniques used
Assumptions about voiding position based on gender	Open communication and documentation of voiding position

As a standard, healthcare professionals could communicate their gender identity to patients by wearing badges which state their pronouns, which denote how they would like to be referred to (e.g. she/her, he/him, they/them). The healthcare professional could then initiate the consultation by first divulging their pronouns, and then asking the patient to share theirs in return. For example, the healthcare professional could state their name and then say, 'my pronouns are she/her, would you mind sharing your pronouns with me?' This will foster a gender-inclusive atmosphere from the outset.

If patients are misgendered, or gender-inclusive language is neglected, then compassion and apologies should be championed. Healthcare professionals wishing to further educate themselves in TGD awareness could be directed towards the WPATH website, which provides links to a wide range of educational resources (https://www.wpath.org). In some healthcare systems, "women" experiencing LUTS are referred to a gynaecologist or urogynaecologist, whilst "men" are referred to a urologist. The decision-making about the most appropriate speciality to refer a TGD individual to needs to be patient-centred and collaborative.

History Taking. This point of contact is another risk area for missteps and discrimination. For patients presenting with LUTS, clinicians will routinely inquire whether there is a chance the patient might be pregnant and if they have an obstetric history. One solution could be routinely asking all patients with a uterus whether this part of the history is relevant to them. An example of how this could be phrased is: 'we routinely ask all patients who have, or used to have, a uterus whether there is a chance they could be pregnant and whether they have had any previous pregnancies. Are these questions relevant to you?'

Another area for consideration is the patient's medication history. If the patient reports that they are taking hormonal treatment, further enquiry should be sensitive. An example of how this could be phrased is: 'we routinely ask all patients who are taking hormonal treatment what they are taking the hormonal treatment for. This is because there are a wide range of reasons why a person may be taking hormones, and some of these may be relevant to the symptoms you're currently experiencing.'

Sensitive questioning should also be applied to the patient's past surgical history. If a patient has undergone gGAS, the clinician may feel it is clinically indicated to ask more in-depth questions about the operation(s). It is important to explain to the patient the purpose of this further questioning and how the surgery may be relevant to their LUTS, to ensure the patient does not feel 'othered'. Questioning should be tactful but not timid. The BMA guidance states that doctors 'should be aware that not all transgender and non-binary patients will experience dysphoria or distress due to their gender identity, and should avoid automatically attributing particular health concerns or conditions to a patient's gender identity'.

Examination. Intimate examination may be a source of significant distress for TGD patients. Open and clear communication with the patient, both before and during the examination is vital. Patients may have complex anatomy following gGAS, which may be further altered by intra-operative and post-operative complications. If healthcare professionals do not feel confident in their understanding of the altered anatomy, they should not work beyond the limits of their knowledge. They could seek out advice from or refer to more experienced senior colleagues. Clinicians should also be mindful that TGD patients may suffer with chronic pelvic pain [6], and specifically enquire about this prior to commencing their examination.

For patients with a vagina or neovagina, internal examination is routine to check for pathology such as prolapse, vaginal wall masses, atrophy and impaired pelvic muscle function. Urethral meatal stenosis and/or labial adhesions following vaginoplasty may make the examination of the neovagina uncomfortable for the patient, perhaps with detrimental psychological effect, and challenging for the healthcare professional. Increased awareness of this will facilitate a gentler approach to obtaining consent for the examination, and the examination technique itself.

A prostate examination is also routine, and it is important to note that in most cases, transgender women will still have a prostate in situ after undergoing feminising gGAS. Healthcare professionals need to be aware that following vaginoplasty, examination of the prostate may not be possible via the rectum in all patients. For these patients, it may be appropriate to offer a prostate examination vaginally. For

other patients, it may be reasonable to not attempt digital prostate examination, and instead opt for an MRI scan if clinically indicated [7].

Urodynamic Studies. These are tests used to measure physiological parameters relevant to the function of the lower urinary tract [8], including uroflowmetry, a non-invasive procedure where patients void into a uroflowmeter, and invasive urodynamics, where catheters are inserted into the urethra and rectum. Urodynamics involves a significant level of interaction with the patient, so that the clinician can establish how the patient's symptoms relate to what they experienced throughout the investigation [9]. These investigations have the potential to inflict both physical and psychological suffering on TGD patients. It is vital that we ensure patients are comfortable throughout the process, to ensure their dignity is respected and to enable the best possible chance of surmising the underlying causes for their LUTS.

Healthcare professionals should take care not to make prior assumptions about the voiding position a patient may adopt during uroflowmetry or pressure-flow studies. For instance, patients who have undergone a metoidioplasty may opt to void either sitting down or standing up. The ICS recommends that we encourage patients to 'undergo uroflowmetry in their preferred position and to strive for minimum physical discomfort and anxiety for the patient, as well as ensuring personal dignity' [8]. A respectful and supportive environment can be fostered by open communication with patients about voiding positions before the investigation is underway, and clearly recording the voiding position of the patient after the study is complete.

Urethral catheterisation is necessary for both bladder filling and pressure recording during invasive urodynamics. This procedure can be more challenging and perilous in patients who have undergone gGAS. After both masculinising and feminising gGAS, the urethral meatus may be in an ectopic location and/or stenosed. After masculinising gGAS, the phallic neo-urethra can be tortuous [3], and there is a high rate of urethral stricture disease and cicatrisation in the reconstructed urethra. This increases the risk of iatrogenic urethral perforation. Perforation has even more serious consequences in a reconstructed urethra compared to a non-reconstructed urethra. For instance, perforation may result in a non-healing fistula which requires surgical repair, and this may severely compromise the functional and aesthetic outcomes of the original operation. Healthcare professionals should also be aware that in some cases they may need to use flexible cystoscopy to catheterise patients following masculinising gGAS.

Upon successful catheterisation, it would be prudent for the healthcare professional to make a clear record in the medical notes of the urethral meatus location, catheter size and type, and any special techniques used. This will ensure that subsequent catheterisation attempts have a greater chance of success, thus reducing patient discomfort. In the absence of staff who have had training in catheterising patients after gGAS, again, staff should not work beyond their capabilities. Experienced practitioners who have an understanding of the principles of gGAS and the resulting altered anatomy are more likely to perform it safely and considerately.

Rectal catheter placement is the ICS standard for abdominal pressure measurement. The ICS recommends that vaginal catheterisation can be used as an alternative if rectal placement is not possible, or if this is the patient's preference [8]. It is important to note that the neovagina in unlikely to be appropriate for vaginal catheterisation in urodynamics. The neovagina may not cross the pelvic floor sufficiently, and there is a theoretical risk that the hard-ended catheter could perforate the vault. It is vital that healthcare professionals are aware of this.

4. Discussion

There is an upwards temporal trend in the proportion of people who self-identify as TGD [10]. Ensuring that patients are comfortable and that their dignity is preserved should be a foremost priority in all aspects of healthcare. TGD patients are known to experience discrimination in the healthcare setting and thus attention should be given to ensuring that all aspects of healthcare are gender inclusive. This is especially pertinent in the assessment of LUTS, as it can involve intimate examination and invasive investigations.

In order to create an optimal gender-inclusive environment for patients undergoing LUTS assessment, we recommend adjustments in electronic communication conventions, the clinical environment, introductions, history taking, examination, and investigations. Patient communications could remove gendered titles and instead use a first initial and surname. The clinical environment could include gender-neutral bathrooms. Healthcare professionals could wear pronoun badges and commence all introductions with an exchange of pronouns. History-taking conventions could be adjusted in terms of pregnancy and obstetric history. Advice from senior colleagues could be sought to ensure safe and comfortable catheterisation for patients who have undergone genital gender-affirmation surgery.

Provision of an ICIQ tool which can be completed by anyone would constitute a big step towards reducing some of the issues TGD patients suffer in their contact with healthcare regarding LUTS. Indeed, this may also help address a longstanding issue that the underlying mechanism of LUTS is presumed based on gender (in particular, presumption of prostate causation in anyone with a prostate gland). The PROGRESS questionnaire is a recently validated tool specifically for patients who have undergone feminising gGAS [5]. There is a need for a similar validated tool for patients who have undergone masculinising gGAS.

Undergraduate and postgraduate training curriculums should be updated to include TGD healthcare as a core component. Clinicians have a responsibility to continue their education throughout their careers, with regards to the population that they treat. They should also recognise that patients who have undergone gGAS often require long-term surgical follow-up care [11]. TGD patients may have more complex anatomy and altered lower urinary tract structure (particularly the bladder outlet) and function. Complications of vaginoplasty include urethral meatal stenosis in up to 40% of cases [4]. Redundant penile tissue obstruction can lead to LUTS and urinary retention. The autonomic nerve supply to the bladder can be impacted leading to lower urinary tract dysfunction [1,3]. Complications of metoidioplasty and phalloplasty include urethral strictures in 35%–58% and urethral fistulae in 15%–70% [2], which can lead to LUTS and urinary retention [1]. Post-micturition dribble can occur due to a lack of bulbospongiosus muscle and corpus spongiosum surrounding the neourethra [1,3], and also redundant tortuosity and acquired diverticula.

Our search strategy did not yield any qualitative research. This constitutes a significant limitation, as we were unable to include reference to first-hand experience of TGD individuals who have undergone gGAS and subsequent investigation for LUTS. Future formalised research should include TGD individuals in its authorship as excluding TGD voices from research serves to reinforce the marginalisation of the transgender and gender diverse community.

Future directions include refashioning gender-specific LUTS questionnaires to be more gender-inclusive and investigating whether gGAS alters urodynamic parameters, as this is currently an under-researched area [12]. Researchers have proposed models of developing patient-reported outcome measures (PROMS) for gGAS which engage with the TGD community at every stage of the process [13]. These data could then be used to generate LUTS questionnaires specific to TGD individuals who have undergone gGAS, which could then be validated. This will ensure the TGD perspectives are at the forefront of decision-making. Research is also necessary to determine whether existing referral pathways for urodynamic investigations are appropriate for people who have undergone gGAS. Ultimately, a framework is needed to promote a transgender-inclusive approach to the investigation of LUTS. This should ideally be created by national or international urology associations. Transgender and gender diverse-specific issues are not currently integral to ICS standardised core terminology and definitions.

5. Conclusions

We identified five key areas of the LUTS investigative process which we believe should be evaluated in order to increase TGD-inclusivity. We explored how patient communications use gendered titles and symptom questionnaires are gender-binary; how the clinical environment may not be a gender-inclusive atmosphere; the risk of insensitive questioning during certain aspects of history taking; how examination of the external genitalia may be a source of distress; and the risks surrounding urethral catheterisation for urodynamic studies. We suggested solutions for each of these areas and highlighted potential future directions.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

ICIQ Advisory Board

References

[1] K. Anderson, Y. Krakowsky, E. Potter, J. Hudson, A.R. Cox, Adult transgender care: A review for urologists, Can. Urol. Assoc. J. 15 (10) (2021) 345–352.

[2] E. Coleman, A.E. Radix, W.P. Bouman, G.R. Brown, A.L.C. de Vries, M.B. Deutsch, et al., Standards of care for the health of transgender and gender diverse people, version 8, Int. J. Transgend. Health 23 (Suppl 1) (2022) S1–S259.

[3] I. Middleton, F.A. Holden, Urological issues following gender reassignment surgery, Br. J. Nurs. 26 (18) (2017) S28–S33.

[4] N. Nassiri, M. Maas, M. Basin, G.E. Cacciamani, L.R. Doumanian, Urethral complications after gender reassignment surgery: a systematic review, Int. J. Impot. Res. 33 (8) (2020) 793–800.

[5] A. Kanthabalan, F. Hosking Jervis, A. Dusoye, C. Charlotte Dunford, H. Gresty, K.A. Bell, et al., PROGRESS (patient reported outcomes in genital reconstructive surgeries): A validated patient reported outcome measure questionnaire to assess post-operative functional improvement following feminising genital reconstructive surgery, Eur. Urol. 79 (2021) S1584.

[6] S. Zwickl, L. Burchill, A.F.Q. Wong, S.Y. Leemaqz, T. Cook, L.M. Angus, et al., Pelvic pain in transgender people using testosterone therapy, LGBT Health 10 (3) (2023) 179–190.

[7] M. Bertoncelli Tanaka, K. Sahota, J. Burn, A. Falconer, M. Winkler, H.U. Ahmed, et al., Prostate cancer in transgender women: what does a urologist need to know? BJU Int. 129 (1) (2022) 113–122.

[8] P. Rosier, W. Schaefer, G. Lose, H.B. Goldman, M. Guralnick, S. Eustice, et al., International continence society good urodynamic practices and terms 2016: Urodynamics, uroflowmetry, cystometry, and pressure-flow study, Neurourol. Urodyn. 36 (5) (2017) 1243–1260.

[9] M.J. Drake, S.K. Doumouchtsis, H. Hashim, A. Gammie, Fundamentals of urodynamic practice, based on international continence society good urodynamic practices recommendations, Neurourol. Urodyn. 37 (S6) (2018) S50–S60.

[10] Q. Zhang, M. Goodman, N. Adams, T. Corneil, L. Hashemi, B. Kreukels, et al., Epidemiological considerations in transgender health: A systematic review with focus on higher quality data, Int. J. Transgend. Health 21 (2) (2020) 125–137.

[11] A. Lai, R. Johnson, World professional association for transgender health guidelines: 2022 surgical treatment updates in the standards of care for transgender and gender diverse people, Neurourol. Urodyn. (2022) 1–3.

[12] P. Hoebeke, G. Selvaggi, P. Ceulemans, G. De Cuypere, G. T'Sjoen, S. Weyers, et al., Impact of sex reassignment surgery on lower urinary tract function, Eur. Urol. 47 (3) (2005) 398–402.

[13] N. Agochukwu-Mmonu, A. Radix, L. Zhao, D. Makarov, R. Bluebond-Lagner, A.M. Fendrick, et al., Patient reported outcomes in genital gender-affirming surgery: the time is now, J. Patient Rep. Outcomes 6 (1) (2022) 39.