# Ask an Expert: Urinary incontinence

**Dr Elizabeth Farrell:** This evening we are going to talk about urinary incontinence. So Payam is going to talk to us about many aspects of urinary incontinence. Not only the definitions but also the investigations and how you as primary care practitioners in the main can, in fact, manage women very successfully. He will also talk further about treatments and surgical treatments as well. Payam is a gynaecologist. He's a urogynaecologist and a pelvic reconstruction surgeon with a fellowship in urogynaecology. He's a member of the International Continence Society, the International Urogyne Association and the UroGynaecological Society of Australia. He's in charge of the pelvic floor clinics and perineal clinic at Dandenong Hospital and he works with us as a urogynaecologist at Jean Hailes Clayton office. He has a keen, not clean, keen interest in pelvic floor dysfunction and is actively involved in teaching and research at Monash Health. Thank you, Payam. We look forward to listening to your talk. Thank you.

**Dr Payam Nikpoor:** Thank you, Liz. Thank you for the nice introduction. So I'm going to share my screen and put the PowerPoint up. Share, very good. Okay then. Well, good evening everybody. Thank you for your interest and your time coming in and thank you to Tracie and Liz for making tonight possible. So I'm going to start with without any further discussion, right into the urinary incontinence, to the nitty gritty bits of it. So if you've got questions, you might write them up. We try to get as many of them, through as many of them as we can through the night, otherwise I'm sure we would be able to make up for those ones unanswered. And thank you also to sending questions in advance. We've tried to incorporate as much as we can in the presentation, so hopefully would answer most of your questions. So moving on. So we're going to talk in terms of the overview and the epidemiology, the different types of it, classification of urinary incontinence, what goes in the history and examination, how you investigate and further the management options.

So this is a slide that almost always is, sort of, in my talks and it kind of shows the pelvic floor muscles right at the bottom of the female pelvis, with three main organs as you can see here. So in the, I may actually refer to it also in the 'anterior compartment', you've got the bladder, bladder neck and the urethra. In the middle compartment, which is also referred to as 'apical compartment', you've got the uterus and cervix, and in the 'posterior compartment' what you've got is your rectum and your anal sphincter complex. So we are going to talk about urinary incontinence. So it's anterior compartment. But before moving on I just want to give this idea to you so you have that in the back of your mind and hopefully it stays. So pelvic floor has got three functions. It contains the pelvic organs, it provides continence and is involved in sexual function.

So if you define these as the 'functions', therefore the 'dysfunction' is going to be issued with the containment, therefore prolapse, issues with incontinence such as urinary incontinence or anal incontinence or referred to also as 'faecal incontinence', and female sexual dysfunction. So these are the three dysfunction that emerges out of what you define as a function. So I'm going to move on and further on we'll talk about the urinary incontinence. So it is a very common condition. It goes without saying any GP, any gynaecologist, any urologist, this is a day-to-day everyday presentation complaint of women coming to clinic, and most often it's actually in association with the other presentations of the female pelvic floor dysfunction. But we're going to focus on the urinary incontinence side of the female pelvic floor dysfunction. So in summary, generally speaking, unfortunately, sadly, as we get older we get urinary incontinence. So it becomes more common as we get older, and it becomes more severe.

So generally speaking, it goes without saying, again, that the elderly women are the ones who are dealing with this much more significantly, more commonly, compared to the younger population. And generally you would see that in the younger group it's much less common compared to the elderly. So it is very important also to bring this up in your consultations, if you're seeing a woman, from other perspective because sometimes it just is taken as a normal variant or, 'I'm old, this is sort of normal to be having urinary incontinence', which is not actually. So we'll go through that. So what is urinary incontinence? There is no fancy definition for it. Any involuntary loss of urine is urinary incontinence, as simple as it gets. Okay, so this is how you define urinary incontinence, but there are different types of it. There are different types of it that makes the management also different.

So you've got the 'stress urinary incontinence', is the complaint of involuntary loss of urine associated with any kind of exertion. So jumping, laughing, coughing, running, trampoline, star jumps, pushing something, reaching top shelves, trying to grab something. All those kind of things are related to this, actually defined as stress urinary incontinence, anything that leads to the increased intraabdominal pressure that overcomes the closure pressure of the urethra, literally, again very scientific terms. But normally it's the complaint of loss of urine with any kind of exertion. 'Urge urinary incontinence', on the other hand, is the type of incontinence associated with urgency. It's an involuntary loss of urine associated with urgency. And moving on, we've got 'postural incontinence'. Postural incontinence is the time that the patient, when they move, especially when they want to go from one position to another position, they leak urine. So this can be sometimes in the form of stress incontinence, because of an increase or rise in the abdominal pressure that would overcome the closure pressure as I mentioned.

Or it might actually be related to urge incontinence, because at times, with an exertion, you can have a detrusor contraction in your bladder. So this is important to take that into consideration that not all postural incontinences are necessarily related to purely being stress incontinence, it might be urge incontinence. Moving on, 'nocturnal enuresis' or 'bedwetting', which you can most often would see in children like your paediatric condition. But certainly in my practice, given what I have made myself be, I would see these women of course coming with nocturnal enuresis either as primary ones or as secondary ones. 'Mixed urinary incontinence' is the presence of stress and urge together. So if you've got stress incontinence and urge incontinence together, it's called 'mixed incontinence', and there's a kind of tendency in practices trying to find out which one is dominant, which I think is very sensible actually.

If someone has got mixed urinary incontinence, and it's stress incontinence dominant or urge dominant, then it would give you a clue which direction you want to go, or what kind of treatments you would envisage in the long term for the woman. So these two are a little bit different in terms of the ultimate outcome. 'Continuous incontinence' is just continuous insensible loss of urine so you don't sense that, they don't have any sensation, it just continuously goes. It's like fistula patients for example, just continuously, and of course the 'coital incontinence', something that people don't want to volunteer, don't want to talk about it and you need to ask for it, almost often you have to ask for it. This is not something that comes out normally from patients. And again, just quickly on that, with coital incontinence, the two types of it, it either happens with penetration or happens with orgasm, and we think that the one associated with penetration is most likely associated, to be a variant, of stress incontinence, whereas the one associated with orgasm, it's likely a variation of urge incontinence.

However, this is like an evolving field and there's more and more research being done in this and we will sort of hopefully have more understanding of this in the years to come. Then we've got bladder storage symptoms. Another very typical kind of presentations that people come to, or complain of, increased daytime frequency, is the number of micturitions, or trips to toilet for voiding, is deemed to be more than usual or normal by the woman, and it's literally what they would say. They would say that the number has increased and, 'I'm going to toilet too often', but again, we'll need to ask how often and we'll get to that in the next few slides. Nocturia is the interruption of sleep. So the patient falls asleep, is woken up from sleep by the sensation to do a void and then falls back to sleep. Okay, so this is important.

It's preceded by sleep and then it's followed by sleep. So if you wake up and then before you go to bed again and fall asleep, you make three trips to toilet, it count as one, basically, in terms of the nocturia itself. And the ones that happen before you fall to sleep, like you go to bed early, but it takes three hours to fall asleep, those ones do not count in the number of nocturia as such. And then the urgency was the very simple explanation of course, a compelling desire to void that is difficult to postpone. And overactive bladder is a constellation of symptoms, so therefore it's called 'syndrome', 'OAB'. OAB is the urgency frequency nocturia, it can be associated with urgent continence or not. And generally there is another version of classifying this also to two subtypes. We say OAB-dry and OAB-wet.

So OAB-dry is the time that someone has got overactive bladder but they are able to make it to toilet, whereas if they're not able to make to toilet it would be OAB-wet, meaning that it's associated with urge incontinence. So what is normal? Well, as I said, no incontinence is normal, so we don't accept any normality in leaking urine. Makes sense. Normal voiding, pass seven to eight times during waking hours, so that would mean roughly about every three to four hours. And then how many, if you wake up once at night, it would consider to be a normal variant in terms of nocturia. So nocturia has really defined that more than once. So you wake up two or three times to go to toilet. Now risk factors, there's so many things in it, so many different things that are involved.

Aging, of course, the change in the consistency of the tissues, with aging there is sometimes weight gain, with aging there is childbirth in it, but all those things also count as an independent risk factor. Pregnancy is a very important risk factor, as well as vaginal delivery. Vaginal delivery of any kind is a risk factor for urinary incontinence, and especially instrumental delivery, and amongst them forceps is the biggest risk factor of course. But as you see, dementia, collagen defect, smoking, chronic obstructive airway disease, asthma, obesity, hysterectomy, constipation. Constipation is really, really important, a big risk factor for this. So major contributing factors. Coffee, we love coffee, someone else is also drinking coffee now. Alcohol, and smoking. The three important ones. Always you need to cover that in your history. It is very important. But there are other things too that you either find in your history or in your examination.

Pelvic organ prolapse, excess fluid intake, infection, medications and poor mobility or poor access to toilet, which is most often associated in the elderly or in nursing home patients, actually. This is the list of reversible causes that you need to look into for women who present with urinary incontinence, acute onset urinary incontinence, especially in the elderly because they're reversible. So it goes with the acronym of DIAPPERS and it stands for delirium, infection, atrophic vaginitis, pharmaceuticals, as in medications, for example, diuretics, psychological conditions, excess fluid intake, restricted mobility and stool constipation. So this is basically the list of those ones that you need to take into consideration and tick them off as you would investigate a woman for urinary incontinence, especially in the elderly population, new onset ones, or the ones we're seeing. Now history taking, I just wanted to say, when you want to buy a house, you might think it's irrelevant, there are three rules.

It says rule one is location, rule two, location, rule three, location, okay. In urinary incontinence there are three rules. History, history, history. I hope that you will remember this. This is like a notion that I use. As much as you, more you invest in history, it would pay off better in the long run. You would investigate better, you'll understand better and you would be able to provide a better care and you would not do unnecessary investigations, and be more mindful about what you're doing, actually. So history, history, history. So establish the presence and the severity. Have you noticed any loss or leaking of the urine, how often it happens, how long it's been happening, find the bad triggering factors, pad usage, how many pads do you need to use, the sanitary products, all those kind of things, you need to go through them.

Ask about daytime frequency, nocturia, how much is it bother is it actually and how effect does it have in your day-to-day lifestyle, your personal lifestyle, relationship, professional, et cetera. The type of incontinence you need to find out as we discussed earlier, so this is how you would make that diagnosis also. So for the woman, leaking urine is leaking urine, she, like majority of the women, do not necessarily differentiate actually between stress incontinence and urge incontinence or mixed incontinence. For them it's just leaking urine that is ruining their lives. But it's actually your job to take the right history and ask the right questions and to differentiate between them and try to get that key answers from the history to try to put it into the right category. Overactive bladder symptom kind of questions, you want to go about daytime frequency, nocturia, nocturnal enuresis, urgency, et cetera.

And voiding symptoms, you want to ask about the voiding, as in hesitancy, poor stream, intermittent flow, postvoid dribble, straining, et cetera. And there are prolapse symptoms such as lump, heaviness, bulge, pressure, dragging sensation, protrusion, however the woman describes it. Some people might just come and say, 'I just feel like it's like a grape fruit in my vagina, like a big heavy pressure lump there that I feel.' So anything that they would volunteer, you just need to elaborate on that. Digitation and splinting of the vagina or the perineum, to help them void or open bowels, also, it's very important to take that into consideration Now, key questions and how it might be relevant to conditions such as poor voiding. Incomplete emptying and poor voiding can lead to overactive bladder because you incompletely empty your bladder, you just need to go to toilet very frequently. Increase daytime frequency and urgency. Fluid intake, water, caffeinated beverages, diet, et cetera, soup, alcohol, in all those kind of things that you need to think about it.

Whatever goes in needs to come out. Chronic raised abdominal pressure, constipation, chronic cough, abdominal masses, tumours, fibroids, big fibroid pressing on the bladder, it doesn't allow the bladder to fill up therefore you would get urgency, frequency and urge continence, potentially. Genital atrophy, there's a direct correlation between oestrogen deficiency and OAB symptoms. Medical history, you want to find about overload conditions, fluid overload. Previous pelvic surgery of either kind, for cancer or incontinence surgeries. Different kind of medications, neurological conditions that might lead to neurogenic bladders. And obstetric history, that goes with that saying that's very important, very important that you need to consider all of that. So how to assess the severity. There are different methods but you can ask the woman, actually, about the degree of the bothering and how much of a compromise is it for them. Use patient's own words, 'affecting my life significantly, severely', those kind of things.

Number of pads they use, absorbent products that they use. You can use a visual analogue scale from zero to 10, from, 'What would you score the bother of this for you?' Or you can use your Likert scores, as in smiley faces, those kind of things. Or you can use validated questionnaires. The most commonly validated questionnaire that we use is a bladder diary and there is ICIQ-UI SF, stands for 'international consultation of incontinence questionnaire, urinary incontinence, short form'. And then ICIQ again, the same abbreviation, OAB, is OAB 'overactive bladder'. IIQ is 'incontinence impacts questionnaire', and 'urogenital distress inventory'. So these are abbreviated versions, the shorter versions, and I've got a couple of them here. So urogenital distress inventory. I use them regularly because of type of my job, you might as well use it.

It is good actually to assess the improvement in the severity or the bother of the symptoms after a treatment. So you start a treatment for them, you want to see how much of improvement they've made. You can actually use this and look at the scores in the end. Or the incontinence impact questionnaire, the way that, ability to do household chores, physical recreation, entertainment activities, et cetera. And then you get the total score of this. So if you make a difference, significant difference in the total score after the treatment, of course it means that your treatment is being successful or having a meaningful effect.

Frequency volume chart and bladder, frequency volume chart is a 24-hour chart in which you would record frequency and the volume, like how many times that you have drank something and how many times you've voided, and then you measure the void, basically. So that's how it's called a frequency volume chart, but it can turn into a bladder diary if you add extra bits to it, as in pad usage, incontinence episodes, degree of incontinence and the episodes of urgency and sensation might also be recorded. So this is something that you can use to assess much more details of the voiding, and usually it's done for two to three days. Generally we would love to have three days but it's a bit cumbersome, especially for the elderly again. So two days is still okay. And this is an example of this that you can actually use for women, or even men to be honest, doesn't make a difference in this case, but I'm a gynaecologist so we use for women.

And this is how, this woman has got these episodes of incontinence and she's changed her pad three times a day. You can look at how much of urine output has been there, what is she drinking and how much is she drinking in a 24 hour. Now moving on to the examination, now you've seen a woman, you've taken the history, you've asked the questions, you've decided to do a bladder diary, give a bladder diary to her, but before that you would want to do an examination. Always start with general assessment. Look for mobility, cognitive condition, BMI is very important. There's a direct relationship with obesity and stress incontinence and urge incontinence, both of them. And there is data, there's evidence published that if you lose about 10% of your weight, there can be somewhere between 50 to 70% improvement in your overactive bladder symptoms, as well as the stress incontinence symptoms.

It appears that weight loss will have more beneficial effect in stress incontinence compared to urgent incontinence. But again, more data, I think we need more data, more long-term data on that. Abdominal pelvic examination for masses and scars of previous surgeries. Assess for vulval erythema/dermatitis, atrophic vagina fistula, pelvic organ prolapse, pelvic floor muscle strength, elevated trauma and cough stress leak. So next slide. I've got these in a stepwise manner. One of the question was, 'How do I actually do, talk me through a vaginal exam.' So start with inspection. You look for atrophy, dermatitis, erosions, lesions, ulcer, fusion, resorption for lichen sclerosis for example. If you can see any obvious masses, if you can see prolapse beyond hymen, I've got some pictures that I will show you that. And then we were going to say couple of pictures we've got here might be a little bit sensitive. So if you've got kids at the background, you may not want them to see this, it's up to you. I just wanted to make that disclosure.

Next step is speculum examination such as atrophy, look at atrophy, discharge, blood, bleeding, lesions, ulcer, foreign body and all those kinds of things can be present. Forgotten pessaries, I've seen 15-year-old pessary that presented with a rectal vaginal fistula actually. Palpation, digital examination, you assess for prolapse, tender trigger points adnexal masses. And pelvic floor muscle assessment, you look for the integrity of the muscle and defects, torn at rest and squeeze, coordination, endurance, force, hypertonic or hypotonic muscles. So this is the platform on what our physiotherapy colleagues work. Of course I don't want to pretend that I'm a physiotherapist. I can never be a physiotherapist. It's great job actually. And I do have a lot of respect for our physiotherapists, Janetta and Amy in Jean Hailes, but this is the platform based on that they work. So there's different kind of prolapses. So this is the cystocele as you see, the large bladder prolapse.

So if this woman comes with urinary incontinence, well this needs to be fixed first before you would think about doing anything else. So this is important, or this one, complete vault and uterine eversion. So here is, this is your bladder, it's completely outside and this part is the lower part of your rectum and this is the pouch of Douglas. So you see that there's a very significant variation and this comes in elderly women who have been putting off to come and see you for years and years and years, but they have been presented but for other things and never actually brought up this, so therefore they never got an examination. So the way that you want to do an examination, the digital examination, whether you want to do single digit or two digit, it really depends on the vaginal capacity, how the patient tolerates it and how comfortable you are of course.

But I think these pictures are really great in terms of showing where the finger goes and what you feel. Really this is very important. So as you see, look at this picture, it's going up and going inside the vagina and up towards the upper left and upper right which would be these areas, these two muscles actually your palpating. So these are your obturator muscles, they are located on each side of the pelvis and the obturator foramen. But when you sweep your finger downwards and then you come to this part, you are actually palpating this and this. These muscles are the part of your levator muscles. So this one has been mentioned, iliococcygeus muscle, or this one is the pubococcygeus muscle, as you see. So these are the muscles that are going around from one side to the other side and of course the symmetric presentation in the pelvis.

Also this one shows that when your finger goes in, what are you palpating? So that is the cervix right up there. So this is like halfway through the vagina. So your iliococcygeus, your pubococcygeus muscles, those are the ones that you're actually palpating. So hopefully this gives you a bit of an understanding and if you've got a tender point you can actually report a little bit better with being more conscious about where things are gone wrong. Investigation. What would you do for a woman who has got urinary incontinence? So look, there is no fancy test, really. At the level of the primary practice as a GP, do an MSU, check for infection. That's the first thing. If you are allowed to do only one test, only one test, that should be an MSU. You want to do cytology, it really depends on the risk factors.

What are the risk factors? If someone has had past radiation, if someone is a smoker, someone's elderly, say someone's got macroscopic haematuria or ongoing microscopic haematuria, if someone has got sterile pyuria, all those kind of things you would want to do to include a cytology. So it is important to take that into consideration. And Liz, are you trying to show me something? No, right. Bladder diary is the other thing that you would want to do. As I said, imaging for suspected masses and post-void residual volume and ultrasound can be performed, or in-and-out catheter or bladder scan, you can do that. Urodynamic study is something that we will do for the types to identify or differentiate different types of urinary incontinence, or those women who've got urgent incontinence not relieved by the medications et cetera. And of course you would include cystoscopy for those people with recurrent UTI and haematuria. Red flags.

So refer to specialists. These are the ones that you need to consider referring to someone else because there are red flags and they actually show that there is something going on that is beyond just a very simple presentation for a urinary incontinence. So make sure that you would highlight those ones or look for those ones. Another question is, 'Which specialist should I refer?' I've got some examples here. Any condition involving upper renal tract goes to the urologist, okay, simple. All malignancies of the renal tract, go to the urologist. Stones in the renal tract, go to the urologist. Vesico-vaginal fistulas or urethrovaginal fistulas, either a urogynaecologist or a urologist, SUI, UUI, MUI, urogynaecologist or urologist. Recurrent urinary incontinence, failed previous treatment, urogynaecologist or urologist. Concurrent prolapse, prolapse and urine incontinence, I would highly expect that they would come to a urogynaecologist or an experienced gynaecologist. Bladder pain syndrome, either us or urologists. Rectovaginal fistulas, colorectal surgeon. Mesh complications, urogynaecologist, but these always going to an MDT and there's always other people involved in those ones. Management. So we've got another 10 to 15 minutes. Am I right Liz? Is that right?

**Dr Elizabeth Farrell:** No, you can keep going Payam, that's fine.

**Dr Payam Nikpoor:** Okay, good, good, thank you. Alright, conservative management. The first step in managing all urinary incontinences is conservative management, as simple as is, unless they have done the conservative management. Or, you find complicating factors in them, those red flags, those ones, you don't need to waste time in doing physio for a woman who's got urinary incontinence and haematuria, you need to get on top of that. You need to refer to find out what is the underlying cause. If someone's coming to see you first time ever, urinary incontinence, you can't find any significant risk factors, any of those red flags, you start your conservative management. Conservative management. Weight loss, promote good bladder habits, bowel habits. There's a very nice document, two nice documents, on the CFA, Continence Foundation of Australia website, on good bladder habits and bowel habits, that you can actually use. Proper fluid management, decrease caffeine and alcohol intake, avoid excessive fluid intake.

Again, arbitrary, two litres. We don't really have a very high level evidence to say what is exactly the maximum normal acceptable, but I usually use 1.5 to 2 litres for an average person. Minimising evening intakes if nocturia is a concern. Smoke cessation, medication review, especially with diuretics, usually people take diuretics at nighttime. You can actually bring it to an early afternoon, so that by then before going to sleep, the effect of the diuresis has been kicked in, that the diuresis has happened and they would've made the trip to toilet before going to bed rather than waking up at nighttime because of the effect of the diuresis from your diuretic medication. Physiotherapy. Physiotherapy, physiotherapy, this is again very important one, I can tell you that I can't be a urogynaecologist without a physiotherapist. As simple as it gets. We go hand in hand, very close friends, and we always co-manage these patients, so I don't take any pride in being a solo practitioner.

I always work with a physiotherapist and I'm very proud to be working with them. Education and proper voiding techniques. I just make this one example, it's good for you. It might go a little bit over time, sorry, but people go to shopping centres, they want to go to toilet, they've got germaphobia, they read a lot of things in there. So they go to the toilet, they want to do a wee, they hover on the toilet, they don't actually sit on the toilet, so there's this gap between them. So you just go down like this and then you hover on the toilet. Worst possible thing you can do to your voiding and pelvic floor. To do that you need to activate your pelvic floor muscles to be able to go into that pose, actually, okay. It's one of the core exercises when you go to Pilates actually.

So you need to activate those muscles. By activating those muscles, you are actually bringing a degree of blockage to your bladder outlet. So sitting down nice and relaxed with knees slightly elevated above the level of the hip is actually the position to be. You don't need to take your stool into the toilet and shopping centre, but please talk to your patients about not hovering in the proper seating and not proper position, Alright I'll move on. Pelvic floor muscle training, bladder training, patient education, air suppression techniques, scheduled voiding, which is sort of like timed voiding, every three hours, every two hours for those people who've got sort of incomplete bladder, anything. There's other things that your physiotherapist will go in much greater detail when they see the patients on one of those very long consultations of course. So supervised pelvic floor muscle physiotherapist by a dedicated pelvic floor physiotherapist or a continence nurse is the way to go if you want to refer for physiotherapy.

About 30% of the women don't really know the exact technique. Duration is about three to six months. You're looking at about 50 to 60% improvement, improvement and cure i.e. those people who get better and become dry, about 75 to 85%. A meta-analysis showed a 66% success rate in this. In the continuation to your conservative management, you can use the pessaries of course. I have never used any of these ones but I've just put this on so that you can see. These are anti-incontinence devices, anti-incontinence pessaries, so it's like a urethral insert and these all go and sit inside the vagina. This is a urethral insert, whereas these ones are your pessaries, and this is a ring with a knob, ring with support with a knob, or Shaatz with a knob. So the way that you place them, this knob goes and sits under the bladder neck, so it's in the anterior wall of your vagina and that's how it would provide continence. Pessary use.

They need to have regular follow-ups. If it goes in, they need to come every four to six months for regular check-ups. You will remove the pessary, have a look inside, make sure it's all good and put it back in again. And then another on that. Need to use vaginal oestrogen for postmenopausal women. Ring pessaries can be removed and reinsert by the woman. We can teach them to do that, especially those women who are younger can do that. Good diet and bowel habits avoid constipation, is very important. Risks associated with pessaries. They can cause erosion, they can cause bleeding, infection. The rate of them overall is around 5%. Expulsion can happen if the prolapse is large or the pessary size was not used correctly, and really the wrong size or shape can lead to obstructed voiding or bowels. If you put one of these pessaries, always get the patient to do a wee before they go home, at least.

Now this algorithm I've devised myself, it's based on USANZ and UGSA guidelines for the management of OAB. Okay, this is for OAB. So the first line of management, you've got conservative management. Lifestyle, bladder training, pelvic floor muscles and all those kind of things that you can include in this. If this didn't work, you went for this for about three months, no improvement, or six months, no improvement, by continuing them you go to the next step. Next step is your pharmacotherapy, which you use anticholinergic, so beta-3 agonists or vaginal oestrogen, desmopressin, TCAs, depending on the situation. We don't really use TCAs these days. This is a bit of an older one, but some people use, And if this didn't work, we've tried this, you need to try a minimum of two of these not working or patient having severe allergy to them, can't tolerate them or even can't afford them to be honest, some of them are very expensive, then you move on to the advanced therapies, which is use of Botox or sacral neuromodulation or PTNS.

So Botox is injected into the bladder, under usually a general anaesthetic or if facilities available can be done as an outpatient, either. Sacral neuromodulation is a pacemaker that is placed, an implantable pulse generator is the correct name for it, in the buttock on one side with a lead going inside, on the back going inside, and sitting beside the third sacral nerve root. And if these don't work, of course you would go to salvage options, which is sort of augmentation cystoplasty diversion, very, very significant and highly, highly morbid surgeries. A summary of these medications, so oxybutynin tablets come in the form of, it's called Ditropan, five milligram tablets. You use them in divided doses. I always start as 2.5 milligram bd or 2.5 milligram nocte, depending on the severity, and I slowly work my way up based on the side effects in the patients.

I have never been able to go above five milligram tds. Most important thing before prescribing, make sure that the patient does not have glaucoma. Glaucoma is the absolute contraindication, but you need to be very careful about those women who have got dementia or confusion or altered mental status in those kinds of things. Oxybutynin patch, which is Oxytrol, 3.9 milligram per 24 hours twice a week. Because it does not go through the liver, it creates less active metabolites in the body, therefore less side effects compared to Ditropan, dry mouth, constipation, blurred vision, et cetera. But then it can cause 15% local reaction and that can be really, really bothersome. Solifenacin, or Visicare, comes in the form of five or 10 milligram tablets once a day, is once a day tablet, slow release, less side effects of course and generally better tolerated. If your patient was on five and then you give them 10, ask them not to go and break 10 to make two five milligram tablets.

There have been reports of blindness, but a part of the medication chipping into the eye actually, there've been case reports on that. So again, a safety issue for you. Darifenacin, not very commonly used, but again, another anticholinergic. It's comes in the form of Enablex, 7.5 or 15 milligram once a day. Same principles as the solifenacin, but it does not really cross a blood-brain barrier, therefore it's safer in the elderly women, if you wanted to use one of these ones. Mirabegron or Betmiga, 25 or 50 milligram once a day tablet, and it goes onto your beta-3 adrenoceptors. Most important side effect of this is hypertension. Whenever you started, whenever I started, I get them to check their blood pressure in about two days' time and again in seven days' time and then after that every month as an ongoing thing. Rate of acute hypertension is about 15% with this medication, so it's not uncommon, it does happen.

And the vaginal oestrogen, of course for postmenopausal women, it comes in the form of Ovestin or Vagifem Low, and you start every night for two weeks, vaginally, and then after that twice a week and it restores your vaginal floor and pH. I'm going to whiz through this a little bit in the interest of time, but you will get these slides so you can actually come back and look at this. These are grade of recommendation A, so this is based on very high-level evidence. Use of antimuscarinic, so contraindications and side effects. Beta-3 agonist, which is your Betmiga or Mirabegron, precautions and side effects of it. And vaginal oestrogen, as well as SNRIs, which are amitriptyline, imipramine and nortriptyline. This slide is from the Australian Commission on Safety and Quality of Healthcare. I have put a link to this page at the end of the slide.

Do make yourself familiar with this. It's very useful actually. It is not really written only for a specialist. You can use it too and it's very useful. Complicated incontinence, it gives you a bit of a description of what I said, but even more details in there, different types of incontinence and how you would manage them and all those things when it goes for the specialist management. So make yourself familiar with this. This is a very useful slide, but it's too busy, I won't go through it right now, in the interest of time. Surgical management of stress urinary incontinence. There are four options, four conventional options. There are actually more options, but we will about four of them today and I want you to be familiar with them. So I'm not going to go very into much detail, as soon I will finish and we will go and you can quiz me with your questions.

Now midurethral sling, Burch colposuspension, pubovaginal sling, urethral bulking agents. These are the four surgical options available for women with stress urinary incontinence. So when we say there is a retropubic midurethral sling, it's like this. So it's gone through the vagina just in the suburethral area, so in the middle of the urethra, mid portion of the urethra, and it goes in the retropubic space between the pubic bone and the bladder. So by the way of doing that, it creates a U-shape kind of a support and it would obstruct whenever you cough or sneeze as the bladder neck wants to descend this stops it from coming down and blocks the urethral or the bladder outlet, actually. This is a transobturator. So the tape inserts and goes along the vaginal sidewalls and comes out in the obturator membrane here in this obturator fossa in the obturator membrane.

So that's one end, it continues and goes like that, and there's other devices that go, so this is from, as you see, this is being pulled across from inside to outside. Okay, so there's another picture for you to understand what these are. Success rates, that's 80 to 85% success rate. We've got long-term data on this, published 17 years data on this, and less than 75% if you are doing it as a secondary surgery, like a recurrent stress urinary incontinence. And overly in the first run, if you're doing it in the first operation, there is no difference in the overall, overall success rates between retropubic and transobturator sling in short, medium, and long term. Again, this is, I think it's an important slide for you to know and certainly you will get these slides. Complications that can arise and those rates of them.

Anything in the form of bleeding haematoma, bladder perforation, urethral injury, de novo or worsening of OAB, avoiding dysfunction, difficulty passing urine or retention completely, mesh exposure or erosion, groin pain and dyspareunia, and chronic pain of course is one of the other ones that would be very, very difficult to treat, chronic pain. Burch colposuspension is an abdominal surgery, but you don't actually enter the abdominal cavity. So if you go again into the Retzius space, but you go from the abdominal incision and then you get, this is the bladder, this is the pubic bone, and as this is the bladder neck. So there are these stitches that would lift the bladder neck up and attach this to this ligament on each side, it's called 'Cooper's ligament' or 'iliopectineal ligament'. Usually we put two stitches is better than one stitch, according to a Cochrane review of course. And this is a pubovaginal sling where you would use a fascial sling.

So this is exactly the same thing in terms of the principles of placement, not exactly the same thing, but the same principle as a midurethral sling as I showed you, but this harvests a part of the rectus sheath. This woman, you've got an incision here, like a caesarean section, you harvest this rectus sheath like this and then you would go and place it from one end to the other end. This is the vagina, this is the urethra, and you're placing this underneath the urethra. This used to be the gold standard before the mesh slings came out, and of course, because meshes are much easier to do, not too many incisions like this, and quicker recovery, quicker discharge from hospitals, shorter operation time, they just basically took over. But then again, because of the issues and problems that's been happening with mesh, there's been some negative publicity and not much use as much again. Another picture comparing the Burch colposuspension with a pubovaginal sling or fascial sling.

So if a woman has got stress urinary incontinence and she doesn't want a mesh at all costs, 'I don't want mesh', you hear that a lot these days, this can be an option for them actually. This is a very great surgery, very high success rate and it does work greatly in the long run. But of course the biggest surgery with more comorbidities of course. When people say that they've had a bulking agent, this is how it's done. So it's done cystoscopically, with the camera you only go into the urethra, so it's like this normally, and then you would put the needle underneath and then you inject the bulking agent. The bulking agent bulks up here and creates a cushioning effect, cushioning effect, and makes the urethra narrower. So the uro–, or, what do we call it, the physics of it is that because it's narrower, the resistance in the tube goes higher, which means that your urethra closure pressure at rest is higher and provides a better closure pressure.

And this is how it looked like in the beginning. It's open and gaping. It would do one injection and then another injection and it would become a very narrow one. So by the way of doing this, you would create a kind of a coaptation and a cushioning effect of the submucosa. And this is one of my real patients now as I'm injecting as you can see. So it's like bringing this cushioning effect here. This is beautiful. Take home message. This means that we're getting to the end. Happy. Meticulous and detailed history, pays off to spend a little bit more time in the first go. As I said, history, history, history, okay, remember that. Be systematic in your assessment. Examine, document, investigate what you find necessary to be investigated. And don't underestimate the value of conservative management. It does good to the patient. Even if it fails, it brings some good foundations for the woman.

Weight loss is always good. Not smoking is always good. Not only for urinary incontinence. Look for complex features in history and examination and refer to a specialist. So if you put these four in front of you, when you see a woman with urinary incontinence, you will never go wrong. Never. And I've got these resources here. So these two are Australian websites, the Australian Safety and Quality in Healthcare, and there's a bladder diary, we've got good one in Jean Hailes that you can use. International Urogyne Association, you can download these patient information leaflets in many languages like Chinese, Swahili, those kind of things, if available of course. And then give it to patients about urinary incontinence, prolapse, all those kind of things. It's called yourpelvicfloor.org/leaflets. There's an interactive SUI care pathway in the Safety and Quality Healthcare, nice guidelines of course. And CFA has got a very nice website, a webpage of a lot of materials for healthcare professionals to use and read actually, it's really good. Thank you. That is the end of my talk. Sorry how much time? We've got 10 minutes.

**Dr Elizabeth Farrell:** Thank you very much. That was absolutely wonderful. I'm just so pleased to hear it again. So thank you, thank you, thank you. We've got one question from Kate. How long do you trial medication before deciding that it hasn't worked?

**Dr Payam Nikpoor:** Yes.

**Dr Elizabeth Farrell:** So, if you're trying Ditropan, how long do you trial it for?

**Dr Payam Nikpoor:** If someone tolerates it, does not show side effects to it, i.e. they can tolerate and do not do side effects, I would go at least for eight weeks before I would assess the symptoms. So about two months' time. If in two months' time I see that there is some improvement and no side effects at all, actually I can bump up the dose. If dose is up to the level that the patient is starting to get side effects, of course you can't go further up. So you're kind of bound to that. The option of non-PBS options are there also. So if someone did not respond well to Ditropan because it's an immediate-release medication, going back to what Liz says. So you can actually try, basically, if they can afford it, because it's an expensive medication. So with Ditropan or solifenacin or darifenacin or Mirabegron, any of them, I would at least go for about eight weeks, two months, before thinking to moving to another medication.

**Dr Elizabeth Farrell:** Payam, one of the questions that was asked was the options for patients that cannot tolerate the medications that you've recommended. What do you do then?

**Dr Payam Nikpoor:** Yes. So if you're talking, so this is like an OAB case, of course, you've got a woman who's got overactive bladder, she has got a closed-angle glaucoma for example, you can't give her Ditropan, you can't give her solifenacin, you can't give her darifenacin. You tell her about Betmiga, she says, 'Oh hang on, this is $34 a month, it's too expensive, I can't buy this.' Then you think about, okay then what I'm going to do with her, these ones you continue, continue with your conservative management, pelvic floor muscle exercises and bladder training. If still do not see any improvements, the next option for these people is the option of going to third level of management.

So you can use Botox, you can use SNM or you can use PTNS. To be honest, PTNS has been just recently added to the Medicare online system, so it's got the MBS item numbers for it, and it can be done as a treatment for these women, compared to tolterodine as one study has compared it to tolterodine, which is another anticholinergic, it has got similar efficacy but less side effects. So that's something that can be tried. And if Natasha was here, Natasha Kustura, one of our physicians in Jean Hailes, she does acupuncture, and very supportive of it, and I don't think there's any harm in thinking about those things outside of the box, not think too medical. There are published papers that support the use of acupuncture. So you can actually try that also to see how it works. But generally speaking, simple answer to that question is that if someone has tried the anticholinergics or is not able to tolerate them, you go to the third level of management, options of Botox, SNM or PTNS.

**Dr Elizabeth Farrell:** Payam, can you just give us a brief overview of how you diagnose the severity of a vaginal prolapse? Just a guide, a quick guide for us. If we've got a patient who comes in and she says, 'I've got a prolapse', and you want to get an assessment of how severe that prolapse is, how do you do it?

**Dr Payam Nikpoor:** I guess the simplest way to assess this is, during the examination we're talking, you get the woman in the position same as you want to do a pap smear for example. You ask the woman to give you a push like a Valsalva manoeuvre. If you are able to see the prolapse coming beyond the hymen, it protrudes and comes out beyond the hymen, you have got a minimum of a stage 3 prolapse, and that is something that you would need to think about and okay, then it's a stage 3 prolapse, it is something that is classified as one of the severe ones. You start with stage 1, stage 2, stage 3, and stage 4. So that's just the prolapse itself. However, the prolapse can also present with other symptoms. So if a prolapse is presenting with obstructed urine, like they're not able to completely empty their bladder or it causing pain or it causing erosion, bleeding, infection, those ones, I would classify that the one that would need to be attended more urgently than reassurances, if that makes sense. And as Professor Dwyer used to say, professor Dwyer, one of my great mentors that I've got the honour actually to be one of his trainees before. So Prof Dwyer always says a prolapse that does not come out beyond hymen, it is unlikely to be responsible for the symptoms of your patients. So think again, review again, examine again, ask again, just to make sure that you haven't missed anything else. That's an important key for that.

**Dr Elizabeth Farrell:** We have another question for you about Ditropan. How long can a patient stay on Ditropan long-term?

**Dr Payam Nikpoor:** Yes. So there's not a special limit to say that you can only stay on this for five years. It's not like the hormone replacement therapy, for example, by WHI trial to say like five or seven years, people can stay on them as long as they need it, need it. The ideology of putting a woman on an anticholinergic is that you would provide reduction of the symptoms, alleviation of the symptoms, so you make the symptoms less severe. And by doing that you would allow them to engage easier and better in lifestyle modification and pelvic floor physiotherapy and bladder training. And usually after about a few months' time, which I often do is usually at the end of three to six months, if they have done physiotherapy and they've seen improvement, they say that, 'Okay, it's all good, I'm dry now', I would actually wean off and see whether they actually need it or not.

If they get a rebound of the symptoms, it means that they still need this medication or they might need more with the physio. If they have maxed out on the physio and you talk to a physiotherapy colleague and say that, 'Look, we've done whatever we can and she's actually doing really good', so then you need to think about, okay then, do we need to look into this as a long-run medication, and there is no wrong or right answer here, you can continue on Ditropan in long term. And how long is long term? I've had people who've been on this for 10 years and so, say, in the course of several years being under Ditropan medication, it's not something that would necessarily surprise me because usually these conditions are long-term and long-run.

**Dr Elizabeth Farrell:** So one of the questions sent in was a case, and a 33-year-old woman, 12 months postpartum from a forcep delivery with stress incontinence. She leaks when she jumps, runs and lifts, but she'd like to be able to go back to jogging and planning another pregnancy. She's seen a physio, what would you do for this woman?

**Dr Payam Nikpoor:** Right on. So for the women who are between pregnancies and still have not completed family, stress incontinence surgeries are not really favoured much, although it doesn't mean that you can't do them. We've had probably just a handful cases that might have had that kind of surgery, but after extensive counselling. I guess it is best to avoid any surgical management in these women if they are still bothered, bothered, by the stress incontinence and they have not completed family, that option of bulking agent, that would buy you some time actually. The bulking agent is a minimally invasive surgery. It's a day procedure and it's done, so, it takes 10 minutes to do literally. And they come in, have the procedure done and they go home. You can actually even do it under sedation and local. And that would provide you with some continence. It's the least effective of all, in terms of if you want to classify them, the least effective of all, but it buys you time.

The other option for these women is, if you want to think nonsurgical, is the option of pessaries, you can use continence pessaries in them. Continence pessaries also will help a lot. And because these are younger women, more dexterous, you can actually teach them to remove and insert as needed. So say for the weekends they can have it in, but the first weekdays for a couple of days they can leave it out. And you can still continue with physiotherapy in these cases, there's no harm in it. So they just continue as a maintenance, with physiotherapy, they would go with the lifestyle modifications, treat the constipation and all those kinds of things that we would normally do. But forceps is a very significant risk factor. Vaginal delivery itself is a risk factor. So these ones would be best to cancel a bad future pregnancies and what needs to be done afterwards also. So that's another very big topic, childbirth and urinary incontinence.

**Dr Elizabeth Farrell:** So another question is about, is similarly about postpartum incontinence, both bowel and urinary, that this is fairly common immediately postpartum.

**Dr Payam Nikpoor:** Yes.

**Dr Elizabeth Farrell:** And how often do you see these symptoms ever persisting? Because I think in most cases they resolve, don't they?

**Dr Payam Nikpoor:** Exactly, exactly. By the six months' time, when you see, look, we do have, I do run a perineal clinic in Dandenong Hospital. It's the only perineal clinic in Monash Health. So anyone in Monash Health who gets a third or fourth degree tear, they will come to that clinic, and it's a multidisciplinary clinic. We've got a physiotherapist, Hayley Irving, lovely Hayley, and a colorectal surgeon also, and two fellows and registrant nurse. So in that clinic we would see a lot of these women, by six months' time I can tell you that about sort of like 90% of these people are asymptomatic, only about 10% of them have got some residual symptoms. If someone has got persistent faecal incontinence by then, I can tell you that there is an underlying sphincter deficiency. And as part of our assessment in the perineal clinic, these women will be assessed by an endoanal ultrasound and manometry to assess the structure of the anal sphincter complex as well as the function of the sphincters. And for some people, of course, we've offered elective caesar in the subsequent surgeries and they must have completed the family, we've done a reconstruction of the sphincter.

**Dr Elizabeth Farrell:** We have another question. If a patient has severe spinal issues with severe urinary incontinence, failed medication trial and the orthopod does not want to operate, Botox is being recommended. However, the patient is very upset about needing to self-catheterise for this and feels that her back pain would prevent her from doing this comfortably. Are there any other options for people with severe spinal injuries?

**Dr Payam Nikpoor:** Yes, yes, yes.

**Dr Elizabeth Farrell:** So a very complex and very difficult issue.

**Dr Payam Nikpoor:** No, thank you Marie for that question. No, definitely. So it's good that Marie has raised this, that when you are going to give Botox, the patient, one of the criteria, there's several criteria on the MBS, but one of them is the patient needs to be able and willing to self-catheterise. The risk of urinary retention is about one in 20, almost 5% that would happen, and about 30% risk of urinary tract infections after Botox injection. So that poses a bit of a risk of course. And this kind of woman that Marie has raised already has got background conditions. So for these ones, really Botox is an option, yes. But then if she has got concerns about self-catheterisation, so your options are either, you would think about instead of doing a self-catheterisation, you can do a suprapubic catheter at the time and you would leave that in after the Botox and do a trial of void.

If the woman is able to pass urine and she passes trial of void, no issues or problems, you can remove the suprapubic catheter. So that's it done, because if you are not able to pass urine, if you want to go into retention after Botox, you would go immediately. You won't go two months later. It's just immediate afterwards. And as time goes on, your retention gets better. So for that case, the suprapubic catheter can stay in and provide the catheterisation if she did not want to catheterise herself. So that's one option. The other option is that instead of doing Botox, she can try PTNS. PTNS or posterior tibial nerve stimulation, which is you insert an electrode in the posterior tibial nerve, same as the acupuncture done, but of course it's an electrical stimulation. The course of treatment is for three months' time.

And of course we are able to offer that in Jean Hailes. Amy does that in East Melbourne. Of course she provides TTNS, which is transcutaneous, it's a surface electrode, it's not actually an electrode that goes in to the bladder, Sacral neuromodulation is the other option. It really depends on where this spinal abnormality is and how severe it is and whether she would be a surgical candidate to have an implantable pulse generator. And there is a two year follow-up RCT comparing Botox versus sacral neuromodulation prospective randomised controlled trial. At this stage in time they both stand same in terms of effectiveness in relieving symptoms of refractory overactive bladder. So Marie, those three options for your patient are probably are to think about.

**Dr Elizabeth Farrell:** Are there any other questions please? I think that Payam has really covered most of the questions that have been sent in in his wonderful talk tonight. And if there are no further questions, I think we can call the evening to a close. And Payam, thank you so much.

**Dr Payam Nikpoor:** Thank you.

**Dr Elizabeth Farrell:** Thank you for your presentation. Thank you all for attending tonight.

End of transcript

Information about the podcast

This podcast series has been made possible by the NSW Government's Menopause Awareness Campaign. For help talking about menopause, download the [Perimenopause and Menopause Symptom Checklist](https://www.jeanhailes.org.au/resources/perimenopause-and-menopause-symptom-checklist) and take it with you to your next medical appointment. For more information visit: <https://www.nsw.gov.au/women-nsw/toolkits-and-resources/perimenopause-and-menopause-toolkit>

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