So the prevalence of incontinence is 1/3 in older adults in the community, half of whom soak themselves on a daily basis or more often. The morbidity is substantial. Medically it predisposes to falls, to fractures, perineal rashes, cellulitis, UTIs, urosepsis and death - pretty substantial. But psychosocially it’s equally profound, half of incontinent people suffer from sexual dysfunction, social stigmatization, depression, regression and it increases the risk of institutionalization several fold. And its cost is startling. In 1995, the last time it was really well studied it turned out that we spend more on incontinence than on CABG and dialysis combined. And yet despite its considerable prevalence, morbidity and expense incontinence sadly remains a neglected condition. I say sadly because incontinence is never normal, contrary to widespread myth it doesn’t matter how old you are, it doesn’t matter if you are cognitively impaired, it doesn’t matter if you are in a nursing home, it is never normal. It is under 50% prevalent in every one of those conditions and we are going to go through how you tease it apart there. Moreover it’s caused or exacerbated by the conditions in which we are expert, that is medical diseases and the drugs used to treat them. So if we don’t know about it then the big chance to cure it is going to be missed. It’s amenable to treatment, highly treatable and often curable, and yet the sad thing is that most patients are unknown to be incontinent by their physician fewer than 1 patient who suffers in 5; and therefore the role of the PCP or the primary care practitioner of any sort is critical.

So we are going to start with a case, but before we do that I wanted to just do a little housekeeping. The first is that said the topic is way too big to do in just the 40 minute time that we have allotted, so I’ve decided to take a completely different approach and that is to give you everything you need in a handout and then allow us to spend our time more productively in constructing an intellectual
approach, sort of a scaffolding if you will on which to put all the other things that you learn. And so let’s just spend a minute working – looking at the handout. It starts on page 446 and you’ll notice that it’s 3 pages of a detailed outline that you can actually read when you get home because I thought it was much easier to do that than to have bullets on a PowerPoint slide. I’ve then given you a half dozen references which are the best and most current that are available and unbiased for further reading if you’d like. I’ve given you a voiding diary which is sort of a test case that you can work out at home, the answers are there. It was a very tough case referred to us from 3000 miles away of a 75 year old guy and you can see once you get through the voiding diary how you can fix him without giving him a single pill. Then there are 7 tables, table 1, and they all complement the handout. Table 1 is the details of transient or reversible incontinence. Table 2 are drug induced causes and the details of the mechanisms and how that works. Table 3 is a step-wise approach to the established causes of incontinence that relies on the two decades of experience that we’ve had in trying to wrestle with the most complicated cases that we get referred and still being able to figure out how to fix them, but only after putting our foot in every therapeutic pothole you can imagine. So these were hard won. Table 4 are the drugs that are used to treat incontinence, they are all there along with the evidence about how well they work in the elderly, the caveats in the elderly and the doses. Table 5 are this looks over the approach to nocturia which commonly accompanies the most common cause of incontinence which is urge incontinence, it gives you an intellectual approach to that. And Table 6 and 7 have to do with catheters, how to get them out productively and successfully whenever possible and then how to take care of them if that’s not. So that’s then it. That is where we are on incontinence. I’m not sure that this is set right, this timer, we are supposed to have 45 minutes, so it seems like it’s not quite right. But that’s the background. And finally to
help us put this in context it seems like all of us who take care of patients find it easier to learn in the
context of a real live case, and so that’s what we are going to do.

So now hopefully reassured that everything you need to know is in the handout, that there is no need
to take notes, I invite you to sit back, to relax and prepare to be immersed in the fascinating world of
incontinence.

So here is the case, all these cases I’m going to tell you about today are real. She’s an 88 year old
woman with Parkinson’s disease who suffered a hip fracture, she then became confused, was treated
with Haldol and became incontinent. On exam she was in a wheelchair, she was Parkinsonian with
heart failure, impaction, bladder distention and atrophic vaginitis, the kind of patient I’m sure no one
here has ever seen, right. This is one of those rare tertiary care kind of cases. Every one of us has
seen gazillion numbers of these patients. And yet this is not the kind of case that our surgical
colleagues are clamoring for to do any operation on, there is certainly no competition here. Not the
kind of person who is routinely entered in randomized control trials that you’ll see in evidence based
medicine and that the industry representatives are going to tell you about how drug A works better
than drug B. And frankly not the kind of person who most of us would hold out much hope for, and
yet 2 months later she was back home, mentally intact, ambulatory and completely continent, able to
achieve her greatest wish which was to attend her grandson’s graduation from college.

So in order to understand how such a dramatic transformation can be effected it makes sense to take
a step back and ask ourselves what is it that it takes to be continent in the first place? Well first we
require the mentation to know the bladder is filling, where the bathroom is and how to get there. We require the motivation to care enough to do so, the mobility to be able to do so and the manual dexterity to cope with the zips and snaps of Velcro or whatever else, not to mention the toilet seat the husband left up the night before and we have to have a urinary tract that works well. Now this is true at any age. The reason that we don’t realize this when we take care of that 45 year old mother of 3 who leaks when she coughs is because in younger people the first 4 factors are generally not involved, and so the only source left for the incontinence is the last one. But in old people the first 4 factors are almost always involved, and if we ignore them we miss the chance to fix the incontinence and we cannot do anywhere near as well as we could if we addressed them. Sometimes addressing them alone will fix everything as we’ll see. Now that means that urinary tract is now only one of many risk factors for incontinence, it is not in old people the sine qua non and that’s why the evaluation and the treatment cannot start with the urinary tract, it has to end with the urinary tract only after we’ve addressed the rest.

So that’s not to minimize the impact of aging on the lower urinary tract because it is substantial. We spent a long time looking at what are the normal changes with age and they are described here. I’ve put them in two columns. What are the things that increase with age and what are the things that decrease and for those of you who are surprised to see that anything increases with age you can rest assured none of them are any good. The first is the emergence of involuntary bladder contractions, that is the bladder contracts when it wants to. That affects almost half of older people who are dry, who do not have incontinence that is a normal part of aging. It doesn’t happen in young people but almost half of older people suffer from that. Second, the pattern of daily fluid excretion changes;
youth 2/3 of our daily ingested fluid is excreted before 8:00 o’clock at night and with age it reverses, 2/3 is after 8:00 o’clock at night. And that’s why ⅔ of older people get up at least once a night to pee, ⅓ get up twice. If it’s longstanding and not bothersome that’s okay, that’s normal. The prostate of course increases in size with age and the post-void residual goes up as well. Now that’s PVR, you’ll see that on other slides, that’s the amount of urine that remains in the bladder after the patient has voided. What goes down, and that’s in both sexes. What goes down with age is bladder sensation that is warning, so they have less warning than they used to. In woman urethral resistance goes down because the urethra shortens and the sphincter weakens and therefore she is more predisposed to get stress incontinence if something else is added. And finally contractility declines as well in both sexes and that’s the reason the post-void residual goes up. By the way it goes up routinely to between 25 and 75 cc, it can be as high as 95 to 100 cc and still be normal however. So that’s normal.

Now since all of these parameters were derived from studies of totally dry older people ranging in age from 65 to 102 we know that they don’t cause incontinence. These people are all dry. But clearly they form a constellation of changes that predisposes the older person to becoming incontinent should they encounter any additional insult. Make sense? So they take away their reserve or their resilience, they just make them more vulnerable. Everybody with me? Okay. So that recapitulates the principles of all of geriatric medicine and certainly all of geriatric syndromes because every syndrome is predicated on exactly the same principles, that is that aging of the organ system never causes a symptoms but it does take away your resilience, it predisposes to getting a
symptom, in this case incontinence, if something else like another disease or a drug should be added and that’s what precipitates it.

So what’s interesting is that these drugs and these diseases are generally not in the urinary tract, which means since they are treatable and they are not in the urinary tract that you can generally get reversible causes of incontinence where you can cure it without ever touching the bladder. Now that’s pretty interesting because you cannot do that in younger people. So let me give you an example of how that works. We’ve got an 85 year old woman who like half of her continent peers has bladder spasms, detrusor overactivity, overactive bladder, it goes by a lot of names. But she drinks less and she voids more often and she knows where all the bathrooms are and she’s attentive to when her bladder is filling and that way she remains completely dry and has a happy life. Now she gets a flair in the arthritis of her hip or bursitis and now all of a sudden she’s got pain and immobility and now she can’t get to the bathroom in time so frequency and urgency convert to urge incontinence. If you take the approach to her that you would a younger woman where you might give a bladder relaxant drug those drugs don’t abolish the spasm, what they do is just make it occur a little later. But when it comes on it still comes on abruptly and she still can’t get to the bathroom in time so the odds that she is going to benefit are not high.

By contrast if you treat her bursitis and her arthritis you’ve decreased her pain, increased her mobility, improved her quality of life and since she was continent before when she had the mobility even though she had that bladder spasm, she’ll be continent again. Now that’s critical, that’s probably the single most important principle I’m going to give today. Does that make sense?
Everybody with me? And that’s how you can treat incontinence in old people without ever touching the bladder, and you only touch the bladder after you’ve exhausted every other option. And that gives us the best chance of making people dry, and I’ll show you that in our last slide.

So it also provides a rationale for superimposing an additional set of causes of incontinence on top of the usual lower urinary tract ones, and here they are. Now there are 8 of them, or 7 of them and so it was hard for me to remember them so a long time ago because I’m a simple kind of guy it just occurred to me I needed a pneumonic, so we drafted this pneumonic and it’s helped a lot of the people who train with us, so it’s yours. The D is – it’s diapers, the D is for delirium, an acute confusional state, patient doesn’t know the bladder is filling, doesn’t care and so the problem isn’t the bladder, the problem is whatever is causing the delirium that Dr. Inoue covered so beautifully the other day. So you treat the delirium, the confusion clears and the incontinence will abate.

Infection is next, that’s a bladder infection, but the key to this is really interesting, that is you know if you went out into the lobby over at Starbucks and you looked at all the older women walking around and you were to do a bladder puncture, I don’t recommend this, but if you were and it has been done, a quarter of them would have e-coli 100,000 colonies, white cells in the urine too numerous to count and no symptoms to show for it. That’s asymptomatic bacteruria and you cannot differentiate it from symptomatic bacteruria by the number of cells in the urine or by the colony count or by the pathogen. The only way you can differentiate it is whether it caused symptoms. Now you may ask well if I have a woman with incontinence can that be the only symptom of the UTI because she’s older and we know things present atypically? And the answer is no, in general
you need one other symptom and that other symptom is dysuria. If they have dysuria and incontinence there’s a good chance that treating the bladder infection will make them dry. If they don’t there is a very poor chance. Now you may decide well what the hell maybe she’s the exception I’ll give it a whirl and try once, that’s okay. Try once, if it works note your success. If it fails though also note that it failed so that you don’t have to and no other doctor ever has to do it again, because if you keep treating it you know you’ll just select more virulent organisms.

Atrophic urethritis and vaginitis are next, very common. By the way the UTIs you know it’s only 2% of incontinence in older people because it’s that symptomatic UTI that causes it, only 2%. By contrast though atrophic urethritis is more common. It’s not so much common that it causes incontinence alone but it certainly contributes to it frequently. Now why is that? It turns out that the distal urethra and the vagina both have the same embryological origin, you remember back to first year medical school, that lovely embryology course, you knew it would become important some time, here it is. So because they have that same common origin they are susceptible to the effects of estrogen. And as estrogen declines after the menopause, more in most women but not in all, then some women can find atrophy of the vagina and that then can lead to loss of integrity of the mucosa, and it can crack. And when it cracks, that acid urine gets into the underlying tissues causes inflammation, irritation and women will complain of symptoms exactly like a UTI or even worse, some of them will complain of scalding. Some of them however won’t complain for reasons that we don’t understand but what you see on the physical exam is the presence of vaginal mucosa, petechiae, telangiectasia, erythema, and erosions, pretty easy to see. Now you say listen I work in a nursing home and I’ve got 92 year old demented people and they’ve got arthritis and pins or
whatever and what are the odds I’m going to get these people up on an exam table in a lithotomy position and the answer we know is zero. So what do we do there? Because I spent a long time in my life in a nursing home as well, you take a fracture pan and put it right underneath the pelvis and now you just ask her to get her legs as close to you know bent as possible and then they just separate it, whatever you can. Take a flashlight and your fingers and just separate the mucosa. All you have to do is look at that distal centimeter which you can easily see that way and all those signs are there. You can treat this with topical estrogen which can either be like a ring or it can be the cream. Now for women who are at home, they don’t like to use the cream you know, listen son, I’ve made it to age 90 I haven’t put anything down there, I’m not about to, certainly not something greasy like Premarin a gram or two, but some women will. Or if they have a caregiver who will then that would work. The other thing is the ring. It takes about a month to two months minimum to work but after that you’ll know if it is. If a woman comes back in 3 months and the incontinence is no better, you can stop. If it’s better and she’s happy with that then you can start weaning it. I generally keep it on at the same dose for about 6 months. I then start weaning it if you know just by a little bit if it’s in a pill I mean Premarin you can actually give as a pill, I know it’s still out there. You only need .3 you don’t need .6 and you’ll only need it for a short time, literally for about 6 months. And if you gave it as a pill everyday and starting it a .3 is better because you’ll reduce mastalgia then you can just pull it back by 1 pill per week. So you take it 6 days a week for a month, then 5 days a week for a month, then 4 etc., that’s it and most of them will then remain in remission. That’s it. In terms of risk, I would only do that after they’ve had a mammogram and I’ve done a breast exam. It’s never been reported that this causes cancer so it seems to be very safe. This is such a low dose for such a brief
time and we’re weaning it so quickly that the risk is virtually 0 but you wouldn’t want to give it to somebody who already has breast cancer. So that’s atrophic urethritis.

Pharmaceuticals? Boy are these ubiquitous in the care of older people. Raise your hand if you have a patient who’s on none, right. So what are the ones that can cause it? Well you know the maxim in geriatrics that we all follow is that any drug can cause any symptom in any person, and that’s pretty good, that’s right. So but these are the ones that are most likely to cause incontinence. The studies show that long acting sedative hypnotics, for instance, Diazepam which is valium, or Flurazepam which is Dalmane, if you give an older person 1 valium you can measure metabolites in the urine 3 weeks later. So it’s not a good drug to have somebody go to sleep or relax for a few hours and then function. It’s been associated with vehicle crashes, with falls and fractures, and with incontinence because it clouds the sensorium. Loop Diuretics, we call this the bladder stress test. You know you’ve got decreased, the bladder doesn’t hold as much, half those people have a bladder spasm that detrusor overactivity. Now you challenge it with Lasix and a litre of fluid coming out and it’s not surprising that you could precipitate incontinence and it’s all been shown in evidence based. Any cholinergic agents of course they turn the bladder off and urine builds up and spills over and they cloud the sensorium at the same time so the person isn’t even aware of it, so those are a problem.

Adrenergic agents, well here it depends on your sex. So let’s try this together. If you’re a woman whose urethra has shortened with age and sphincter has weekend, do you think it would -and remember that the bladder base and sphincter is innervated by the alpha adrenergic sympathetic system- so what do you think would be a problem for a woman, an alpha blocker or an alpha
stimulant? A blocker, that’s right because her urethra is shortened and her sphincter is weakened, the only thing she’s got left to keep her dry when she coughs is the remaining tone in that sphincter and if you block the sympathetic nervous system which gives her the tone, then when she coughs she’ll leak. Hundreds of cases in the literature have been described that were stress incontinence and they took them off the alpha blocker and it all went away, highly important to remember.

Now, what’s going to be the problem for a man? Well there’s only one thing left right, the alpha stimulant and why is that a problem for a man? Because the prostate grows in size with age and it’s rife with alpha receptors, so is the capsule. So if the prostate is getting bigger and it’s tone is getting greater, remember the bladder is also getting weaker with age so you’ve got a perfect storm here and all you need to do is add an alpha stimulant making that urethra a little more obstructed and you go into retention. So how does it work? An older man gets a cold, he ends up taking a bunch of pills, he takes something like Contac this multi-component cold remedy, he takes some nose drops and he takes a sleep medicine one of those over the counter things, and in one fell swoop he’s matched wits with any pharm D right because that Contac has a decongestant which is alpha, stimulant tightens up the prostate, the nose drops do the same thing. The other problem with the Contac is it’s got an antihistamine, so that antihistamine is one of the first generations sedating anti cholinergic ones and it helps to turn off the bladder. And then you’ve given him an over the counter, or he’s taken himself an over the counter sleep med and that’s also a sedating antihistamine, turns off the bladder. So in one trip to the drugstore, he’s got 2 drugs to tighten his bladder neck even tighter than it was before and 2 drugs to turn his bladder off and boom you’ve got retention. First you generally hear about it because they’re generally do this on a Thursday or Friday night, is on Sunday when they’re
in the emergency room in acute urinary retention and you just get a courtesy call from the ED doc saying he just wanted to let you know he’s here, he’s in retention not to worry I’ve already called the urologist he’s set for a prostatectomy tomorrow. And you say, I say oh geez go back to this 60 minutes interview and you say alright. Now you get to the advertisement, or the commercial and you say now wait a minute, wait a minute, I heard this talk, could be drugs, call back is he on drugs? The guy goes yeah, you put him on them, you know ACE inhibitor, whatever the dig the Lasix whatever and you go oh okay that’s not it. Now why is it that they don’t know that he’s on these drugs? That’s right they’re over the counter and although 3 quarters of older people take over the counter drugs, most of them do not consider them to be drugs unless they’re prescribed by a doctor and they won’t mention unless you specifically ask. How can you remember? The patient who gives his cold to Contac gives his prostate to the doctor.

So that then brings us to the drugs that cause fluid accumulation. Alright so you would be amazed at how many drugs cause fluid accumulation. I’m amazed. Every time I see somebody and they got peripheral edema, I’m looking down and there’s a new drug that’s been released and approved by the FDA and guess what, side effects are peripheral edema. Most recent ones were Gabapentin, Pregabalin, Pramipexole and Ropinirole those are the 4 new ones, they all cause peripheral edema. Not to mention the Glitazones the non steroidal and the calcium channel blockers, most commonly would be Amlodipine. Those drugs build up fluid, you get at least a liter of fluid or a couple liters of fluid in order to have peripheral edema. So what happens at night, the legs come up that fluid gets mobilized, comes back to the heart, the heart says I don’t need it, sends it to the kidney. The kidney says I don’t need it either, send it to the bladder, the bladder says I don’t need it either but I know
what to do with it. The next thing you know they guy is up all night and so the cure is get rid of those drugs, substitute them, minimize them. If you can’t, then maybe some support hose or something but that needs to be addressed.

And the final is the ACE Inhibitors, anybody know how they work? Thank you that man got that right, the ACE Inhibitors cause cough and older people are twice as likely to get the cough from an ACE Inhibitor as younger people. It has to do with Bradykinin and breakdown products in older people, but the bottom line is if you’ve got a sphincter that’s weaker and now you challenge it in an older woman with an ACE Inhibitor we’re getting a lot of answers here, we already do have it, it is cough, then that’s going to be it. So just swap out the ACE Inhibitor and the stress incontinence will go away.

So that then brings us to excess excretion. It’s really good that we’re having this talk, just you and me today because in another couple weeks that font of all medical information is going to come out that’s called Parade Magazine with an article that comes out every single year sponsored by the makers of that bottled water that will remain nameless, and it says old people thirst declines with age, you need to get more fluid, I mean you need to make sure you get 8-12 glasses a day and I don’t know about your office but the next morning mine is flooded. Nobody, not even a 100 year old needs 8-12 glasses a day. It’s true thirst goes down with age, but nobody needs that much fluid, period. It’s been proven, it’s in the American Journal of Physiology in 2002, it’s all been resolved, nobody needs that much. But a lot of older people think they do, they take it, the bladder is small, half of them have a bladder spasm and as you understand that’s the incontinence. But it’s easy to
fix. Restricted mobility, whether it’s imposed by us with restraints or drugs or something like that, or whether it’s because of arthritis or whatever obviously that can impair your ability to get to the bathroom and cause incontinence. There are at least 3 dozen reversible causes of restricted mobility and you can easily think about them. None of them are these abstruse coo-coo causes, they’re all relatively easy including corns and bunions and orthostatic hypotension and all the rest. So I’d encourage you to look for them. When we look for them, we generally find them, there’s nothing that says that that wheelchair is affixed by superglue and we’ve been able to get people out and walking even without invoking any religious mantras or performing any miracles.

Stool impaction, common in older people particularly in nursing home patients. The tip off here is the oozing of liquid stool around the obstruction so they end up with oozing of that liquid stool gives them fecal incontinence and urinary incontinence so the new onset of dual incontinence is a tip off that it’s fecal impaction. The way it works, we think, is that distention of the rectum which has been induced by blowing up balloons in them or whatever and measuring CSF concentrations we see that the, you get an increased level of new enkephalins which are related to the opioids and just like morphine can turn off the bladder and turn off the sense that it’s filling, these do as well and it can put you in retention. The good news is one digit restores continence to 2 systems so you’re done. So that’s it, these are the 7 reversible causes of incontinence and I’ve spent about 10 minutes going through them because they’re so common and they’re so easy to fix. How common are they? A third of incontinence is due to these and will totally resolve as soon as you do it. In the remaining people with incontinence they’ll all be better if you take care of these things which are added on top of the underlying causes of the incontinence and now that we’re ready to approach the more
established causes of incontinence in the lower urinary tract, if you fix these things first, it’s much easier to treat the lower urinary tract also.

And finally it improves problems outside the urinary tract that impair quality of life as well. For instance atrophic vaginitis for instance, all of them are the same but for atrophic vaginitis that causes dyspareunia and recurrent cystitis and yes there is sex after 60 we all know that and that’ something to look forward to and so dyspareunia is bad and recurrent cystitis is bad too and you can cure those as well by getting rid of the atrophic vaginitis. So that then brings us to what happens you’ve done everything you can with the DIAPERS mnemonic, you fixed a third of the incontinence, you made the rest of it better, but they’re still incontinent and they want help. So what are the remaining causes? There are 150 causes listed in the urology text books that’s like way too complicated for any of us. I mean I looked at that I said holy smokes, I can’t do that. But it seemed to me about 20 years ago you could reduce all those in a simple kind of way into 4 categories and those seemed to have held up now and now this is pretty much the way everybody looks at it. Two of them involve the bladder and two of them involve the outlet. And the bladder it either contracts when it shouldn’t, soaks the patient, or doesn’t contract when it should, urine builds up and spills over. Alternatively in the outlet the resistance is either high when it ought to be low, we call that obstruction, or it’s low when it ought to be high, and we call that stress incontinence. This is not rocket science, we can do this. So that’s it there are only 4 and it gets easier because it turns out you can take those 4 and rearrange them because if you look over on your right you’ll see that emptying disorders are the 2 when the bladder is weak or obstructed and now urine builds up so the post void residual is almost always above 250 cc and that suggests they’ve got an obstruction or a weak
bladder. Alternatively, if the post void residual the amount present after they void is low, then it’s because they have a bladder that spasms or stress incontinence.

Let me show you how easy it gets yet. Women are more likely to be incontinent than men at any age and the older you get, remember the beach boys had it right, two girls for every guy, but they’re only talking about 75 year olds because once you get above 75 it’s 3 or 4 girls for every guy. So it turns out that about 80% or 85% of incontinent people at old age are women and in women urethral obstruction is very rare and underactive detrusors only 5-10%. Which means that 90% or more of incontinence in women is on your left, it’s either a bladder that spasms or stress incontinence. How do you tell them apart? You do a stress test which we’ll get to in a minute, that’s it. So boom, DIAPERS mnemonic go through those 7 causes, fix those, then if you’ve got a women do a post void residual. If it’s small which it generally is, you do a stress test and you’re done, it’s that easy.

Okay before we just blow the whole thing off though as being so trivial, it’s important to know that occasionally, maybe 5% of the time and this is what bedeviled everybody and blocked us from helping the government and nursing homes and everybody draft guidelines like the MDS and World Health Organization that would work, is because you always had this thing, yeah but if you do it like that Dr. Resnick and you make it so simple then you’re going to miss the person who has a bladder cancer, a brain cancer or a this or a that. So it is important to make sure that whatever evaluation we do takes these into account. So we really wrestled with this for several years and here’s what we came up with.
The history, first yep, the history is really key, so the first part is the symptoms. Only 2 symptoms you really care about the first is urgency, for urgent incontinence and the second is stress. So what do I mean? Urgency incontinence, you know doc, funniest thing I am not even aware I have a bladder. I’m sitting there watching TV, doing a crossword puzzle whatever, washing the dishes, and all of the sudden like a bolt out of the blue and they’ll often snap their fingers in fact they did it so often that my fellows actually called it our sign, this was our sign for urgent incontinence. Like I don’t even know the bladder is there, I don’t know it’s filling and then boom like a bolt out of the blue I get this abrupt intense desire to void and if I don’t scamper like the dickens I’ll leak and often I leak anyway, that’s urge incontinence. It’s pathognomonic of urge incontinence.

The other option is the only time I ever leak is when I do something that increases abdominal pressure, of course they don’t say that, but it’s sneezing, coughing, bending over, something like that would increase the pressure on the bladder and push the bladder and the urine down through an incompetent sphincter, that’s stress incontinence, so those are the only 2 symptoms. DIAPERS causes you want to make sure that you screen for those 7 other conditions that we talked about, delirium, infection, atrophic vaginitis, pharmaceutical, excess excretion, restricted mobility and stool impaction, okay I can still do it, see it’s better than the mini mental actually. Functional assessment you want to make sure that they can walk and talk and think, and then the voiding diary. Now how many of you have done the voiding diary for incontinence? Oh I want to see every hand go up, every hand needs to go up because this is not only one of the most informative and helpful things it’s also one of the most fun parts. So let me give you some examples, and okay so we’ve got a little bit of time, I can give you some examples. Alright, these are all real. Ninety-three year old guy
wheeled in by his wife in a wheelchair has some dementia and she told my secretary you know he’s wet all the time, I’m going out of my mind, I was going to put him in a nursing home but I read this article that incontinence can be helped so I’m calling up to have him seen. Okay so we see him, alright so let’s go through this. This can be a little like the catechism at this point because you now are all experts in this. Is it because he’s got mental impairment? No, that’s right and how do we know it’s not mental impairment? Now I told you on that first slide that mental impairment was not a reason for incontinence because we actually did an article, we did this big series, we published it in the New England Journal 20 years ago and we looked at that association and still 50% of people with really who couldn’t tell a stick from a tree, from their daughter, from the day of the year that with no discernible mental impairment, if there was nothing else wrong with them they had less than a 50% chance of being wet so that’s not it. But forget the data, you’ve got proof right in front of you with this man that it’s not his brain and why is that. Because the voiding diary in this guy showed that he was wet between 9:00 a.m. and noon and that was it, okay. But he’s demented all day long so it can’t be his brain otherwise he’d be wet all day long. His brain didn’t get better at 3:00 in the afternoon, so why is he wet between 9:00 and noon. Is it because he’s in a wheelchair and the answer to that is no, because he’s mobility impaired in a wheelchair all day, but he’s only wet between 9:00 and noon, so it’s not his mobility. So what is it? Diuretic. That’s exactly right, so at 8:00 a.m. he takes that diuretic and out comes you know a liter or more of Lasix and he’s wet all the time. So what do you do? Step one as a geriatrician you always first ask does he need that diuretic? Is it really is it heart failure or not and if it’s heart failure is it diastolic or systolic in whichever it is, is there another approach we can get rid of the diuretic and get rid of his incontinence. We went through all that to our chagrin we couldn’t get rid of it so we had to use it. So now what do you do?
You treat and adapt, so what does that mean? We advised his wife to get a $1.50 urinal which you can get at any drugstore, she put it between his legs and at 9:00, 10:00 and 11:00 said George do you need to pee? George said uh huh and there it was. You know you can get fairly advanced dementia and still know when you have to pee if you’re asked directly and he peed in that urinal for the next year, he never went to a nursing home, he was only wet maybe once a week and that was it, she was ecstatic, I don’t know how he felt but he was certainly now no longer incontinent.

So next one, another guy in his eighties, no this guy was also in his nineties, also brought in in a wheelchair now that I think about it, also had some dementia, his wife was very distraught, this time she had even more reason to be distraught than for the first wife because he was wet all night. All day long he was dry, he’d take a nap in his wheelchair between 2:00 in the afternoon and 6:00 and he was dry even then so it wasn’t because he was foggy or anything and he was demented all day long so let’s start through. Is it because he’s demented? No. Is it because he’s immobile? No because he’s immobile and demented all day but he’s not wet. So why is it? It’s because he got heart failure. So at night all that fluid is building up in his legs, he’s sitting in a wheelchair and it’s all in his legs, so none of it reaches his kidney. His kidney output during the day was only 400cc for the whole day. At night it was a liter and a half. So what did we do? We treated him for his heart failure and he became completely dry. So it’s very interesting. In the first case the Lasix was the culprit and in the second case Lasix was a cure and it underscores the fact that we all know as clinicians that drugs are double edged swords, but if you use them right then they work.

We’re not going to have time, I have about 4-5 others but we can do that another time.
Okay stress test, physical exam pretty straight forward. For the stress test what you want to do is when the patient, you want to make sure they have a full bladder. The worst thing you could do, and you want to coach your office staff for this, the worst thing that happens is the patient comes in and the first thing they do is come into the office and just before they check in they say where’s the bathroom and they pee. Now you’re going to see them with an empty bladder, you can’t do a stress test with an empty bladder. Coach your staff to tell them when they make the appointment be sure to come in with a full bladder, not to worry the minute you get into our office we will put you in a private room where the medical assistant or the nurse can just test them for a stress test. Very simple, they stand with their legs apart, they generally don’t want to mess up your floor so you put a Chucks down, and then with their legs apart, a Johnny on and I’m in the back so I can make sure their gluts aren’t tightened up like this because they can avert leakage that way, so they’re relaxed and I tell them to cough once, one forceful cough. You don’t want a train of coughs because what happens if they cough and the leakage starts but the cough stops and the leakage keeps going and going and going. Is that stress incontinence? No, that’s a cough induced bladder spasm, you tipped over the bladder to have an involuntary spasm. So that’s urge incontinence that was just tipped off by the cough. True stress incontinence is you cough, you leak the minute the cough stops, the leakage stops because you’re squirting it with increased pressure through that incompetent sphincter and it stops and starts immediately. And people with stress incontinence will not leak at night because they’re in bed, asleep and they’re not coughing so they’re fine. So that’s it. So now you’ve got a stress test, and now you know does the patient got urge incontinence or stress incontinence and you’ve got a physical exam for it. You need to have at least 200cc in the bladder when you do the stress test to be absolutely categorically certain that it’s negative. But for most of older women even
if you only have 100cc, it doesn’t matter what’s in the bladder if they cough and it’s positive, I mean you know they’ve got stress incontinence. And if they leak with only 25 cc in the bladder, the they’ve got really severe stress incontinence, but most older women don’t have it that bad. So stress incontinence in older women is only about a quarter of the time. Two-thirds of the time in both sexes the problem is urge incontinence due to bladder spasm.

Okay. The rest of the exam’s pretty simple. The pelvic exam for atrophic vaginitis, rectal exam for fecal impaction, and also make sure the sphincters work and they can control them. We’re not interested in the size of the prostate. Why? Because the size of the prostate has nothing to do with the odds that it’s obstructed. In most older men it will be big but in most of them it won’t obstruct. And in those it’s small, it’s generally small because it was inflamed or had prostatitis, or calculi or something like that in the past and that could cause a stricture. So whether it’s large or small just doesn’t matter so I don’t care about the size. I care if they’ve got a prostate nodule but not the size.

Edema, we’ve already talked about. The neurologic is just to see if they’ve had a stroke or Parkinson’s or something, or dementia. It’s very simple, it’s nothing other than you would normally do.

Alright, lab tests, very simple. If the voiding diary show that they’ve got a huge amount of excretion then you want to just do a metabolic survey and look for the usual suspects. The BUN and creatinine is useful to look for obstruction in a man, if the PVR is over 100 or 150, then you want to do a BUN and creatinine to see if there’s going to be a chance of hydronephrosis. Post void residual,
we’ve talked about. The rest is only necessary in 5% don’t worry about it, you can send them to a specialist but I wouldn’t worry about it so it’s very simple.

So what do we have? We’ve got a bladder that spasms, it’s overactive detrusor, we’ve got stress incontinence, an outlet obstruction. So these are the same 4 we’ve been talking about all along. So the overactive detrusor accounts for 2/3 incontinence in both sexes, that’s what we’re going to talk about now. The remaining one stress incontinence is in the handouts and you’re not going to be dealing with stress incontinence anyway, you’re going to be referring it and outlet obstruction the same thing. So we’re going to focus on 2/3 of incontinence after you’ve already cured the reversible parts. So we talked about this so what’s the treatment. Remember this is that I don’t even know and all of the sudden boom like a bat out of, bolt out of the blue I get this urge to go so remember the lower urinary tract is just one of many factors and minor improvement in many factors can give you gains. So here’s how it works. I’ve got a young person, say a 50 year old with urge incontinence and an 80 year old with urge incontinence, both of them leak 5 times a day, who am I most apt to be able to help? The older one and the reason is that although they both have urge incontinence due to detrusor overactivity, that’s that D.O., in the younger person that’s 100% of the problem. They’ve got a really irritable bladder. In the older person though it’s only a part of the problem and it’s impact is magnified by the presence of these other conditions; drugs, and diabetes and polyuria, and edema, and heart failure and impaired mobility, impaction and on and on and on. I can fix all of those, all of you can, all of us can, this is our bread and butter. You fix those, the yellow goes away and now all of the sudden the incontinence has gone from say 5 a day to 2 a day. Well now the
person may be perfectly happy, that may be fine. If they’re not, now the only thing you’ve got is the red and now you can treat that direction the D.O., so that’s the whole approach.

So what do we do? Remember we improve the toilet access in that first guy we just gave him that urinal so he could get to the toilet in time, that helped for him. The second guy we adjusted his fluid excretion, he’s the guy who peed all night, and we adjusted his fluid excretion with Lasix so that didn’t happen at night. You can improve mobility, that we’ve talked about. Treat all these other diseases outside the lower urinary tract like postprandial hypotension, orthostasis, depression, heart failure, etc., and stop all those other medicines that could be contributing that we’ve talked about. And that’s it. So now what happens if he’s still wet, this hasn’t been enough so now you’ve got to get right down into urge incontinence, that overactive bladder itself. The answer is not to do a drug first. The first step is behavioral. What do I mean? We’ll get to that in a minute. Let’s go back to our patient and just see that in retrospect she’s really a poster child for geriatric incontinence. Remember Parkinson’s, confusion and Haldol and the rest? Look at her, she’s Parkinsonian, and heart failure and impaction and bladder distention, now this is all old hat. We now know how to take care of all of this, this is pretty simple, right. We decompressed her bladder because it was all over distended. We disimpacted her, we diarized her heart failure, we stopped her Haldol, she never should get Haldol with Parkinson’s and we added estrogen right because Haldol is a dopamine blocker and you don’t want to give blocked dopamine when somebody’s got Parkinson’s, we added estrogen for her atrophic vaginitis and we gave her Sinemet for her Parkinson’s. Okay. Her Parkinson’s remitted, her heart failure resolved, her bowels became regular, her mobility improved, and her continence lessened. So everybody was really impressed and her daughter was like wow
that’s fantastic, this is incredible, this is great. And the woman said yeah I feel a lot better now but you know I’m still wet and I just am embarrassed about that. So okay we’ve got rid of transient incontinence now let’s go to the established. So now you’re all in it together here. She’s got incontinence that comes on like that, like a bolt out of the blue, that same bladder spasm also occurs at night and gives her nocturia 4 times a night, she does a stress test that’s negative, and her post void is small, 75 is normal. So what does she have? She’s got that overactive bladder right? So here’s the treatment. Say’s urology please hold, that’s behavior. So what you do is you sit there with that voiding diary and you say now look here it looks like there’s a pattern, and there always is.

When she tried to go too long between voids that’s when her bladder surprised her. And so what you do is you find the smallest interval that she can reliably remain continent at, in most women it’s 2 hours and say why don’t you go every 2 hours whether you feel the need to or not, and then you teach her suppression strategies that go like this. When the bladder comes, that spasm comes on, it builds up like a wave building up on the beach and it comes to a crest and then it will it will recede and that takes about 60 seconds. So if they can hold on for 60 seconds they will be dry. How does that work? Instead of running like the dickens to the bathroom, you tell them to stop dead in their tracks whatever they’re doing and just focus on tightening their pelvic floor and on distracting themselves and on telling that bladder that they’re going to win not the bladder. How often does it work, 50% of people become dramatically better and half of those become cured on that alone. That doesn’t work you’ve got the drugs. The drugs are all in your handout as I’ve said, they all work the same the only difference is how often they’re used, they’re given or what their costs are. And that’s the end of my talk because what I did want to do is say one thing. Bladder relaxants causing mental confusion very rare. I’ve been doing this for 25 years and it’s just incredibly rare, it’s mostly
marketing that will tell you. I tend to use generic immediate release Oxybutynin 2.5 mg three times a day, it works great and that’s why I think we don’t have trouble with this confusion. And you can use it even if they’re on a cholinergic inhibitor. So bottom line incontinence is common, under detected but highly treatable at any age it just takes a step wise persistent approach. And our goal in this as in everything is to cure sometimes, to relieve often, but to comfort always. Thank you so much.