

Newsletter April 2012

Opening Letter from Taryn

Dear Colleagues,

Welcome to the second newsletter of 2012. Hopefully all of you will find something useful in the following pages that may benefit your clinical practice.

NOTE: THE INTRODUCTORY LETTER OUTLINING UPCOMING EVENTS AND CHANGES TO WHTA HAS BEEN REMOVED FOR THE MEMBER WEBSITE AS IT IS NO LONGER RELEVANT WHEN READ YEARS LATER

BTW..... A Quick Thankyou to Location Hosts for the 2011-2012 Financial Year:

Travelling courses obviously incurs expense, and is therefore only possible if financially viable options arise. I would like to thank the **Mater Hospital in Brisbane** for their extensive support with providing a venue for Queensland courses in the 2011-2012 financial year. There is no doubt that hosting a course does take time out of work schedules to make room bookings, organise tables, chairs, delivery of course materials etc.

I would also like to thank in advance **Melanie Bennett, Bernadette Nolan and Hanna Orr** from New Zealand. I look forward to working with you all in the attempt to bring Women's Health Training across the pacific in the upcoming financial year.

That's basically if for now, I hope you find the rest of the newsletter interesting and I look forward to chatting with you all soon or seeing you at a course.

Taryn Hallam

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April Clinical Focus Topic – URINARY FREQUENCY

This month I am focusing on a topic that may seem a little boring.... But I would like to look at it from a less common perspective.....Urinary Frequency and its relationship to voiding dysfunction.

Both the ICS and IUGA define urinary frequency as the

“complaint by a patient who considers that he/she voids too often by the day”

Abrams 2002, Haylen et al 2010

We have all obviously had numerous patients present complaining of urinary frequency. They often indicate that their bladder rules their life and that they need to void every hour (or sometimes even more). The difficult part is that whilst numerous patients present with this complaint, we know that the actual cause of urinary frequency can be markedly different from patient to patient. Unless we accurately determine the cause of the patient's urinary frequency, it will be difficult to implement the most effective treatment.

The most commonly identified causes of urinary frequency include:

1. **Excessive fluid intake** ie drinking 4-5L/day (especially all the Gen Y's carrying their water bottles!)
2. **“Habit”** ie the person is simply voiding frequently out of habit, not because they need to
3. **Secondary to Urgency** ie the person experiences abnormal sensory signalling in the LUT

When excessive fluid intake is found to be the cause of urinary frequency the management is usually quite simple. We first would discuss with the patient about possible reasons for such a high fluid intake ie *“do they always feel thirsty or is it just habit?”* If they regularly feel an unusually high thirst, we would first encourage a medical review in case there is another undiagnosed condition influencing their thirst. In contrast, if their high fluid intake appears to simply be habit, or, as I am finding more and more – a belief that 4L is good for them - then re-education about appropriate fluid intake will probably suffice.

In terms of reason number 2 above - “habit”, occasionally I find that when people complete their bladder diary for me (especially one where I ask them to specifically document how strong an urge they felt before each void) they come back for their follow up having realized for themselves that their frequency is purely habit. In this scenario, I find that they usually come back having fixed themselves saying “I realized that I was going when I really didn't need to, so I've just started holding on longer”.

Then we have frequency that occurs because the person has symptomatic “urgency”. Those of you who have attended the OAB course would remember that we spent a lot of time talking about the concept of “urgency”.

Urgency is now regarded as not only symptomatically, but also physiologically different from just having a “strong urge” to void. It is a form of sensory dysfunction that can have multiple causes, and is therefore not regarded as within the normal spectrum of bladder sensations that should occur during the bladder storage phase. It is an abnormal sensation caused by some form of anatomical/physiological dysfunction.

In people who suffer from ‘urgency’ there is no doubt they often subsequently develop a pattern of voiding frequently. This tends to be a secondary behaviour due to the urgency rather than a primary dysfunction in its own right. When a person suffers from sudden onset ‘urgency’ episodes, the only way we will realistically improve their frequency is to first normalise their bladder sensation.

NOTE: In this scenario we aim to improve the urgency which should then improve the frequency..... we don’t try to improve the frequency to reduce the urgency! To do this we may give urgency suppression strategies to manage the urgency when it occurs (eg toe curling, PFC, perineal pressure, counting backwards etc etc), but we also employ a range of strategies such as reduction of bladder sensation irritants, alteration to patterns of fluid consumption, bladder retraining / bladder drills, inhibitory electrical stim, and possibly discussion with their GP/gynae/urologist regarding the prescription of anticholinergics/muscarinics or vaginal oestrogen.

But what about other causes of urinary frequency??

CLINICAL EXAMPLE:

A 55yo female presents to your clinic with urinary frequency of 12 voids per day and 3/night that she finds extremely bothersome. She has a fluid intake of 2.4L per day with an average voided volume of 200mls. She indicates that she doesn’t experience “urgency” prior to voiding, but does experience a strong desire to void that would be uncomfortable to continue holding, even though when she voids she often only passes 150-250mls.

It is my experience that this is the type of clinical scenario where we as physios can very quickly jump to the urgency techniques described previously (ie urge suppression, try to hold on, electrical stim to inhibit detrusor overactivity etc). It is also the scenario where I find that doctors often jump to anticholinergics / antimuscarinics.

However..... is this the best management strategy???

I remember when I was in high school and I had a maths teacher explain that we can’t assume that the relationship between two variables are always going to be bi-directional. What do I mean by this??? Well, the really nice example my teacher gave was:

“All females are human, but not all humans are female”

I think this is the theory I try to remember with urgency and frequency....

“Suffering from sensations of urgency will often cause a person to void frequently, but voiding frequently isn’t always caused by a sensation of urgency”

As we all know, “Bladder Capacity” refers to the total volume of urine that the bladder can hold. It is largely determined by the compliance of the bladder wall, or in other words, the ability of the bladder wall to expand so as to hold increasing volumes of urine. Obviously, a bladder wall that can only stretch to accommodate 200mls is going to result in a much greater daily frequency than a bladder that can stretch to a capacity of 600mls. Anatomically we know that as the collagen content of the bladder increases, the compliance commonly decreases. In addition, collagen content often increases if the bladder has a denervation injury for a period of time.

When we ask our patients to perform a bladder diary, we are attempting to approximate the “capacity” of the bladder and it’s sensory patterning (if we perform a sensation related bladder diary). However, if we consider the situation where a patient may have a high post-void residual (PVR), the volumes listed on their bladder diary will obviously give a false impression of the patient’s true bladder capacity. The bladder diary output isn’t really reflective of the full “Bladder Capacity”, it is only reflective of “Functional Bladder Capacity”.

eg Functional Bladder Capacity: A bladder may be able to expand to hold a normal 500mls, but if every time the person voids they leave a 200ml residual, their functional capacity (the amount of urine production the bladder can receive from the kidneys before reaching capacity) is only going to be 300mls.

Why am I going on about this so much???

The problem is..... “What if the only reason a woman has frequency is because she has a voiding dysfunction with a residual of 150-200mls that is reducing her functional bladder capacity???” It could be that putting her on antimuscarinics or treating her with inhibitory stim may increase her residual to 300mls (due to decreased detrusor contractility from the antimuscarinic), which would then reducing her functional capacity further and worsen her urinary frequency.

Incomplete bladder emptying is a cause of urinary frequency that I find urologists working with men commonly consider due to the high post void residuals associated with an enlarged prostate. However, I personally tend to find it is commonly overlooked in females.

Research Update

Overactive Bladder Symptoms and Voiding Dysfunction in Neurologically Normal Women

Espuna-Pons M, Cardozo L, Chapple C, Sievert K, Kerrebroeck P and Kirby M.
Neurourology & Urodynamics 20120, March, Vol 31, pp 422-428

In March 2012 Espuna-Pons et al published a nice review article on post-void residuals, voiding dysfunction and urinary frequency in women. They began the research paper by summarising some evidence for voiding dysfunction in the female population. They mentioned studies such as: - the EPIC study by Irwin et al 2006, which was an international random sample of persons > 18years which found voiding dysfunction in 19.5% of women; the EpiLUTS study which was a cross-sectional study in the United States, United Kingdom and Sweden that found combined voiding and storage symptoms in 14.9% of women, and combined voiding, storage and post-micturition symptoms in

26.3% of women; and also the study by Lukacz et al 2007 which found that the overall prevalence of PVR >100mls in women presenting with pelvic floor disorders was 11%.

Therefore, whilst symptoms such as detrusor overactivity, stress incontinence and urgency are all obviously a lot more common than high post-void residuals in women, high PVRs do exist, and in those women where they occur, they can be a significant cause of urinary frequency due to reduced functional capacity.

I think that the primary issue for us as physiotherapists is working out whether incomplete bladder emptying could be a cause of our patient's urinary frequency. If it is, we don't want to suggest treatments aimed at reducing voiding ability (eg inhibitory stim or discussion with GP regarding antimuscarinics), rather we need to assist our patients to void to completion. But how do we determine whether this is the issue??

Espuna-Pons et al indicate that the two main ways high PVR is usually diagnosed is by manual palpation of the bladder post void (which they also acknowledge is quite inaccurate), bladder scan (which not all health professionals have access to) or by post void catheterisation (which involves a high UTI risk).

They then spent a large amount of time reviewing whether high PVR can be accurately identified by the subjective history.

Interesting articles they cited included:

1. Al-Shahrani et al 2005 who found that voiding symptoms alone (eg sensation of incomplete emptying, hesitancy, straining to void) were poor at identifying women with high PVR. This is probably not surprising considering that the normal bladder does not pick up bladder filling until ~150mls. Therefore, if the residual is only 120mls, it is likely that the person will not realise they are incompletely emptying.
2. Lowenstein et al 2008 who also found that voiding symptoms alone were not a good indicator.

However, whilst this doesn't look promising, Espuna-pons et al then cited a number of interesting studies that looked at whether symptom clusters could be more reliable.

The first was a study by Fitzgerald et al 2001. Fitzgerald et al found that in women with urgency/frequency or urge incontinence:

- 5% of patients with urgency and/or frequency have a PVR >100mls, and....
- 10% of patients with urgency and urge incontinence have a high PVR >100mls

What Fitzgerald also found was that in patients with urgency, frequency and UUI, using a combined symptom cluster criteria of co-existing pelvic organ prolapse \geq stage 2, symptoms of voiding difficulty and absence of stress incontinence – that you could predict 82% of patients who have an elevated post-void residual >100mls.

Interestingly, Lukacz et al 2007 who also found that anterior wall or apical prolapse, a feeling of a vaginal bulge, pelvic pressure, splitting of urinary stream and the absence of stress urinary incontinence were associated with PVR >100mls when they occurred together, but only prolapse at or beyond the hymen was a significant factor on logistical regression.

Finally, Milleman et al 2007, showed that 19% of women with urgency, frequency and urge incontinence had an elevated post-void residual >100mls, and that age >55years, prior incontinence surgery, history of multiple sclerosis and prolapse grade \geq stage 2 were also associated with high PVR.

CLINICAL APPLICATION TIP

Whilst most women with OAB (urgency and frequency symptoms) don't always have a high post void residual, there is a certain percentage that do.

There seems to be a consistent theme emerging that patients who present with urinary frequency +/- urgency, who also present with symptoms of voiding dysfunction, Prolapse \geq stage 2, and minimal stress incontinence may have elevated PVR as a contributing factor to their frequency. In these circumstances it is important that we don't suggest management options that may worsen their post-void residual.

So if we think our patient may have a high post-void residual what do we do?

This is probably a very long discussion to be had for another day. The main point I hoped to get across in this newsletter is the cluster symptoms that should alert us to the high likelihood of post-void residual being a cause of urinary frequency. However.... a few things I would suggest is.....

- In people with multiple sclerosis there is research to show that the Queen's Square suprapubic bladder stimulator is useful in reducing post-void residuals. It is about \$70 to purchase and is available from Malem Pty Ltd in Queensland.
- Personally, I have also found the Queens square bladder stimulator helpful in some of my patient who have had damage to their bladder following gynae surgery (eg resection of endometriosis from the bladder)
- Constipation is known to be a significant influence on post-void residual. Improving constipation may reduce outflow obstruction through the urethra and thereby reduce residuals.

- Both anterior vaginal wall prolapse (“classic cystocele”) and apical prolapse (classic “Uterine” Prolapse) is associated with residual. Whilst we can easily get into a habit of telling patients to ‘lean slightly forward’ to assist bladder emptying, in the case of uterine prolapse this may result in even greater urethral closure pressure due to the uterus compressing the urethra against the pubis. In this case, some women will void better leaning backwards.
- Finally, in the tweets this month I gave links to the various research projects that have looked at the concept of “hovering” regarding voiding function. Whilst we all have historically told our patients not to “hover” (including myself) I would encourage you to have a read over those (the links are available at the end of the newsletter).

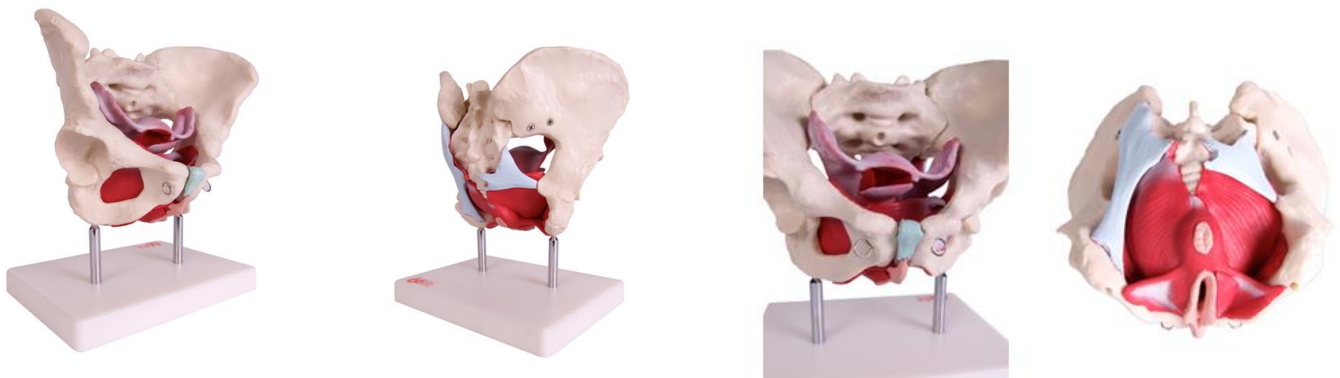
Product Review –

Pelvis Models

For the next two sections of the newsletter I have kept a consistent theme – help with anatomy!!

People regularly ring me asking about charts, models, anatomy websites etc. Obviously understanding the anatomy ourselves, and having ways to help our patients understand the anatomy is so important. I have therefore provided a review of a range of models, charts and websites that I find particularly helpful

New Model by “66 Fit” ordered from “Physiosupplies.com.au” = \$54.75!!!!



Brief Summary:

Ok, now I know you think that I have made a mistake, but I haven't. This pelvis with pelvic floor really can be bought for \$54.75. How do you get that price??? Go to www.physiosupplies.com.au. Then apply for Professional Therapist membership. They will then send you a log in as a physiotherapist and you will get the reduced price of \$54.75 and free postage!!

Overview of Product

For those of you who have attended the Adv PF – pelvic pain course, this is the model I use in that course. I have about 6 of them. Some points about this product:

Good Points:

- It is CHEAP!!! This is the cheapest pelvic floor model you will probably find.
- It does show the pelvic floor muscles (both superficial and deep layers), obturator internus, the Sacrotuberous ligament, sacrospinous ligament, the vaginal entrance and anal canal entrance looking from underneath, and actually has the passageways of the rectum and vagina as well as a uterus when looking inside.

Neutral Points:

- The uterus is cut through the fundus so that the anterior wall opens down so you can see the uterine cavity.
- Let's be realistic..... you usually get what you pay for. Don't expect the quality of materials to be anything amazing, with that said, they are probably better than I expected for \$54.75

Negative Points:

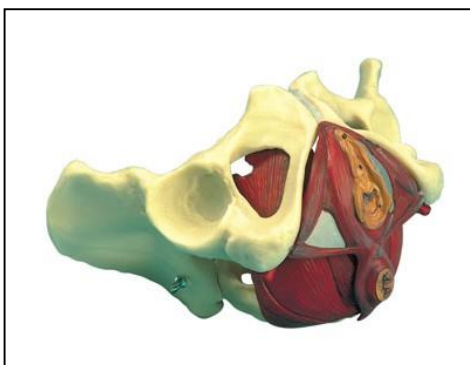
- The pelvis is not life size – my estimate is that it is about 75% of real size
- The material that the vaginal entrance is made out of is so tough that although there is a cavity, there is no way to get your finger inside it to demonstrate what happens in a VE.
- Personally, I think the uterus just gets in the way. I would get a really sharp knife and carefully give the model a hysterectomy!! I think it is much easier for people to understand the anatomy just with the vagina and rectum channels showing – the uterus blocks the view
- The muscles aren't designed to detach from the pelvis. They are stuck on.
- The biggest negative point has to be that the puborectalis/pubococcygeus muscle that is meant to run from the posterior surface of the right pubis, alongside the vagina and through to the coccyx was stuck on incorrectly in every model I bought!!! (all six of them). Whoever is attaching them obviously doesn't have anatomy knowledge. They stick one end on the back of the pubis and then it runs across the front of the pelvis towards the left ilium. However, this muscle is easy to pull off the pelvis and re-stick on with superglue.... Alternatively, I have completely cut up my pelvises, leaving the left side intact, and pulling off the muscles on the right. This allows people to see into the pelvis easier and how the vagina and rectum work through the pelvic floor.

Overall, whilst I have listed a lot of negative, I think this is a really good option for the price. I bought one, then I bought another 5. The material quality is only ok, and the anatomy has a few parts that aren't as perfectly "correct" as I would like, but it is definitely sufficient to be able to show your patients the general idea of the pelvic floor.

Pelvic Model from Mentone Education -

\$493

Mentone is the company that I originally bought my main pelvis from. When I say my "main pelvis", I am referring to the pelvis that I constantly use in my clinic and also use out the front of lectures when teaching most courses. Unfortunately, when I have looked on their site tonight, none of the pelvises they now show are exactly the same as mine, but the one below looks almost identical.



This model is \$493 including GST. I think mine might have been \$575? If I base my review on the model I own what I like is that it is a realistic lifesize model. The muscles are much more anatomically correct, and there is a lot of detail to distinguish out the different muscles of the pelvic floor.

It is described as splitting into 5 parts:

- 2 x Innominates / ilium
- 1 x sacrum
- 1 x deep pelvic floor layer (PR, PC, and coccygeus)
- 1 x superficial pelvic floor layer (bulbo, superfic transverse, EAS)

Good Points:

- Clinically, I find it really helpful that I can easily remove the pelvic floor muscles completely from the pelvis.
- I also find it very useful that I can easily hold the deep pelvic floor as one layer, and separately hold the superficial pelvic floor as one layer (this is particularly useful for my pain patients where I talk about searching for trigger points in each of the pelvic floor layers).
- When holding the deep layer it is easy to explain the concept of the urogenital hiatus of the levator ani when talking with patients about prolapse.
- When the pelvic floor is removed, you can easily see the obturator internus muscle and show how it leaves the pelvis under the ischial spine to head towards the femur.
- The durability of this model. I have now had my model for quite a number of years. Every week I stretch the levator ani arms apart, take on and off the layers of the pelvic floor etc, and only now have I just started to notice a small split in the deep pelvic floor muscle layer (and it is very minor).

Neutral Points:

- There are no ligaments or organs demonstrated on this model. I list this as a 'neutral point' as I have never found it to be a problem with my patients. I combine the use of the model with diagram and so they are still able to understand the passage of the urethra, vagina and rectum/anal canal through the pelvic floor. The only time I think the lack of ligaments is an issue is if you have a pudendal neuralgia patient – but they aren't that common.
- You can't separate apart the different muscles within the deep or superficial layer (ie all of the components of levator ani are stuck together – they are coloured slightly differently so you can distinguish them, but you can't separate them). I have listed this as a "neutral" as in fact I find this quite useful. If the muscles separate into too many components they just keep falling apart when you try to show them to your patients. So I quite like that the deep muscles separate from the superficial, but each layer is permanently stuck together.

Bad Points:

- There is no cavity into the vagina – it is sealed.
- The price – it is a lot of money to pay, so you really need to be doing a lot of pelvic floor to justify it, when you could get an electrical stim unit, 5 stim probes and a biofeedback machine for the same price!

Overall, I love the pelvis I have. I think it is an amazingly helpful tool especially when working with women who have had traumatic sexual histories, have vaginismus or other pelvic floor pain / dysfunctions. I have found that using this model, the ability for these patients to conceptualise the layers of the pelvic floor, how they function differently and how they feel different during penetration is a major factor in assisting their recovery.

Mentone also has a range of other pelvises with ligaments, organs etc all at different prices.

Mentone Education – Pelvic Floor Chart

\$18.15 (paper) \$26.40 (laminated)



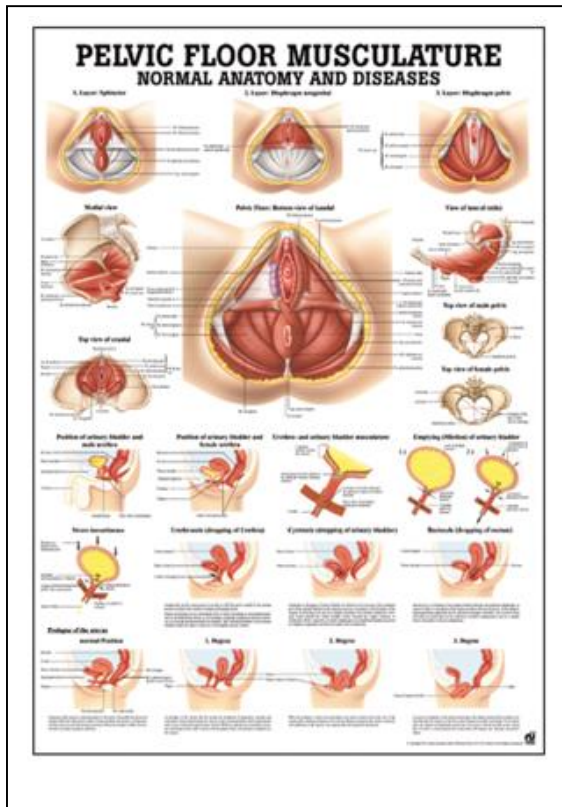
Now this is a product that I can't find a bad word to say about. I could rave on about this product all day!!

This chart is big..... it is 70cm wide and 100cm tall

The anatomy is beautiful on this chart including splitting the different layers of the pelvic floor at the top, showing external views and internal views.

At the bottom of the chart it describes accurately the complex nature of the urethral sphincter including internal smooth muscle components, striated external components and the link of the external urethral sphincter within the superficial pelvic floor.

There are diagrams of the different types of prolapse, as well as different diagrams showing Stage 1 vs Stage 2 vs Stage 3 Uterine Prolapse.



When I have this chart on the wall in the clinic the first thing patients want to do is look at it. They are constantly amazed by the complexity of the components of the pelvic floor, and take immense interest in asking questions about how it functions, and which specific part I believe to be dysfunctional. I even have doctors who come in to talk about a patient immediately stop their train of thought and walk over to look at it.

I can't recommend this chart enough. It is an amazing price, it is excellent quality in the laminated version (I have never owned the paper version).

Website Review

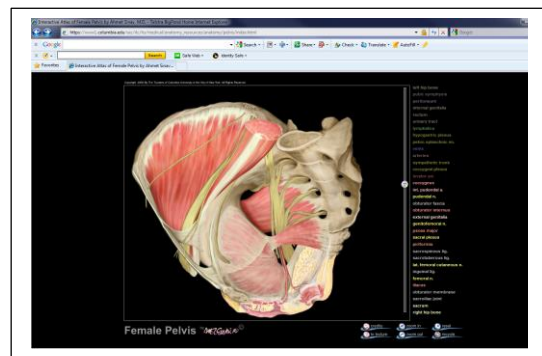
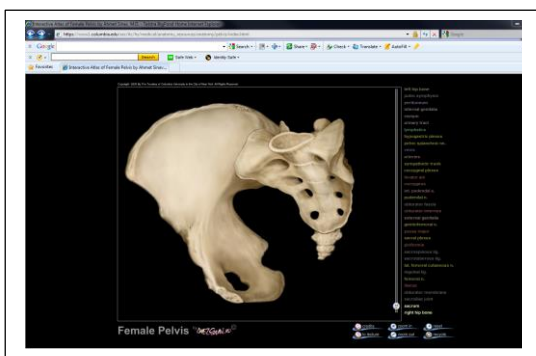
ANATOMY WEBSITES

So as I mentioned, in all the courses that I run the most common statement is that people find getting their head around the anatomy of the pelvis quite difficult. I find that people often state that their biggest issue is trying to convert the theoretical anatomy information into a working 3D model in their heads.

There are now two great websites that I believe are wonderful for reviewing pelvic anatomy. One is a very easy to use, simple website, the other is a lot more complex but also a lot more detailed.

1 University of Columbia – “The Female Pelvis”

https://www1.columbia.edu/sec/itc/hs/medical/anatomy_resources/anatomy/pelvis/index.html



My Review

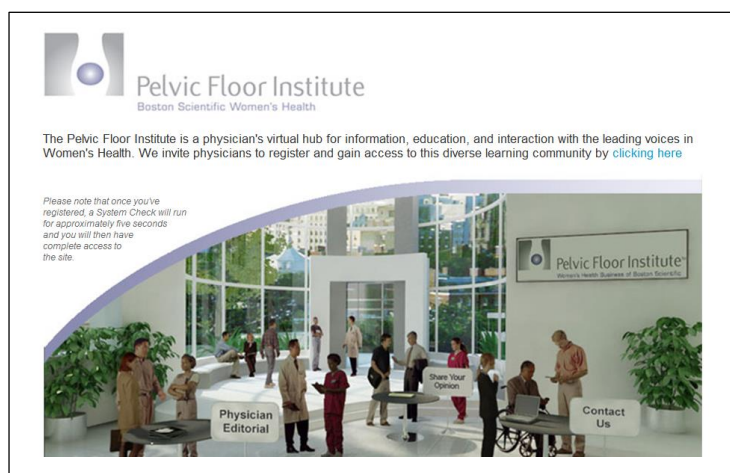
I am not going to write a lot on this particular website. Suffice to say it is about the “easiest to use” pelvic anatomy website around. When you click on the link it will bring up an empty / bare pelvis and there is simply a sliding menu bar at the side with a smiley face. As you move the smiley face up the menu bar gradually more and more pieces of the pelvic anatomy are added until you have a complete full pelvis including muscles, nerves, ligaments. Alternatively, you can simply click on a structure in the side menu bar and it will show it on it’s own.

The area this website falls down is that you can’t rotate the image to see it from different views, and it is very poor at showing the different components of the endopelvic fascia or superficial pelvic floor. In addition, you can’t select just the structures you want to see, you have to see them in the order that they appear in the menu bar.

However for ease of use I strongly recommend it.

2 Boston Scientific – The Pelvic Floor Institute

http://www.bostonscientific.com/templatedata/imports/HTML/PFI/PFI_bridge.html



Background to “The Pelvic Floor Institute” Website

The Pelvic Floor Institute website was put together by Boston Scientific – the maker of various mesh products for prolapse and incontinence surgery. To be completely frank, it is a website designed by a major international medical company to provide education and training to doctors on the use of various products they manufacture. So, ethically, yes, there is no doubt that this website is a sneaky way for Boston Scientific to try to influence the use of which products are used in patients every day for POP and SUI surgery. This is an ethical dilemma for doctors – do you simply use a mesh product because the company who manufactures it has now provided an amazing educational website??

Either way, as a physio though, we are separate from that dilemma, and so all I can say is both ‘WOW!’, and thank you Boston Scientific for making a freely accessible site to such an amazing anatomical resource as well as interactive patient modules.

My Review, and How to Use the Website

Ok..... to be honest, there are two hassles about this website. The first small hassle is that you need to register initially and then login in each time you use the site. With that said, it is only a once off registration form that you simply need to provide your name, address, email, profession and choice of password for entering the site. After completing this registration form once you then simply use your email address and chosen password to log in. I found the registration fairly quick and have definitely not been sent loads of

annoying emails after providing my email address for registration. It is a small hassle that definitely is worth it once you enter the site.

The second hassle is that I initially found this website a little difficult to work my way around. Everything runs smoothly, it's simply trying to remember what subsection you need to go into to find things.

However.... I STRONGLY ENCOURAGE you all to take the time to look through it. This is probably the most useful site you will ever find for reviewing anatomy. Once you know how to use it, you will love it!!

Some Tips for Working Your Way Around the Pelvic Floor Institute

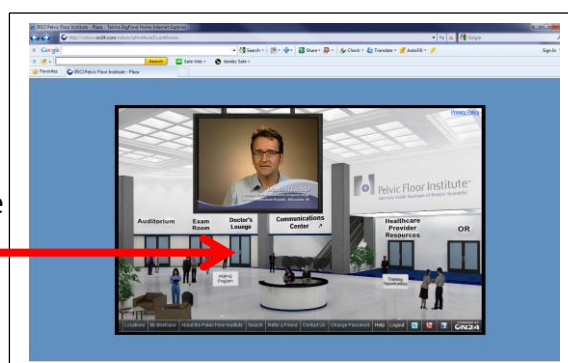
Step One: Open up the Pelvic Floor Institute Website

http://www.bostonscientific.com/templatedata/imports/HTML/PFI/PFI_bridge.html

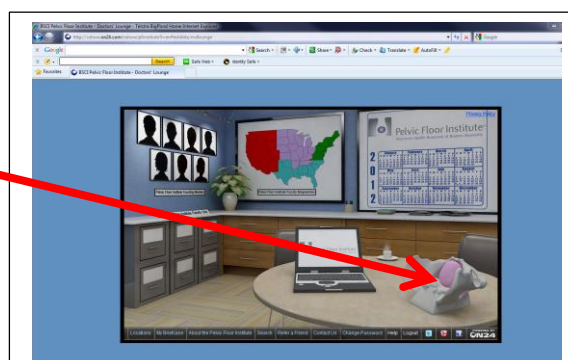
Step Two: Click here to register for Website



Step Three: After you have registered and then entered the main site you should find a home page like this. Click on the "Doctors Lounge"

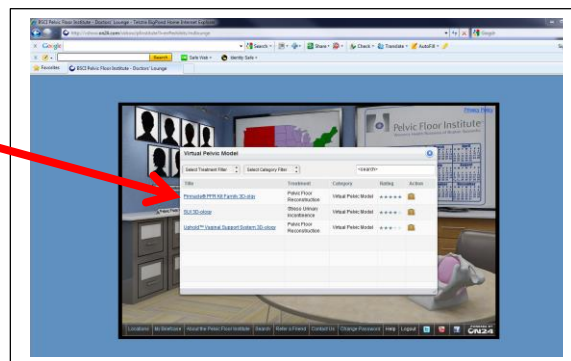


Step Four: In the doctors lounge then click on the "Virtual Pelvis Model" to go to an anatomy program



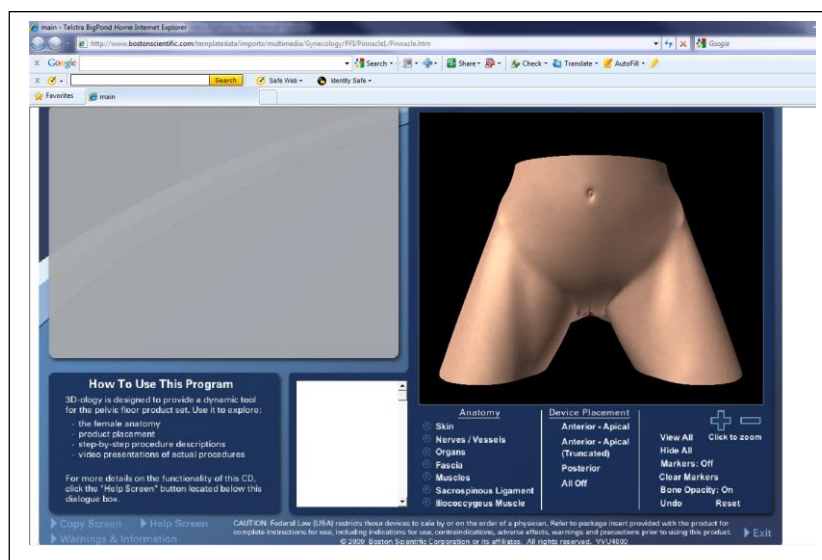
Step Five: Choose the Pinnacle PFR Kit Family 3D-ology (the one with five stars)

You will first be given a simple information page on the Pinnacle mesh system → click CONTINUE



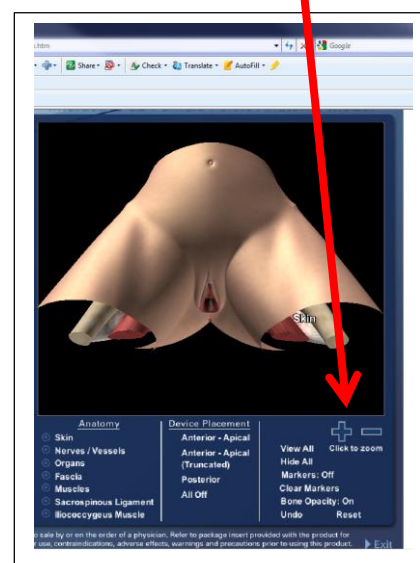
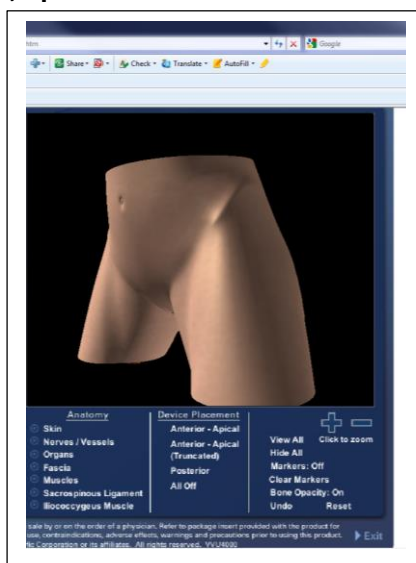
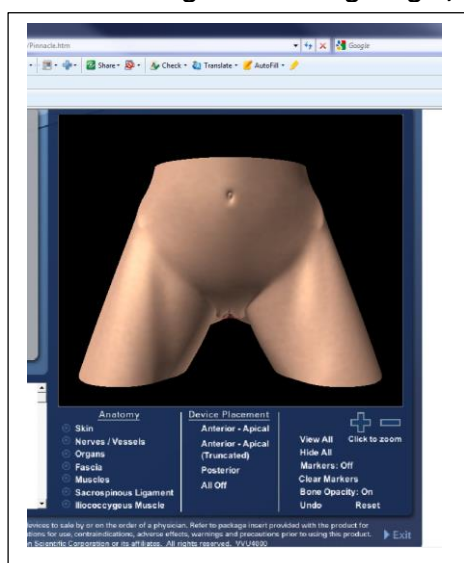
Step Six:

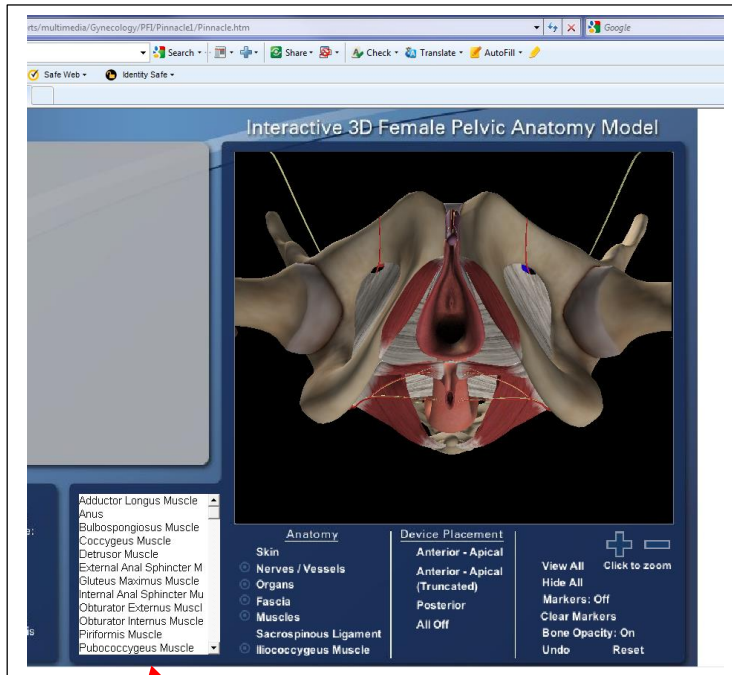
Use the *FREE ANATOMY WEBSITE!!*



To move the diagram around you simply click on the diagram and drag it right, left, up or down.

To zoom in and out use the "+" and "-" here.





To remove a structure eg skin..... "Hold the space bar and then click the item you want to remove"

ie when holding the space bar down, it turns the click of the mouse to a "remove" function.

By Clicking on Items here you can add or remove whole systems

eg You can remove and replace all the muscle in one click

Or..... you can remove and replace all the nerves in one click

When you remove either an individual component or a whole system, each individual component (eg every individual muscle) will be listed here

eg You can individually click on any structure you want to show.

Therefore..... if you remove everything first from the System section above, you can then just add to your pelvis the individual structures you want to see.

Copy of Tweets at WHTA_Physio

Please find below the WHTA Research tweets listed since the last newsletter. Previous research tweets can be found either on the twitter home page or in previous newsletters.

PELVIC GIRDLE PAIN / MUSCULOSKELETAL WOMENS HEALTH

Fitzgerald et al 2012 Women with pelvic girdle pain in pregnancy are more likely to have urinary incontinence, however pelvic girdle pain is not associated with pelvic floor weakness.

[http://www.ijgo.org/article/S0020-7292\(12\)00091-4/abstract](http://www.ijgo.org/article/S0020-7292(12)00091-4/abstract)

PELVIC FLOOR ASSESSMENT

Capson et al 2011 Max PFC measured by EMG or Manometry in standing alters depending on lumbo-pelvic position and alteration between supine and standing.

[http://www.jelectromyographykinesiology.com/article/S1050-6411\(10\)00126-4/abstract](http://www.jelectromyographykinesiology.com/article/S1050-6411(10)00126-4/abstract)

Baracho et al 2012 Vaginal squeeze pressure of 35.5cmH2O on peritron at 7/12 postpartum gives 96.4% chance of no SUI <http://www.springerlink.com/content/12v5310n8215153j/>

Morris et al 2012 Cross sectional area of levator ani does not appear to reduce with age in nulliparous females, but cross sectional area of obturator internus does.

<http://onlinelibrary.wiley.com/doi/10.1002/nau.21208/abstract>

Chamochumbi et al 2012 Posterior to anterior active PF strength correlated with SUI but not lateral to medial strength. http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1413-35552012005000020&lng=en&nrm=iso&tlng=en

Boyle et al 2012 Anal resting tone decreases by 0.66cmH2O per year, a 4.3cmH2O per vaginal birth, and is associated with IAS and EAS defects. Squeeze pressure also reduces by 0.3cmH2O per year and 3.8cmH2O per vaginal birth, however was only significantly associated with EAS defects. LSCS appears to be protective.

<http://journals.lww.com/dcrjournal/pages/articleviewer.aspx?year=2012&issue=03000&article=00009&type=abstract>

PELVIC FLOOR MUSCLE TRAINING

Tienforti et al 2012 Pre-op biofeedback and PFMT instruction with monthly post-op supervised PFMT increases continence rates post prostatectomy <http://onlinelibrary.wiley.com/doi/10.1111/j.1464-410X.2012.10948.x/abstract>

Hung et al 2012 Improvements in urinary incontinence after 4months of PFMT is associated with change in pelvic floor strength but not necessarily adherence to exercise program
<http://www.sciencedirect.com/science/article/pii/S0003999312001852>

STRESS INCONTINENCE

Gyhagen et al 2012 Prevalence of urinary incontinence 20 years after childbirth is 3x higher following vaginal delivery. (retweeted from BJOG) <http://onlinelibrary.wiley.com/doi/10.1111/j.1471-0528.2012.03301.x/abstract>

Vella et al 2009 73% of women with cystic fibrosis (ave age 28yrs) experience stress incontinence. For 60% of those it is mild, 22% moderate, but 18% it is severe.
<http://onlinelibrary.wiley.com/doi/10.1002/nau.20732/abstract>

OVERACTIVE BLADDER

D'Ancona et al 2012 Urge urinary incontinence (and MUI) is associated with a history of enuresis in childhood. However SUI not associated with childhood enuresis.
<http://onlinelibrary.wiley.com/doi/10.1002/nau.21195/abstract>

Chung et al 2011 94.1% of OAB-Wet pt's show detrusor overactivity on urodynamics but only 63.9% of OAB-dry. Also, Urgency Severity Scale on bladder diary also relates to chance of detrusor overactivity.
<http://onlinelibrary.wiley.com/doi/10.1002/nau.21057/abstract;jsessionid=7E9B3E09FB51E49127DE7F25286250BC.d04t01?userIsAuthenticated=false&deniedAccessCustomisedMessage=>

Heeringa et al 2012 Confirm work of Blaivas et al 2009 that there appears to be two "Types" of urgency, sudden vs gradual. <http://onlinelibrary.wiley.com/doi/10.1002/nau.21232/abstract>

Mohamed et al 2012 Rectal distension reduces bladder volume that women experience strong desire to void by 20-25% <http://onlinelibrary.wiley.com/doi/10.1002/nau.21241/abstract>

Panayi et al 2011 Rectal distension alters bladder volume causing strong urge by 33% and max bladder capacity by 26% <http://onlinelibrary.wiley.com/doi/10.1002/nau.20944/abstract>

Espuna-pons et al 2012 In women with OAB, co-existing Pelvic organ prolapse >Gd 2, voiding symptoms and no SUI will predict 82% of women with Post-void Residual.
<http://onlinelibrary.wiley.com/doi/10.1002/nau.21252/abstract>

Chen et al 2012 Combining low dose tramadol with electroacupuncture is more effective and has less side effects than full dose tramadol for Parkinsons patients with OAB
<http://www.ncbi.nlm.nih.gov/pubmed/22471132>

Vaughan et al 2011 EMG assisted PFMT and urge suppression retraining is effective for treating Urinary Incontinence in persons with Parkinson's disease <http://www.neurology.org/content/76/19/1631.short>

HOVERING and POSTURE for Voiding

Chief-Lunc Chou et al 2010 Hovering by healthy nullips may cause slower urine flow but no difference in post void residual <http://onlinelibrary.wiley.com/doi/10.1002/nau.20868/full>

Yang et al 2010 Hovering over toilet increases urinary hesitancy and reduces chance of normal bell curve flow rate <http://www.springerlink.com/content/mv75244233182174/?MUD=MP>

Choudhury et al 2010 Voiding is optimal in standing and squatting if that is the position a person is accustomed to, therefore uroflowmetry assessments should not be performed in a voiding position unfamiliar to the patient. <http://onlinelibrary.wiley.com/doi/10.1002/nau.20759/abstract>

PELVIC FLOOR SURGERY (SUI &/OR POP SURGERY)

Bekker et al 2012 Tension Free Vaginal Tape (TVT) for SUI may disrupt autonomic nerves affecting lubrication-swelling response during intercourse but neither TVT or TOT appear to affect the dorsal nerve of the clitoris. <http://onlinelibrary.wiley.com/doi/10.1111/j.1743-6109.2012.02711.x/abstract;jsessionid=182164DFF8F5AEC6C1B84187506E727D.d01t04>

OTHER

HRT Link to full text of the new position statement of the North American Menopause Society on the use of Hormone Replacement Therapy. <http://www.menopause.org/psht12.pdf>

Final Note from Taryn

That now brings the April Newsletter to a close. I do hope that you have found it informative. If you have a topic that you would particularly like included in an upcoming newsletter please feel free to send me an email.

But just finally....

I would just like to apologise for the delay in getting this newsletter out and for the slowing down of some of the tweets in the last 6 weeks.

As some of you are aware, I have had a few challenges to contend with recently. Initially I was quite unwell (I actually cancelled a clinic for the first time in years ☹), then just as I was improving and had promised you all on the twitter account that I would be around more, both Jon (my business partner) and I experienced the health decline of two dear people.

Some of you were at the pelvic pain course recently in Sydney where I was quite teary, having heard that both of these people were unlikely to live through the next 24hours. I thank you for your understanding that morning.

Just to let you all know, they both did pass away and therefore I would like to pay my respects to both Whitney Lane, daughter of Rex and Robyn, who passed away age 19, and Karen Barker, the mother of Andrew and Lauren (currently in their early 20's, however Andrew was a child I tutored in mathematics from when he was aged 9-16). Both were beautiful women who fought such courageous battles and touched the lives of those around them. Unfortunately, their funerals were both in the week leading into Mother's day.

Sadly, this was also the first mother's day after the loss of dear Jacob Davies – the son of our dear friends Evan and Sylvia, who passed away last October following complications of a lung transplant for cystic fibrosis, aged 13.

For all of us who work in women's health we know the privilege we are given to work with families through times that are so personal. At this specific time though – Mother's day – which should be such a beautiful day for families, out of respect I would like to take a moment to say that my thoughts and prayers are with all these people who have lost loved ones. Life seems to sometimes be so unfair, I am so thankful just for the fact that I have my two beautiful children Ethan and Joshua, healthy and with me every day.