

OVERACTIVE BLADDER – DAY 1

MORNING SESSION



REGISTRATION: 8am

S1: "Introduction / Bladder Anatomy & Physiology" 2.0HRS

8.15 INTRODUCTION

- Discussion Topic: "Overactive Bladder" – the pros and cons of a Symptom-Based Diagnosis
- Clinical Example: Urinary Frequency – 1 symptom..... >10 diagnoses??

8.40 ANATOMY & PHYSIOLOGY

Advanced LUT Anatomy

- Upper and Lower Urinary Tract – both relevant to OAB!
- The Layers of the Bladder Wall (Urothelium, Lamina Propria, Detrusor, Adventitia etc)
- The Subsections of the Bladder (Bladder Base/Trigone, Bladder Dome and Bladder Neck)
- The Urethra – internal and external urethral sphincters

Advanced LUT Physiology

- Storage Phase & Voiding Phase – Identifying Single vs Double Phase Dysfunctions
- Intra-Vesical & Urethral Closure Pressure
- Low Compliance Bladder vs Detrusor Overactivity (*including spontaneous vs provoked DO*)
- Urodynamic Assessment of LUT Function: Pves, Pabd, Pdet, Compliance, Stability, **QUIZ ONE**
- Neuro-anatomy: Autonomic and Somatic Nerve Supply, Sensory Afferents and Motor Efferents

MORNING TEA: 10.10am

S2: "Neural Control / DO Pathophysiology / Diagnosis of OAB" 2½ HRS

10.30 INTRODUCTION

- The Three Main Types of DO: Neurogenic, Idiopathic and Secondary?

NEURAL CONTROL OF THE LUT

Advanced Neurophysiology of the Micturition Reflex

- The Long Loop A-Delta Modulated Bulbo-Spinal Micturition Reflex Pathway
- Impact of the Frontal Lobe on Modulated the Long-Loop Reflex only
- The Short Loop C-Fibre Modulated Micturition Reflex Pathway **QUIZ TWO**

DETRUSOR OVERACTIVITY

Neurogenic Detrusor Overactivity

- Spinal Injury and re-organisation of C-fibre mediated short loop reflexes
- Cortical Injury and Impacts on PAG Buffering

Idiopathic Detrusor Overactivity Theories – No longer so idiopathic?

- Neurotransmitters (ATP/ACh/NO), Gap Junctions & Receptors (M/P2X/TRPV) of the LUT
- Urothelial Dysfunctions, Increased Receptor Densities, Myogenic Theories **QUIZ THREE**

12.00 OVERACTIVE BLADDER – URGENCY, FREQUENCY, NOCTURIA!

- OAB as a multi-symptom diagnosis – but are all symptoms compulsory?
- Urgency (rather than urge incontinence) as the priority symptom.....why?
- Understanding Urgency? A really strong desire to void or a pathological sensation?
- Alteration to Normal Bladder Sensation: increased, reduced, absent, nonspecific.
- Types of Urgency – is all urgency the same? Type 1 vs Type 2 Urgency

LUNCH COMMENCES 12.45pm..... Please aim to start heading back at 1.20pm!

OVERACTIVE BLADDER – DAY 1

AFTERNOON SESSION



LUNCH CONCLUDES 1.30pm

S3: "Assessment / Pathophysiology of Abnormal Bladder Sensation" 2¼HRS

1.30 INTRODUCTION

- What do we normally monitor in Bladder Diaries?
- Are our usual outcome measures really valid for assessing improvement in OAB?

1.40 BLADDER SENSATION

Assessment of Bladder Sensation

- Urodynamic Ax of Bladder Sensation – FSF, FDV, SDV. But what about urgency?
- Bladder Diary Ax of Bladder Sensation - Urgency Scales vs Bladder Sensation Scales?
- PRACTICAL – Interpreting Bladder Sensation Assessments from a Bladder Diary
 - o Increased / Normal / Reduced Sensation , Type 1 / Type 2 Urgency

2.45 Why Do People Develop Abnormal LUT Sensation? The Pathophysiology underpinning OAB

- Research on the link / lack of link between urgency and DO in women?
- Alterations to the Morphology of the Bladder Wall in ♀ with OAB.
 - o Differences in neurotransmitter release, receptors, gap junctions and neurotrophin levels
- What if it's not the bladder at all – Could the urethra be the main problem in some women?
 - o Lack of Urethral Closure → Urgency? Reduced Urethral Closure Sensation? **QUIZ FOUR**

AFTERNOON TEA: 3.30pm..... Aim to start heading back at 3.45 ☺

S4: When OAB Symptoms aren't OAB!! 1HR

3.50 INTRODUCTION

- All females in this building are human, but not all humans in this building are female.

FREQUENCY due to Incomplete Bladder Emptying and Polyuria-

Advanced Neurophysiology of the Micturition Reflex

- Polyuria – Definitions and Causes
- 'Voiding Dysfunction → Frequency' vs 'Storage Dysfunction → Frequency'
- When should we consider incomplete bladder emptying → Frequency

4.15 URGENCY due to Bladder Pain rather than Fear of Leakage

The C-Fibre Pathway

- TRPV1 – Vanilloid Receptors and C-Fibre Activation
- Is Urgency produced by C-Fibres activation different to Urgency produced by A-Delta Fibres?

Bladder Pain

- Recurrent UTI's and Trigonitis
- Interstitial Cystitis / Bladder Pain Syndrome – Differentiating from OAB Urgency

4.45 NOCTURIA due to an underlying serious medical condition!

- Where is the pathophysiology – LUT, Upper Urinary Tract, Other??
- Nocturnal Polyuria and Kidney Function
- Kidney Regulating Hormones
- Non-Urinary Tract Causes of Nocturia (sleep apnoea, cardiac conditions)

CLOSE OF DAY ONE: 5.15pm

OVERACTIVE BLADDER - DAY 2

MORNING SESSION



REGISTRATION: 8am

S1: "CONSERVATIVE LIFESTYLE INTERVENTIONS" 2.5HRS

8.15	INTRODUCTION <ul style="list-style-type: none">- Welcome Back and Discussion from Day 1- The importance of Managing C-Fibre Urgency Before A-Delta Urgency	QUIZ FIVE
9.00	OAB - LIFESTYLE INTERVENTIONS <p>The Bowel before the Bladder</p> <ul style="list-style-type: none">- The research on Rectal Fullness and Bladder Sensation vs Bladder Function- Bowel management without bladder management – could it be enough? <p>Good Bladder Health and Dietary Influences</p> <ul style="list-style-type: none">- The Fluid Intake Impact – too much? Too Little? What should we be suggesting?- Does oestrogen also make a difference to coping with fluid intake?- Dietary Bladder irritants? <i>Caffeine, Artificial Sweeteners etc. Is elimination necessary?</i>	

MORNING TEA: 10.40am..... aim to start heading back at 10.55!

S2: "BLADDER RETRAINING" 1.5hours

11.00	INTRODUCTION <ul style="list-style-type: none">- When we forget to check the definition..... What is Bladder Retraining?	
11.15	OAB – BEHAVIOUR RETRAINING <ul style="list-style-type: none">- The problem with our natural response to urgency- Behaviour Retraining – a Urge <u>Incontinence</u> technique?- Urge Suppression Strategies – the known bladder inhibitory reflexes<ul style="list-style-type: none">o Pelvic Floor Contraction to Inhibito Perineal Pressureo Toe Curling – The posterior tibial nerveo Other	
11.40	OAB – TRIGGER RETRAINING <ul style="list-style-type: none">- Abnormal Neural Programming??- Pavlovian Response: how do we untrain that?	
12.05	OAB – BLADDER RETRAINING / BLADDER DRILL <ul style="list-style-type: none">- ‘Go to the toilet whether you need to or not!’ - <i>Could this possibly be good advice??</i>- Is OAB actually just the urinary system’s version of Chronic Pain?- Calming the system	

LUNCH COMMENCES 12.30pm..... aim to start heading back at 1.10pm!

OVERACTIVE BLADDER - DAY 2

AFTERNOON SESSION



LUNCH CONCLUDES 1.15pm

S1: Medication Options ; What is the Medical Approach to OAB 1.5HRS

1.15	INTRODUCTION <ul style="list-style-type: none">- Oral and Intravesical Options
1.30	OAB - ORAL DRUG TREATMENT <p>Antimuscarinics: Mechanisms of Action, Pricing, Effectiveness, Side Effects</p> <ul style="list-style-type: none">- Location of Acetylcholine release vs Location of Muscarinic Receptors- Non-specific Muscarinic Receptor Blockers – implications for side effects- Medications currently available – Price, Side Effects, Effectiveness- Comparison of Antimuscarinics & Bladder Retraining – One or the Other? Combined Treatment? <p>Mirabegron – the New β3 Agonist</p> <ul style="list-style-type: none">- The first drug in a new class of drug for OAB
2.45	OAB - INTRAVESICAL DRUG TREATMENTS <ul style="list-style-type: none">- What is Botulinum Toxin and how does it work?- Indications and Procedure- Is it effective? Are there risks? What does the research say?

AFTERNOON TEA: 3.00pm

S2: "I DON'T WANT DRUGS!" - E-stimulation Options 1½ HRS

3.20	INTRODUCTION <ul style="list-style-type: none">- Discussion Topic: OAB as a combination of altered neural sensory processing +/- DO- Do we know how any of the e-stims work?
	CONSERVATIVE E-STIMULATION OPTIONS <p>Stimulation Options the Doctors are using</p> <ul style="list-style-type: none">- The "Chair" – use of magnetic stimulation- Percutaneous Tibial Nerve Stimulation <p>Stimulation Options Physiotherapists can use</p> <ul style="list-style-type: none">- Tibial Nerve Stimulation- Vaginal Stimulation- Sacral Stimulation
	Surgically Implanted E-Stimulation – Interstim (by Medtronic) <ul style="list-style-type: none">- Indications for Use? Cost? Availability?- Procedure – Trial implant prior to permanent implant- Evidence for it's use?
4.45	FINAL QUESTIONS / CLOSE OF DAY at 5.00pm

