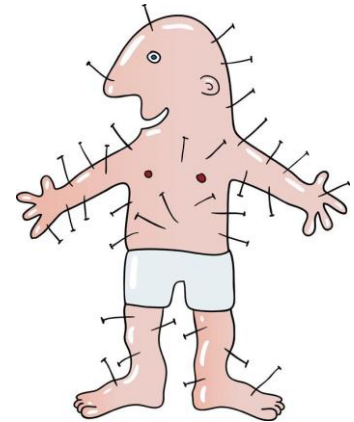


Case Study on the use of Electroacupuncture for Overactive Bladder



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Overactive bladder

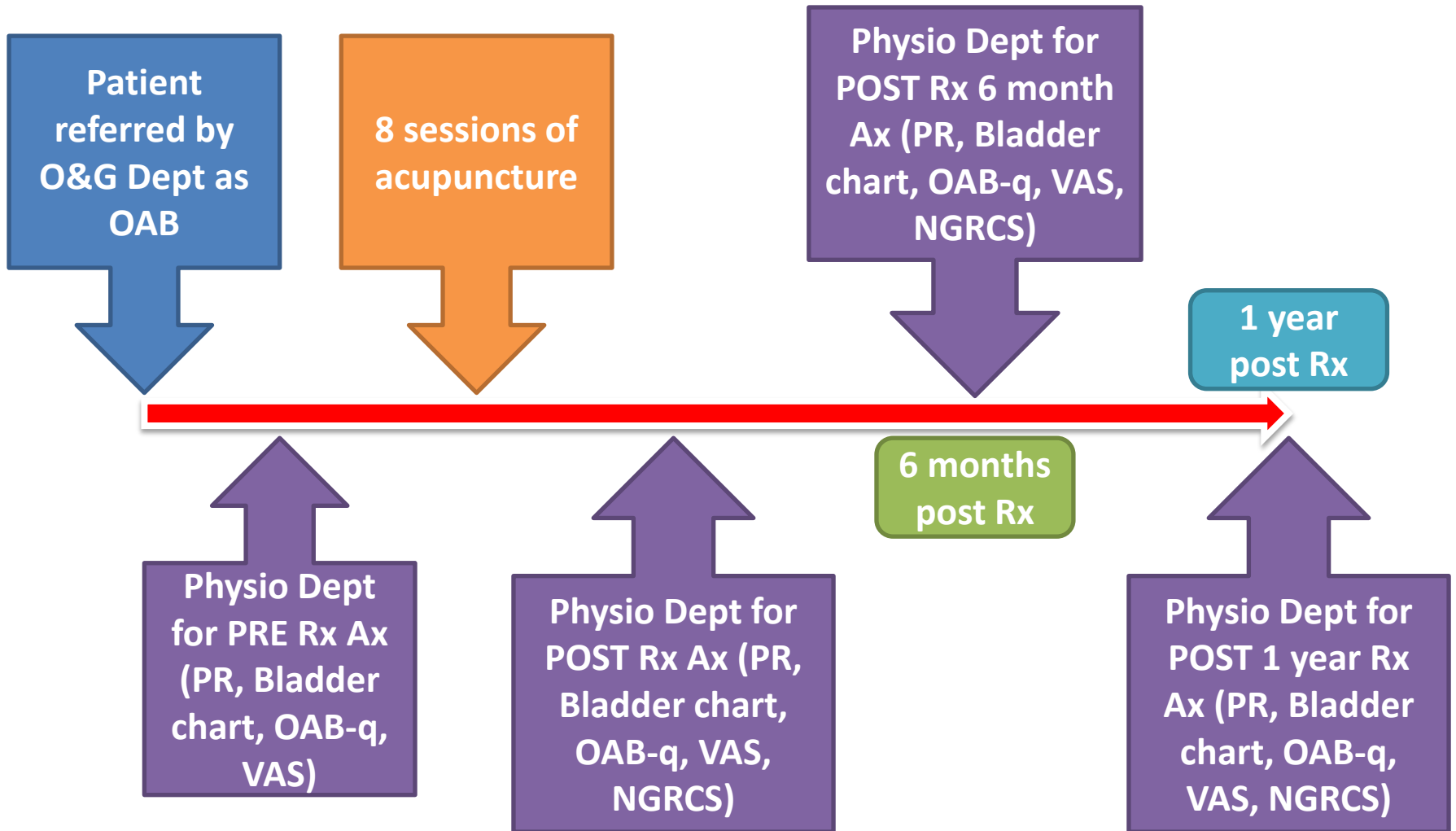
- Approximately 34 million adults in the United States
- The International Continence Society (ICS)
 - a syndrome +/- urgency incontinence
 - usually associated with urinary frequency and nocturia in the absence of proven infection or other obvious pathology

Acupuncture for overactive bladder

- Pilot program started in March 2013
- Physio Dept + O&G Dept
- All cases diagnosed with OAB by O&G Dept
→ Physio Dept for acupuncture
- 6 patients completed

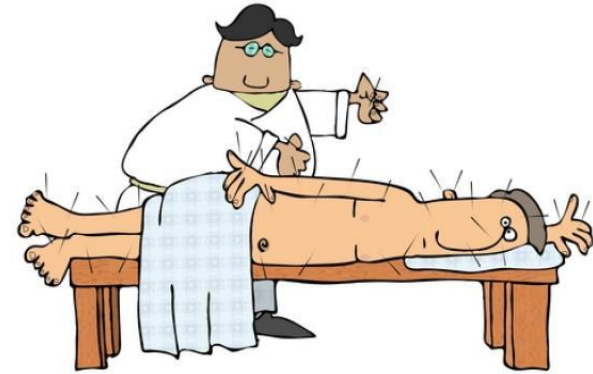


Flow of program



Acupuncture Points

- 氣海 (REN 6): 1.5 cun below the umbilicus
- 中極 (REN 3): 4 cun below the umbilicus
- 三陰交 (SP 6): 3 cun above the medial malleolus
- 太溪 (KI 3): in the depression between the tip of the medial malleolus and tendo calcaneus
- 太沖 (LI 3): in the depression proximal to the 1st metatarsal space
- 崑崙 (BL 6): depression between the tip of the external malleolus and tendo calcaneus



Electrical stimulation

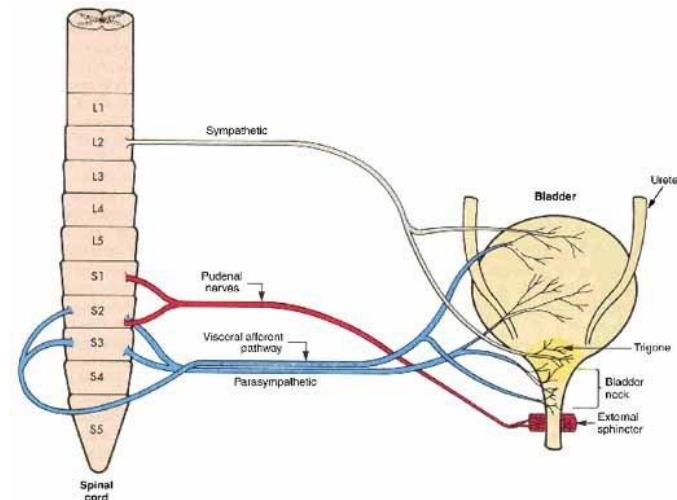
- To all acupuncture points
- Fast + Slow mode (3Hz – 10Hz)
 - both 5 and 30 Hz stimulation of the posterior tibial nerve inhibits bladder activity
 - however, stimulation of the pudendal nerve inhibits bladder activity at 5 Hz but excites bladder activity at 20-30 Hz
 - repeated short duration stimulation of the tibial nerve induces a persistent post-stimulation inhibitory effect and increases bladder capacity (Tai 2011)
- Intensity: comfortable tingling sensation
- 30 mins

Mechanism

- The National Institute for Health and Clinical Excellence (NICE) Guideline
 - PTNS for overactive bladder syndrome
- Regulate the activity of hypogastric nerve (T10-12) & pelvic nerve (S2-4)

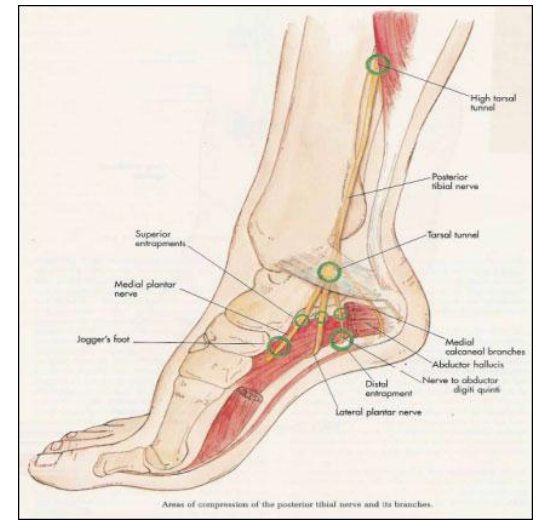
Anatomy

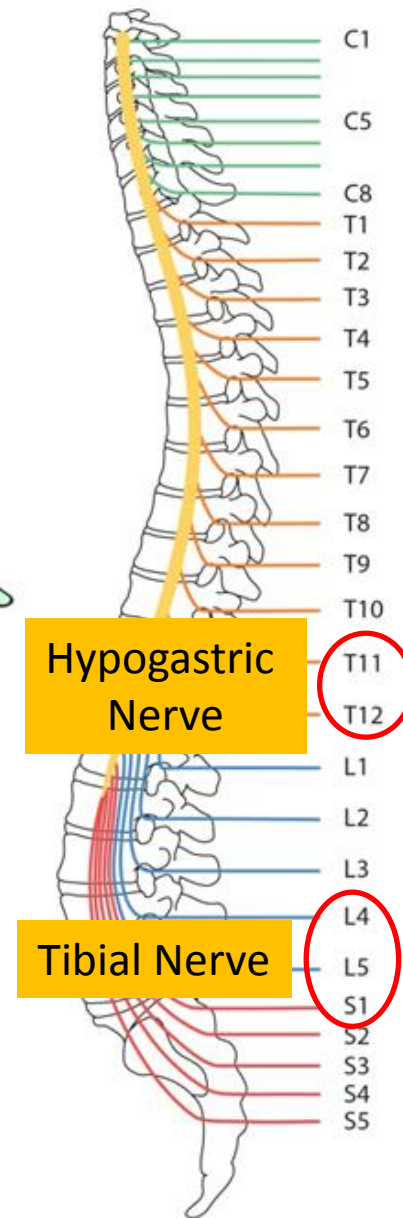
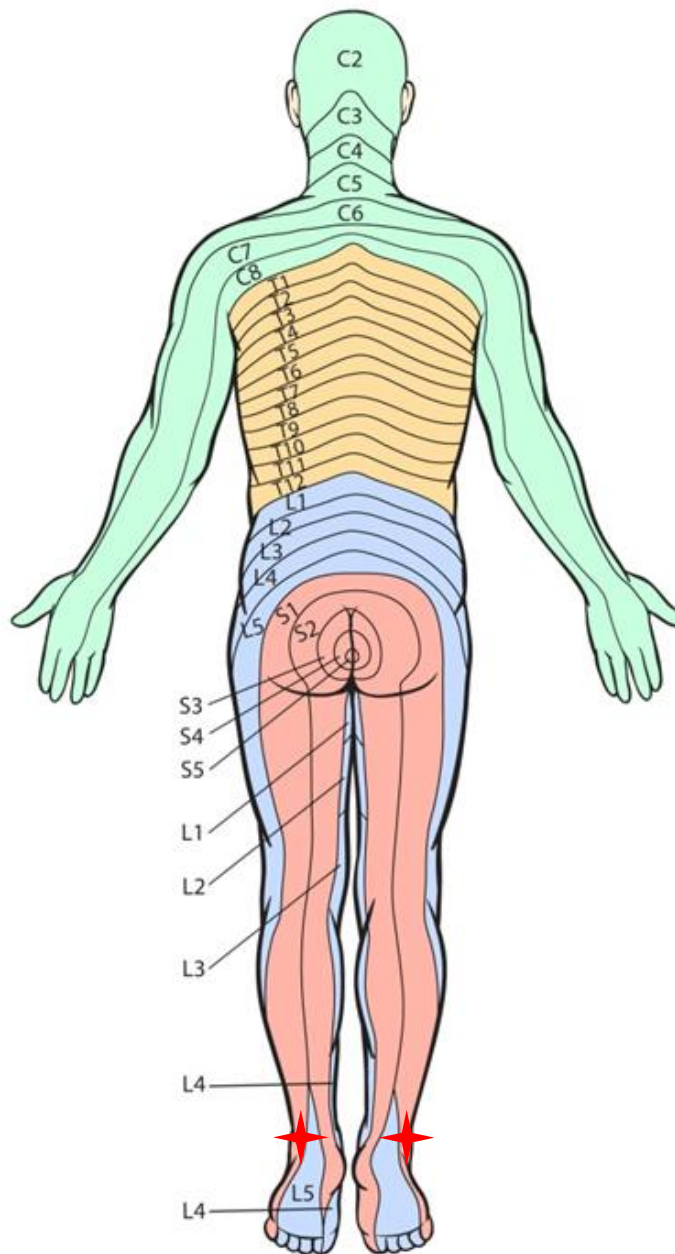
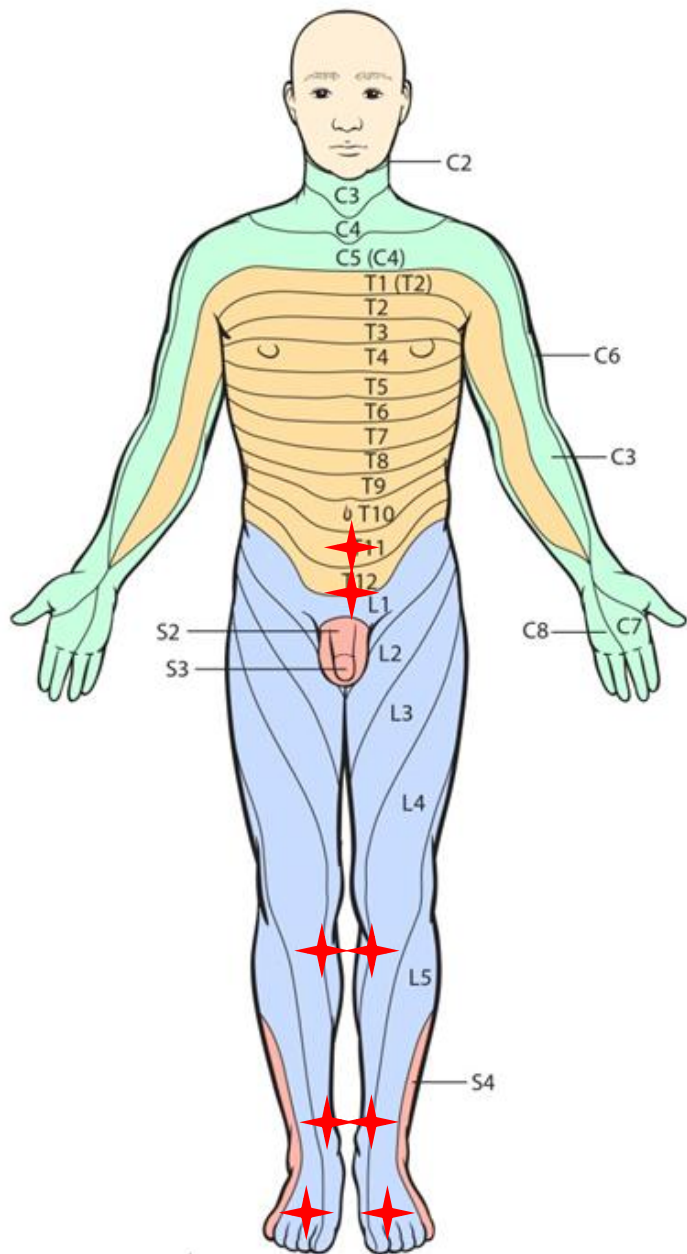
- **sympathetic nerve** (hypogastric nerve, T10-12)
 - suppress contraction of the detrusor
 - predominant during bladder filling
- **parasympathetic nerve** (pelvic nerve, S2-4)
 - cause the detrusor to contract
 - causes emptying



Anatomy

- **Posterior tibial nerve (L4-S3)**
 - component of the sciatic nerve
 - formed from the anterior divisions of the sacral plexus
 - travels in the posterior leg with the posterior tibial artery, in the fascial plane between the superficial and deep muscle groups





Background

- Female , 66 years old, HW, P2G2
- Urge incontinence x 2 years
- Urinary frequency & Nocturia ++



Urodynamic Ax

- Pressure flow
 - Filling phase
 - First desire: 157 ml Detrusor pressure: 11 cmH₂O
 - Strong desire: 183 ml Detrusor pressure: 8 cmH₂O
 - Urgency: 203 ml Detrusor pressure: 23 cmH₂O
 - Max cyst cap.: 225 ml Detrusor pressure: 57 cmH₂O
 - Voiding phase
 - Voided volume: 225 ml
 - Residual urine: 0 ml

Ax

- PR grading & endurance
- Bladder chart
- Cantonese Chinese Version for Hong Kong of the OAB-q Short Form
- VAS of satisfaction
- NGRCS

Ax & Outcome

- PR
 - Pre: Grade: 2 Duration: 3s
 - Post: Grade: 2 Duration: 3s

- Max voiding volume:
 - Pre: 260 ml
 - Post: 410 ml ($p < 0.05$)



Ax & Outcome

- Average voiding frequency (daytime):
 - Pre: 10
 - Post: 7
- Average nocturia frequency
 - Pre: 3
 - Post: 1.3 ($p < 0.05$)



Ax & Outcome

- Cantonese Chinese Version for Hong Kong of the OAB-q Short Form (Bother)
 - Pre: 21 (7/5/2013)
 - Post: 11 (4/6/2013) ($p < 0.05$)
- Cantonese Chinese Version for Hong Kong of the OAB-q Short Form (Symptom)
 - Pre: 38 (7/5/2013)
 - Post: 19 (4/6/2013) ($p < 0.05$)

Ax & Outcome

- VAS of satisfaction:
 - Pre: 2/10
 - Post: 8/10 ($p < 0.05$)
- NGRCS: 7



Future plan

- To improve the voiding frequency in day time by adjusting or adding acupoints
- More subjects should be recruited to increase the power of the analysis

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- Read more: [Acupuncture for Overactive Bladder, Urinary Urgency, Incontinence, Frequent Urination | AcupunctureMoxibustion.com - acupuncture points: acupuncture meridian: acupoint: TCM acupuncture: Japanese acupuncture: moxa: acumoxa http://www.acupuncturemoxibustion.com/conditions/overactive-bladder/#ixzz2XLFT5BqY](http://www.acupuncturemoxibustion.com/conditions/overactive-bladder/#ixzz2XLFT5BqY)
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