北區醫院
NORTH DISTRICT HOSPITAL

Optimal Outcome of Electro-stimulation: An alternative way for treating female patients with urinary incontinence whom cannot perform active pelvic floor exercise

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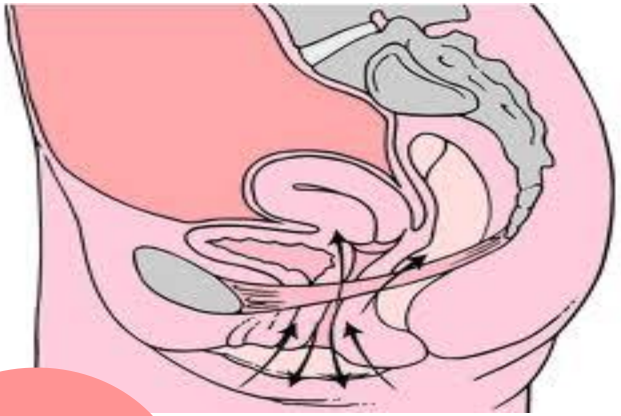
Urinary Incontinence and Pelvic Floor Exercise

PFM exercise is the 1st line treatment of SUI by building up long lasting muscle volume thus to provide structure support (Bo,2004)

Contraction of PFM leading declined detrusor pressure and increase urethral pressure which suppress micturition reflex (Ahmed & Ismail,2003)

The fact is … we are facing those clients….



PelviTone
NeuroTrac

Grade 2 Or Below

ONE WAY
ANOTHER WAY

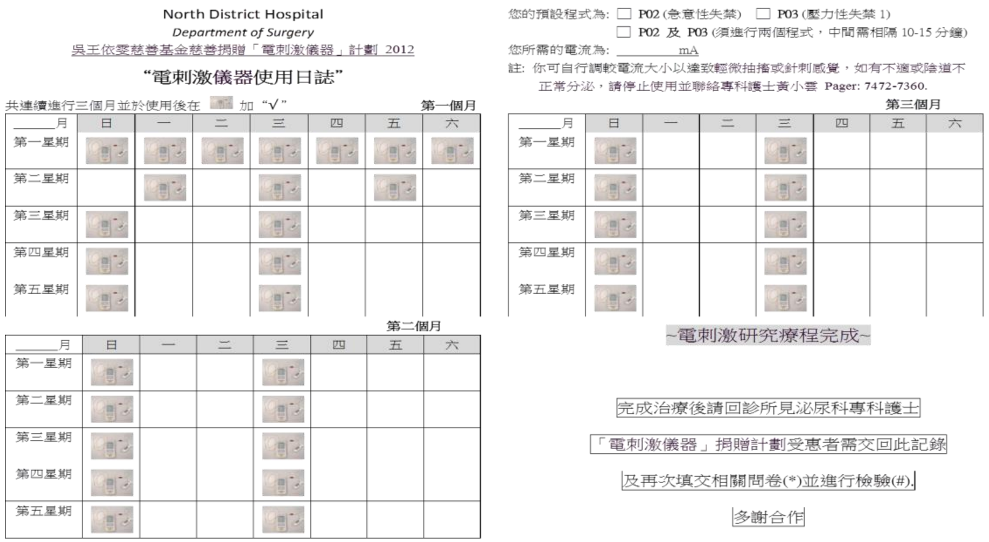
Grade 3 Or Above

Clinical application on ES and study design

Design of study

- Prospective study
- Period: From Dec 2012 to Aug 2013
- Total 32 female patients with UI had PFM G2 or below were selected
- Undergo twice a week self administer ES course for 3 months
- Data collection with assessment tools & analyzed by SPSS

The Process of Study



North District Hospital
Department of Surgery
吳王依雯慈善基金慈善捐贈「電刺激儀器」計劃 2012

“電刺激儀器使用日誌”

共連續進行三個月並於使用後在 ▨ 加 “√”

第一個月

______月	日	一	二	三	四	五	六
第一星期	▨	▨	▨	▨	▨	▨	▨
第二星期		▨		▨		▨	
第三星期	▨			▨			
第四星期	▨			▨			
第五星期	▨			▨			

第二個月

______月	日	一	二	三	四	五	六
第一星期	▨			▨			
第二星期	▨			▨			
第三星期	▨			▨			
第四星期	▨			▨			
第五星期	▨			▨			

您的預設程式為: ☐ P02 (急意性失禁) ☐ P03 (壓力性失禁 1)
☐ P02 及 P03 (須進行兩個程式，中間需相隔 10-15 分鐘)
您所需的電流為: ______mA
註: 你可自行調較電流大小以達致輕微抽搐或針刺感覺，如有不適或陰道不正常分泌，請停止使用並聯絡專科護士黃小雲 Pager: 7472-7360.

第三個月

______月	日	一	二	三	四	五	六
第一星期	▨			▨			
第二星期	▨			▨			
第三星期	▨			▨			
第四星期	▨			▨			
第五星期	▨			▨			

~電刺激研究療程完成~

完成治療後請回診所見泌尿科專科護士
「電刺激儀器」捐贈計劃受惠者需交回此記錄
及再次填交相關問卷(*)並進行檢驗(#).
多謝合作

Recruit patients under criteria selection
→ Perform assessment and test
→ Educate patient for the use of ES machine and introduce regime protocol
→ Review patients 3 months later
→ Perform reassessment and test

One hour pad test

Selective Criteria

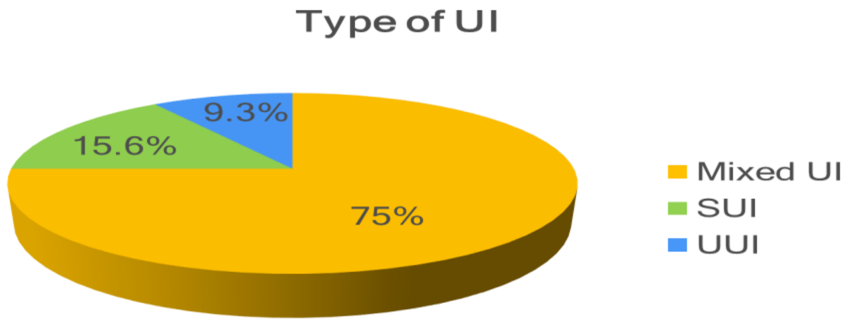
Inclusive criteria	Exclusive criteria
- Female with age 30-80 - Normal cognitive & tactile function - Having symptoms of Urinary Incontinence including SUI,UUI or Mixed UI	- Patient with pregnancy, pacemaker and vaginal mass/bleeding - Abnormal cognitive & poor tactile function - Physical unable to perform pad test

Outcome evaluation domains

- **Pad test (1 Hour)**
- **Urogenital Distress Inventory-6 (UDI 6)**
- **OAB-V8 Overactive Bladder-Validated 8-question Screener (V8)**
- **PFM grading (Modified Oxford Scale)**
- **Uroflowmetry**
- **Patient satisfactory score**

Results

N=32
Mean age: 56.8 (37-73)
Average UI symptoms experienced in year: 8.9 (1-21)
Average use of current: 24.1(5-60mA)



Paired Samples Test

		Paired Differences			
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference
					Lower
Pair 1	Pre 1 hr pad test weight in gm - Post 1 hr pad test weight in gm	4.78125	8.79419	1.55461	1.61061
Pair 2	Total pre UDI 6 score - Total post UDI 6 score	1.25000	2.21432	.39144	.45165
Pair 3	Pre treatment V8 score - Post treatment V8 score	3.06250	6.77727	1.19806	.61903

Paired Samples Test

		Paired Differences	t	df	Sig. (2-tailed)
		95% Confidence Interval of the Difference			
		Upper			
Pair 1	Pre 1 hr pad test weight in gm - Post 1 hr pad test weight in gm	7.95189	3.076	31	.004
Pair 2	Total pre UDI 6 score - Total post UDI 6 score	2.04835	3.193	31	.003
Pair 3	Pre treatment V8 score - Post treatment V8 score	5.50597	2.556	31	.016

	Pre Rx			Post Rx		
1 Hour Pad Test (gm.)	6.7			1.9 (71.6%) *		
Mean UDI 6 score	8.2			7.4 (9.8%) *		
Mean V8 score	19.4			15.5 (20.1%)		
PFM Grading	0.96			1.2		
Uroflowmetry	VV	Q max	RU	VV	Q max	RU
	263ml	23.6ml/s	31.2ml	178.8ml	21.5ml/s	10.9ml
Patient Satisfactory Score	1.0			2.8 *		

* Statistical significant with p valve<0.05

Conclusion

- ES could alleviate both patient’s UI symptoms & leakage severity with statistical significant outcomes shown
- Patients are satisfied with ES treatment
- Literatures & clinical experience showed ES is more effective in treating Urgency/UUI than SUI, however insignificant result on V8 (OAB symptom score) was noted in this study
- Relationship between the standard current and frequency use of ES regime was not being studied yet