

PELVIC FLOOR MUSCLE ACTIVITY IN DIFFERENT SITTING AND STANDING POSTURES – A PILOT STUDY

Objective: Tonic activity has been demonstrated in the pelvic floor (PF) muscles at rest in lying, sitting and standing (1) The current study aimed to determine the effect of different static postures in sitting and standing on tonic PF muscle activity.

Method: Six healthy parous females aged 47-72 years, who had had vaginal deliveries, were recruited for this study. PF EMG activity was recorded using a Periform vaginal probe (Neen Healthcare, UK) connected to a Neurotrac 5 EMG machine (Verity Medical, UK). Two recordings of tonic activity were made in each position - slumped, upright supported and upright unsupported sitting (n=4), and slumped, normal and very tall standing (n=6). Maximal PF muscle contractions were performed in unsupported sitting and normal standing.

Results: Raw EMG signals, recorded in microvolts, indicate that there are increasing levels of PF muscle tonic activity with increasing erectness of posture. This occurred in both sitting and standing in all subjects.

Four subjects reported minor episodes of urinary incontinence, mostly associated with impact activities.

Conclusions: Different static postural positions affect PF muscle tonic activity in females, irrespective of continence status. Further trials are being conducted.

1. Vereeken et al 1975, Urol Int 30:92-98.

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Aim of study

to monitor pelvic floor tonic activity in different sitting and standing postures.

Subjects

Six healthy parous females - vaginal deliveries,
Four subjects experienced occasional minor episodes of incontinence associated with urgency or impact activities.
age range 47-72 years

Measurements

Pubococcygeal EMG activity, recorded with a vaginal surface electrode
(Periform probe, Neen Healthcare, UK).

Connected to a Neurotrac 5 EMG machine (Verity Medical, UK)

Please Note: The NeuroTrac 5 has been replaced by the NeuroTrac ETS



NeuroTrac ETS

Procedures

Tonic activity was recorded:



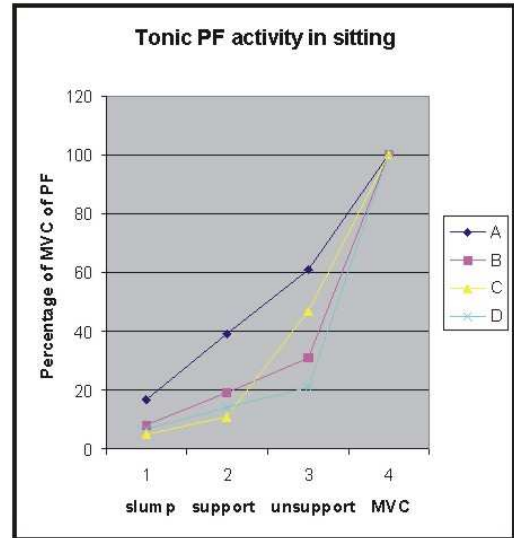
in slumped sitting



supported sitting



unsupported sitting





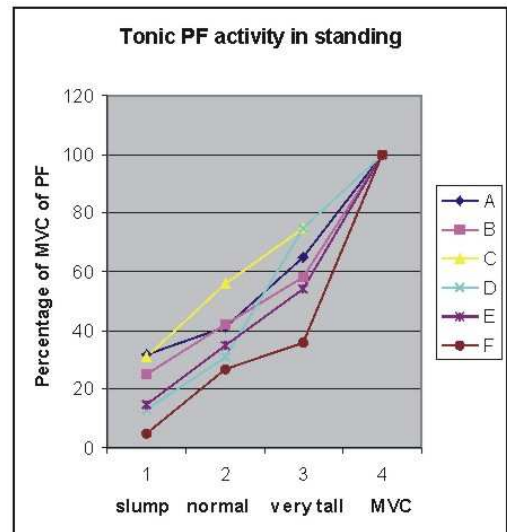
slumped standing



normal standing



very tall standing.



Subjects also performed a maximal pelvic floor contraction in both standing and unsupported sitting.

Results

Raw EMG signals, recorded in microvolts, demonstrate an increasing level of tonic activity with increasing erectness of posture in all subjects. Levels of EMG activity in each position are expressed as a percentage of the maximal voluntary contraction for each individual in each posture.

Conclusions

Postural position influences tonic pelvic floor activity in females – irrespective of continence status.

Pubococcygeal tonic activity in each position, expressed as a % of the MVC of pelvic floor muscles for each subject.