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RELIABILITY STUDY FOR PRESSURE MEASUREMENTS USING HOLLISTER PRS 9300 SYSTEM USING A NOVEL DEVICE FOR SIMULATING PELVIC FLOOR CONTRACTION.

Aims

The aim of this study was to determine the test-retest reliability of the PRS 9300 System between two testing occasions four weeks apart using a novel device for simulating pelvic floor contraction.

Method

The PRS 9300 System is widely used in clinical practice to assess pelvic floor muscle strength; it consists of an inflatable probe/perineometer connected to a computer. A calibration unit (Medical Physics, St Mary's Hospital) was designed which would enable the exertion of the same amount of pressure on the perineometer on separate occasions. The calibration unit consisted of a cylindrical Perspex chamber into which the perineometer could be inserted, and a gauge for determining the change in pressure exerted on the perineometer.

The fully deflated perineometer was inserted into the chamber, which was then closed. Using a syringe the pressure probe was then inflated with 50cm^3 air (this is the degree to which the probe is inflated when used with patients). The perineometer was then connected to the PRS9300 system (Incare Medical products. Hollister Inc.). With the use of a syringe the chamber was then filled with water at a temperature of 37^{0}C (to represent body temperature) and submerged in a water bath maintained at the same temperature. The PRS9300 System was then started to record the pressure exerted on the probe and the trace zeroed to obtain a baseline pressure. Once the baseline had been established the pressure exerted on the probe was then increased by adding 2cm^3 water (at 37^{0}C) and maintained for 10 seconds. The pressure was then dropped to zero by removing the same volume of water (i.e. baseline) and also maintained for ten seconds, this was repeated 10 times. This procedure was then repeated using the following