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**Introduction:** Valid and reliable assessments are necessary to appreciate spine muscle quality. Considering that a previous study reported important significant differences between the old and the new dynamometers DAVID BACK® regarding the maximal isometric peak torques (PT), establishing new normative values for the maximal isometric PTs is particularly relevant.

**Objectives:** To establish normative values for the maximal isometric PT of the trunk muscles measured by means of the new dynamometers DAVID BACK® in women (Figure 1) and to investigate the correlations between the measured performances and the different collected data (age, weight, height, body mass index and activity level).

**Materials and methods:** 79 women (aged 30 to 60) reporting no low back pain (LBP), attended an assessment session. The isometric PT of their extensor, flexor, rotator and lateroflexor trunk muscles were measured on the four new dynamometers DAVID BACK®.

**Results:** The results did not reveal any significant difference in the maximal isometric PT between the age groups ([30-39] - [40-49] - [50-60]), except for the flexor muscles. In the overall population, weak to moderate correlations between absolute isometric PT and weight or BMI ( $0,28 \leq r \leq 0,49$ ) were observed.



Figure 1 : David Back Dynamometers (David International Ltd., Vantaa, Finland) for trunk extension, flexion, rotation and lateral flexion respectively.

**Conclusion:** The reference values may serve as a basis to evaluate and better interpret trunk muscle strength performance in female patients with LBP. Further research is necessary to establish normative values in a male population.

**Keywords:** Dynamometer – muscle – strength – trunk – normative values