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IMPLICIT BODY PERCEPTION AT THE PELVIC GIRDLE WITH THE TWO-POINT ESTIMATION TASK: A RELIABILITY STUDY

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Implicit body perception at the pelvic girdle with the two-point estimation task: a reliability study.

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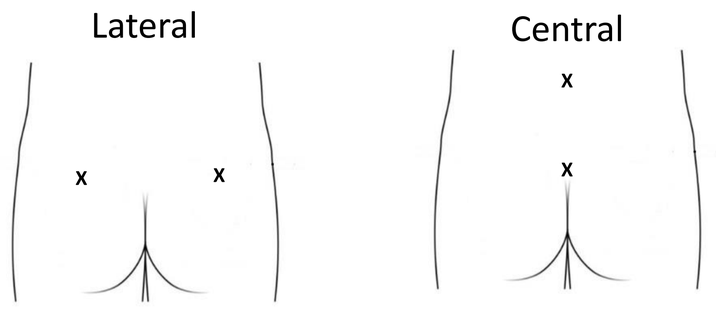
Background

- Body perception disturbance is evidenced in low back pain, using a two-point estimation (2-PE) task.
- 2-PE involves estimating the distance between two points on a digital calliper.
- Previous research has only investigated 2-PE in a population with unilateral low back pain, not included a pain-free control group or examined the measure at the pelvic girdle.

Aims

- Design a 2-PE testing protocol suitable for assessing pain crossing the midline.
- Investigate regional 2-PE reliability.
- Compare left and right side and lumbar and pelvic regions.

2-Point Estimation Assessment Regions

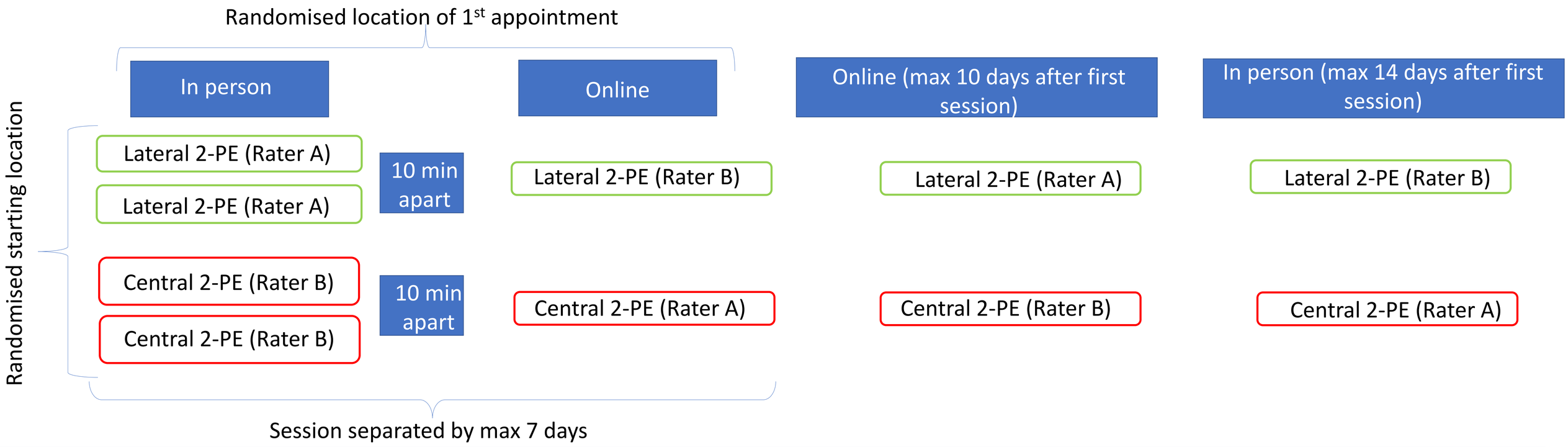


Calliper points placed either side of the “x”

Methods

- **Population**: women >18 years old,
- **Exclusion criteria:** currently pregnant, surgical history at the low back or pelvis, self-reported pain in low back, hip or pelvic region currently or within the last month.
- Central measure designed and protocolised at the lower back and pelvic girdle.
- Repeated 2-PE measurement assessment (two points 120.00mm apart) at two in person and two online sessions.
- **Lateral measure**: 8 repeated measures (4 on the left and 4 on the right at the pelvic girdle).
- **Central measure**: 8 repeated measures (4 at the pelvic girdle, 4 at the lumbar spine).

Testing schedule



Results

- 22 women (mean age 40.5 +/-13.3) participated.
- Mean of two repeated measures stabilised the reliability.

Intra Rater Reliability

- **Good** intra-rater reliability
  - Lateral ICC = 0.71 95%CI [0.49-0.87]
  - Central ICC = 0.80 95%CI [0.59-0.91]

Intra-Rater lateral	*ICC's*	*95% CI*
1	0.55	(0.15 - 0.79)
2	0.71	(0.41 - 0.87)
3	0.68	(0.36 - 0.85)
4	0.71	(0.42 - 0.87)

Intra-Rater central Pelvic girdle	*ICC's*	*95% CI*
1	0.74	(0.47 - 0.86)
2	0.80	(0.58 - 0.91)
3	0.82	(0.62 - 0.92)
4	0.87	(0.72 - 0.94)

Inter Rater Reliability

- **Poor to good** Inter rater reliability
  - Lateral ICC = 0.48 95%CI [0.58-0.75]
  - Central ICC = 0.65 95%CI [0.33-0.84]

Inter-Rater lateral	*ICC's*	*95% CI*
1	0.29	(-0.13 - 0.63)
2	0.48	(0.58 - 0.74)
3	0.45	(0.54 - 0.73)
4	0.47	(0.72 - 0.74)

Inter-Rater Central Pelvic girdle	*ICC's*	*95% CI*
1	0.74	(0.47 - 0.86)
2	0.80	(0.58 - 0.91)
3	0.82	(0.62 - 0.92)
4	0.87	(0.72 - 0.94)

Regional differences

- No difference between the left and right lateral measures (p=.198).
- 2-PE scores were greater for the lumbar compared to the pelvic region (p<0.005).

Conclusion

Differences in 2-PE between regions may reflect somatosensory representation differences and may have implications for pain perception.