

2023-09-20

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

Halliday, B

<https://pearl.plymouth.ac.uk/handle/10026.1/21626>

---

---

*All content in PEARL is protected by copyright law. Author manuscripts are made available in accordance with publisher policies. Please cite only the published version using the details provided on the item record or document. In the absence of an open licence (e.g. Creative Commons), permissions for further reuse of content should be sought from the publisher or author.*



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

B Halliday, J Freeman, S Chatfield, J Marsden. (School of Health Professions, University of Plymouth, UK)

## Background

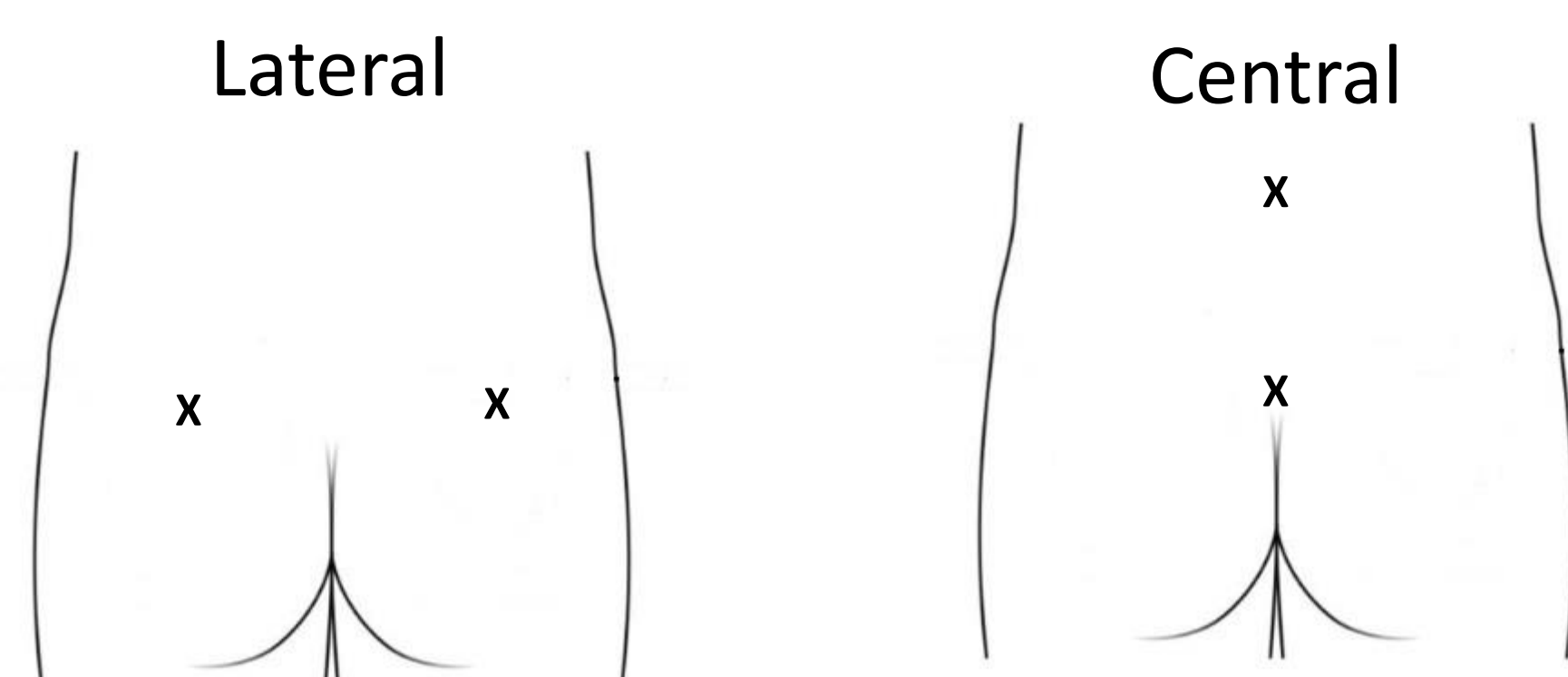
- Body perception disturbance is evidenced in low back pain, using a two-point estimation (2-PE) task.
- 2-PE involves estimating the distance between two points on a digital calliper.
- Previous research has only investigated 2-PE in a population with unilateral low back pain, not included a pain-free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

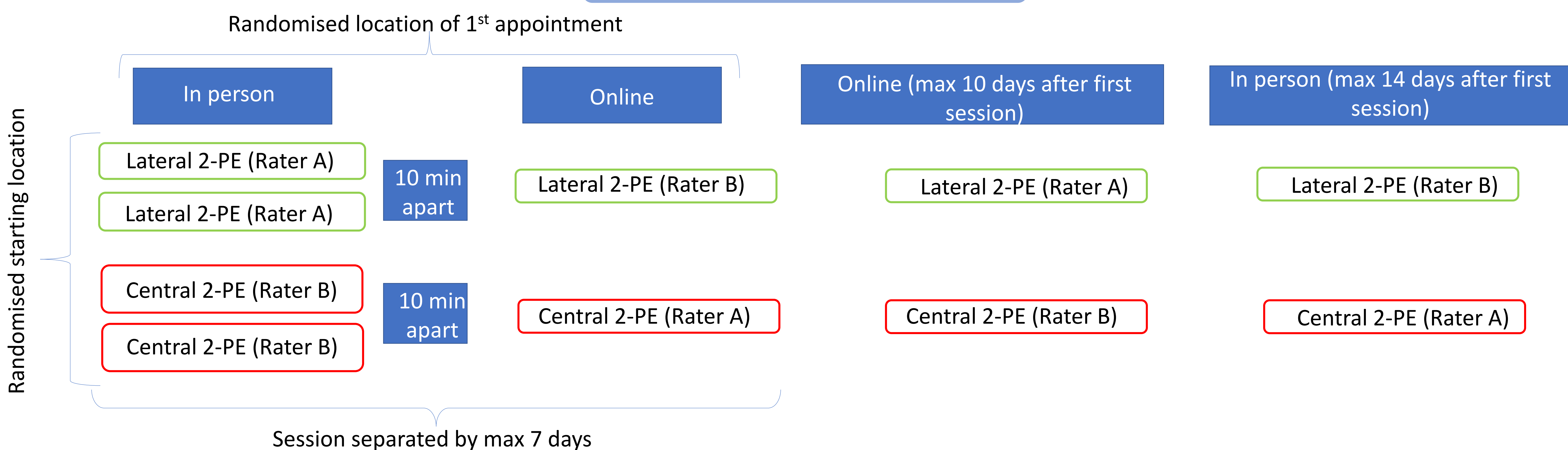


Calliper points placed either side of the "x"

## 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	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	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.