Implications: The findings of this study suggest that performance in the medial direction of the UQYBT may be a valid indicator for distinguishing swimmers with and without shoulder pain, reinforcing its potential as a functional assessment tool for athletes in this sport. However, the superolateral and inferolateral directions may not be sensitive enough to detect performance deficits associated with shoulder pain.
Keywords: Physical Performance Test, Functional Test, Measurement Properties

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DETERMINING KNOWN-GROUP VALIDITY OF THE UPPER LIMB ROTATION TEST IN SWIMMERS ASYMPTOMATIC AND WITH SHOULDER PAIN

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Background: Swimmers frequently experience upper limb injuries, with shoulder pain being one of the most common, negatively affecting their athletic performance. Functional tests, such as the Upper Limb Rotation Test (ULRT), are widely used in clinical practice to assess these athletes. However, there is still no evidence to support the ULRT's ability to differentiate between asymptomatic swimmers and those with shoulder pain. Therefore, it is essential to investigate the known-group validity of the ULRT in this population.
Objectives: To evaluate the known-group validity of the Upper Limb Rotation Test in swimmers asymptomatic and with shoulder pain.
Methods: This is a cross-sectional study that includes swimmers of both sexes, aged between 12 and 60 years, with at least 1 year of competitive practice, and a minimum of two training sessions per week. This study was approved by Ethics Research Committee. The ULRT was performed with the swimmers in a modified flexion position (on their elbows), close to a wall. They performed trunk rotation and external shoulder rotation at 90° of abduction and external rotation, touching a tape on the wall as quickly as possible for 15 seconds. The athletes performed three trials, and the mean was considered for the analysis. The Shapiro-Wilk test was used to assess the normality of distributions for continuous data, which presented normal distribution. For the known group validity, the ULRT score of the asymptomatic group and those with shoulder pain was compared using an independent samples t-test. The data were analyzed with SPSS software version 23.0.
Results: A total of 50 athletes participated in the study, with 29 (58%) from the asymptomatic group and 21 (42%) from the group with shoulder pain, with a mean age of 30.46 ± 14.27 years, and 27 (54%) were male. For the validity of known groups, there was no statistically significant difference between the asymptomatic group and the group with pain (mean difference: 2.72, 95% CI: -5.87, 0.42, p = 0.08).
Conclusion: The results of this study indicate that the ULRT is unable to differentiate swimmers with shoulder pain from asymptomatic swimmers.
Implications: These findings can assist clinicians in the assessment and management of shoulder pain in swimmers, guiding the selection of more effective assessment tools to identify functional restrictions associated with shoulder pain in this population.
Keywords: Physical Performance Test, Functional Test, Measurement Properties

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CORRELATION BETWEEN LUMBOPELVIC STABILITY TEST AND ENDURANCE TESTS OF THE TRUNK IN SWIMMERS

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Background: The pelvic drop can indicate a sign of muscle weakness during the lumbopelvic stability test. The integrity of this region ensures the proper transfer of energy to the distal segments for the body's kinematics and biomechanics, such as muscle strength, which is an important component of the kinetic chain. In swimming athletes, it is not yet clear which factors may be related to the injuries and pain they experience, making it necessary to understand if there is any correlation between the lumbopelvic stability test and trunk muscle endurance due to the scarcity of studies.
Objectives: To assess the correlation between the lumbopelvic stability test and endurance tests of the trunk in swimmers.
Methods: This was a cross-sectional observational study approved by the research ethics committee. The inclusion criteria were swimmers athletes of both sex, age between 18 and 60 years old, with competitive practice in the past one year, and regular training for at least twice a week. Lumbopelvic stability was assessed using the one-legged bridge test with spherical markers on the anterior superior iliac spines, where the pelvic tilt (in degrees) was observed and recorded. Two-dimensional analyses were conducted using the Kinovea 0.9.5 software (Kinovea Open Source Project) for Windows®. Additionally, muscle endurance of the trunk flexors (front plank), extensors (Biering-Sorenson test), and lateral flexors (side plank) was assessed by having the individual maintain a pre-established ideal posture for each muscle group for as long as possible. Pearson coefficient correlation was used to assess the association between the lumbopelvic stability test and endurance tests, which was classified as weak (0—0.39), moderate (0.40—0.69), and strong (0.70—1.00). Data analysis was performed using SPSS Inc, Chicago, IL version 23.0.
Results: A total of 27 athletes participated in the study, with mean age of 32.78 ± 14.64, 6.96 ± 6.05 years of sports practice, and 15 (56 %) were men. The results of the lumbopelvic stability test showed a weak negative correlation for the endurance of the flexor muscles (front plank) (r = - 0.233), right lateral flexors (side plank) (r = - 0.217), left lateral flexors (side plank) (r = - 0.003), and a weak positive correlation for the trunk extensor muscles (Biering-Sorenson test) (r = 0.109).
Conclusion: The lumbopelvic stability test has a weak negative correlation for the endurance of the flexor muscles, lateral flexors, and