

a weak positive correlation for the trunk extensor muscles in swimming athletes.

Implications: The study suggests that endurance does not influence pelvic tilt during the lumbopelvic stability test in swimming athletes, and therefore, it is important to investigate and evaluate other factors that may actually influence instability in this region.

Keywords: Kinetic chain, risk factors, athletes

Conflict of interest: The authors declare no conflict of interest.

Funding: Empresa Brasileira de Serviços Hospitalares (Ebserh).

Ethics committee approval: CAAE: 81153324.4.0000.0121.

Registration: Not applicable.

<https://doi.org/10.1016/j.bjpt.2025.101337>

75

RELIABILITY, STANDARD ERROR OF MEASUREMENT, AND MINIMAL DETECTABLE CHANGE OF THE UPPER QUARTER Y TEST IN SWIMMING ATHLETES

Gabriel Alves Dos Santos, Danyelle Leite Furtado de Araújo, Matheus Lemos Dos Santos, Bruna Gabriella Nascimento Bezerra, Mayara Ribeiro Da Silva, Marlison Douglas Nascimento Silva, Valéria Mayaly Alves de Oliveira, Danilo Harudy Kamonseki
Departamento de Fisioterapia, Universidade Federal da Paraíba (UFPB), João Pessoa, PB, Brazil

Background: Physical performance tests are commonly applied in sports injury prevention and rehabilitation to measure abilities linked to athletic demands, including muscle strength, explosive power, and agility. These assessments offer insight into an athlete's functional capacity. The Upper Quarter Y Test (UQYBT) has been widely used for assessment of athletes. However, there is limited information on its reliability in swimmers.

Objectives: To assess the reliability, standard error of measurement (SEM), and minimal detectable change (MDC) of the UQYBT in swimmers.

Methods: This is a cross-sectional study. This study was approved by Ethics Research Committee. Swimmers of both sexes, aged 12 to 60 years, with at least one year of competitive experience and a minimum of two training sessions per week were eligible. Two assessments were conducted with an average interval of 10.37 ± 3.15 days between them. Three ground lines were marked: medial, superolateral, and inferolateral. With one hand on the center mark, the individual reached with the free limb three times per direction. The mean, normalized by limb length, and the composite score were analyzed. The reliability of the UQYBT was assessed using the Intraclass Correlation Coefficient (ICC 3.3), Standard Error of Measurement, and 95% Minimal Detectable Change. The ICC was classified as excellent ($ICC > 0.90$), good (0.75-0.90), moderate (0.50-0.75) and poor ($ICC < 0.50$). Data analysis was performed using the Statistical Package for the Social Sciences, version 23.0 (SPSS Inc, Chicago, IL).

Results: A total of 51 athletes participated in the study. The non-normalized UQYBT for the dominant side demonstrated good reliability across all three directions, with ICC values ranging from 0.80 to 0.84. The SEM ranged from 4.11 to 6.28, while the MDC ranged from 11.41 to 17.42. For the normalized scores, reliability ranged from moderate to good, with ICC values of 0.68 for medial ($SEM = 6.12$, $MDC = 16.97$), 0.82 for superolateral ($SEM = 4.80$, $MDC = 13.31$), and 0.72 for inferolateral ($SEM = 7.43$, $MDC = 20.61$). The composite score for the dominant side also showed good reliability ($ICC = 0.82$, $SEM = 3.73$, $MDC = 10.34$). On the non-dominant side, the non-normalized score of all three directions demonstrated good reliability, with ICC values ranging from 0.86 to 0.89, SEM from

3.66 to 5.65, and MDC from 10.17 to 12.76. For the normalized scores, reliability ranged from moderate to good, with ICC values of 0.70 for medial ($SEM = 5.65$, $MDC = 15.66$), 0.87 for superolateral ($SEM = 4.43$, $MDC = 12.30$), and 0.80 for inferolateral ($SEM = 6.06$, $MDC = 16.80$). The composite score for the non-dominant side demonstrated good reliability ($ICC = 0.86$, $SEM = 3.61$, $MDC = 10.02$).

Conclusion: The UQYBT demonstrated moderate to good reliability for assessing swimmers. The SEM and MDC values were provided to help clinicians interpret the test results.

Implications: Clinicians can use the UQYBT for assessing swimmers, considering the moderate to good reliability. In addition, clinicians should consider the SEM and MDC for interpreting the results of UQYBT.

Keywords: Physical Performance Test, Functional Test, Measurement Properties

Conflict of interest: The authors declare no conflict of interest.

Funding: Empresa Brasileira de Serviços Hospitalares (Ebserh).

Ethics committee approval: No. 6.669.065.

Registration: Not applicable.

<https://doi.org/10.1016/j.bjpt.2025.101338>

76

INCIDENCE OF INJURIES IN RECREATIONAL BEACH TENNIS PLAYERS AND ITS ASSOCIATION WITH TRAINING VOLUME

Maria Vitória Ribeiro Machado, Luiz Carlos Gomes da Silva, Karla Geandra Dantas de Sousa, Júlia Nelúbia Jerônimo Da Silva, Iarley Webster Mareco Almeida, Yago Tavares
Centro Universitário Santa Maria, Cajazeiras, PB, Brazil

Background: Beach tennis (BT) is a sport that has become popular in Brazil, and its unrestricted and unsupervised practice has often been associated with the occurrence of injuries. However, this belief is based on empirical knowledge, without any scientific basis.

Therefore, the lack of evidence regarding the incidence of injuries in BT, as well as its relationship with training volume, can hinder decision-making regarding injury prevention strategies in this sport.

Objectives: To analyze the incidence of injuries in BT practitioners and its association with training volume.

Methods: This is a cross-sectional study that included 120 individuals who practiced BT regularly and recreationally in the last six months, with a minimum frequency of once a week. Recreational practitioners were considered those who were non-competitors or who competed only in local competitions. The dependent variable of this study was the incidence of injuries, defined as the rate of injuries per 1,000 hours of BT practice. The independent variables included the weekly frequency and number of hours per day of training, in addition to pre-training warm-ups and practice of other sports. Participants were recruited through invitations via social media and direct contact with potential participants at sports clubs. Data collection was based on an online survey that contained data on personal information, occurrence of injuries, and characteristics of BT practice. Injury incidence was calculated using the following formula: (Number of injuries/Number of hours of exposure) x 1000. The association between injury occurrence and variables related to training volume was analyzed using the Chi-square test. All analyses considered a 95% confidence interval and a significance level of 5%.

Results: A total of 166 injuries were documented in 96 practitioners (80% of the sample), after 53,232 hours of play, which generated an injury incidence rate of 3.11 injuries per 1,000 hours of BT play. Bivariate analysis indicated that variables related to the volume of BT practice, such as weekly frequency ($p = 0.83$; effect size = 0.10) and daily hours of practice ($p = 0.99$; effect size = 0.10), warm-up