

## **Abstract**

**Title:** Evaluation of archers postural stabilization with provocation test using Propriomed and its correlation with the target-shooting

**Objective:** Evaluation of archers postural stabilization level with provocation test using somatooscillatory aid Propriomed and to measure the level of postural stabilization depending on the successful target-shooting.

**Methods:** To evaluate the level of postural stabilization was used somatooscillatory aid Propriomed and four accelerometers placed at key points of postural provocation test, where the acceleration was deducted. Measurement was performed in triplicate at each of the five measured positions and took 10 seconds. Record, display and data processing was carried out using the diagnostic system Microswing 5.0. Prior to obtain data from Propriomed were probands asked to shoot twenty sets of three arrows from the 20 pounds reflex bow over the 18 meters distance. The point archery evaluation, statistic data processing and reliance of postural stabilization and successful target-shooting were done in Microsoft Office Excel 2007.

**Results:** Data analysis showed a statistically significant relationship between the level of postural stabilization and points obtained in archery. All measured positions, except for the third, significantly correlated with the points obtained in archery. The best relationship of postural stabilization and successful target-shooting demonstrates the second measured position, the left upper limb with flexion at the elbow joint, which is most often the hand holding the bow in archery. In archery is the stability of holding hand the most demanding. Relationship of postural stabilization and target-shooting does not reflect the third position with Propriomed held in both hands that is for archers, as an active athlete, too easy.

**Key words:** posture, postural stabilization test, archery, Propriomed, Microswing