

NAZIV DISERTACIJE: PROCJENA METRIJSKIH KARAKTERISTIKA SPINESCAN APARATA U ODNOSU NA BASELINE SKOLIOMETAR KOD OSOBA S ASIMETRIJOM TRUPA**Autor:** Bojan Kraljević**Mentor:** Prof. dr. Dijana Avdić**Datum odbrane:** 22.11.2021.**DOI:** <https://doi.org/10.17532/DD.2021.02>**SAŽETAK**

Uvod: Postura predstavlja međusobni položaj pojedinih djelova tijela, odnosno položaj tijela kao cjeline u prostoru. Pravilna postura zavisi od adekvatnog funkcionisanja aktivnih elemenata lokomotornog sistema. U cilju skrininga ili praćenja asimetrije trupa, u okviru neinvazivnih postupaka, pored skoliometra danas je sve češća i primjena SpineScan aparata.

Hipoteze: SpineScan aparat pokazuje korespondentan nivo valjanosti, u poređenju sa Baseline skoliometrom, pri evaluaciji asimetrije trupa. SpineScan aparat pokazuje niži nivo pouzdanosti, odnosno viši nivo osjetljivosti, u pređenju sa Baseline skoliometrom tokom evaluacije asimetrije trupa.

Ispitanici i metode: U istraživanje su bili uključeni ispitanici životne dobi od 7 do 18 godina, oba spola, s asimetrijom trupa posmatranom u odnosu na transversalnu ravan. Fizioterapijska procjena metrijskih karakteristika SpineScan aparata i Baseline skoliometra ispitivač će uraditi u položaju pretklona izvedenog iz stojećeg početnog položaja ispitanika. Fizioterapeut će za svakog ispitanika ispuniti Evaluacioni list za istraživanje u koji će unositi vrijednosti mjerenja. Rezultati: Nije ustanovljena statistički značajna razlika u prosječnim vrijednostima metrije primjenom SpineScan aparata u odnosu na Baseline skoliometar, bez obzira na spol ispitanika. Postoji statistički značajna pozitivna korelacija između starosti ispitanika i metrije primjenom oba mjerna instrumenta. Nije utvrđena statistički značajna razlika u vrijednostima metrije između mjernih instrumenata, bez obzira na regiju trupa, odnosno stranu asimetrije. Analizom ponavljanih mjerenja nije utvrđena statistički značajna razlika u srednjim vrijednostima asimetrije trupa kod pojedinih mjernih instrumenata. Tokom prva dva mjerenja nije utvrđena statistički značajna razlika u metriji između mjernih instrumenata, dok se trećim mjerenjem utvrdilo postojanje statistički značajne razlike u prosječnim vrijednostima asimetrije trupa (kod kategorija pothranjenih i ispitanika sa fiziološkom tjelesnom težinom). Veću vrijednost standardnih devijacija pokazuje Baseline skoliometar. Varijacije u nivou intrainstrumentalne pouzdanosti SpineScan aparata rastu sa porastom stepena asimetrije trupa.

Zaključak: Oba mjerna instrumenta pokazuju korespondentan nivo valjanosti pri evaluaciji asimetrije trupa, bez obzira na spol, starost ispitanika, BMI, regiju trupa i stranu asimetrije. Intrapouzdanost i interpouzdanost SpineScan aparata je viša u odnosu na Baseline skoliometar, međutim ona nije od kliničkog značaja.

Ključne riječi: SpineScan, Baseline skoliometar, asimetrija trupa, metrijske karakteristike.

DISSERTATION TITLE:**Author:** Bojan Kraljević**Mentor:** Prof. dr. Dijana Avdić**Date of defence::** 22.November 2021**DOI:** <https://doi.org/10.17532/DD.2021.02>**ABSTRAKT**

Introduction: Posture represents the mutual position of individual parts of the body, that is the position of the body as a whole in space. Proper posture depends on the adequate functioning of the active elements of the locomotor system. In order to screen or monitor the asymmetry of the torso, as part of non-invasive procedures, beside the scoliometer, the use of SpineScan device is becoming more common today.

Hypotheses: The SpineScan device shows a corresponding level of validity, compared to the Baseline scoliometer, when evaluating torso asymmetry. The SpineScan device shows a lower level of reliability, that is a higher level of sensitivity, compared to the Baseline scoliometer during the assessment of torso asymmetry.

Subjects and methods: The study included subjects aged 7 to 18 years, both sexes, with trunk asymmetry observed in relation to the transverse plane. The examiner will perform a physiotherapeutic assessment of the metric characteristics of the SpineScan device and the Baseline scoliometer in the position derived from the standing initial position of the examinee. The physiotherapist will fill in a Research Evaluation List for each subject, in which the measurement values will be entered.

Results: No statistically significant difference was found in the average values of the metric example of the SpineScan device in relation to the Baseline scoliometer, regardless of the sex of the respondents. There is a statistically significant positive correlation between the age of the subjects and the metric example of both measuring instruments. No statistically significant difference in metric values was found between the measuring instruments, regardless of the trunk region, the asymmetry side. The analysis of repeated measurements did not reveal a statistically significant difference in the mean values of trunk asymmetry in individual measuring instruments. During the first two measurements, no statistically significant difference of the metric was found between the measuring instruments, while the third measurement determined the existence of statistically significant differences in the average values of trunk asymmetry (in the categories of malnourished and subjects with physiological body weight). A higher value of standard deviations is shown by the Baseline scoliometer. Variations in the level of intra-instrument reliability of SpineScan devices increase with increasing degree of trunk asymmetry.

Conclusion: Both measuring instruments show a corresponding level of validity in assessing trunk asymmetry, regardless of gender, age of the subjects, BMI, trunk region and side of asymmetry. The intra/ inter-reliability of the SpineScan is higher than the Baseline scoliometer, however it is not of clinical significance.

Keywords: SpineScan, Baseline scoliometer, trunk asymmetry, metric characteristics.