

## COMMENTS ON: DOES THE DUNCAN-ELY TEST PREDICT ABNORMAL ACTIVITY OF THE RECTUS FEMORIS IN STROKE SURVIVORS WITH A STIFF KNEE GAIT?

We appreciate the study by Martin J. B. Tenniglo et al., 2022 (1), evaluating whether the Duncan-Ely test predicts abnormal activity of the rectus femoris muscle in stroke survivors with stiff knee gait (SKG). However, we would like to draw attention of the authors to a few concerns.

The article aimed to evaluate whether the Duncan-Ely test predicts abnormal activity of the rectus femoris muscle in stroke survivors with stiff knee gait (SKG). However, in the main text, the authors state that they were evaluating overactivity or spasticity of the rectus femoris muscle. This is confusing, as “abnormal activity” of a muscle can also refer to reduced activity. The authors should have specified whether they were assessing “reduced activity”, “overactivity”, or both.

The study location is described, but no information is provided about the study setting; for example, regarding the provision of a soundproof setting for surface electromyography (sEMG) to prevent external causing data errors. The methodology section is informative, but also does not specify the sample size estimation formula, and sampling technique. Omission of these criteria might limit the results of the study (2).

The inclusion criteria include a very broad range of patients' ages, i.e. above 18 years, but the data on the target population does not match the lower limit. The table of patient characteristics indicates that the mean age of patients was 57 years, with a standard deviation of approximately 13 years, which is a narrower age group than stated in the inclusion criteria. The authors might have considered the age group above 40 years to justify the results. Moreover, the inclusion criteria do not include the type of stroke, or localization of stroke. These criteria should also have been specified, as they are major predictors of stroke recovery. The type of stroke plays a crucial role in gait pattern; some types of stroke do not affect the lower limb or do not lead to motor weakness (3).

Although the procedures for the Duncan-Ely test and sEMG are described, images illustrating these testing methods are lacking, which makes it difficult for readers to interpret the techniques.

In conclusion, as this a cross-sectional study, use of the “Strengthening the Reporting of Observational studies in Epidemiology” (STROBE) guidelines would be advised to ensure high-quality presentation of the observational study conducted (4). To provide more extensive analysis of gait abnormalities, future studies should focus on methodological clarity and pictorial representation of the tests per-

formed, to help readers understand how these procedures can be performed in the optimum way. This would reduce any testing errors and promote better research outcomes.

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None of the authors have competing interest declared.

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#### *Ethics and consent*

Not applicable.

#### *Author's contributions*

IG and JS conceived and designed the study, provided research Materials wrote initial and final draft of article. SB provided the supporting article with respect to the intellectual content. The authors read an approved the final manuscript.

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*Key words:* electromyography; muscle; spasticity; stiff knee gait.

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The authors of the original articles were given the opportunity to comment in response to this Letter, but chose not to do it.