The reliability of reflex-assessment is currently debatable, with current literature regarding the patellar tendon reflex (PTR) as highly reliable, while the biceps tendon reflex (BTR) is regarded to be of low reliability in the dog. Such statements are, however, based on subjective observations rather than on an empirical study. The goals of this study were three-fold: (1) the quantification of the interobserver agreement (IA) on the evaluation of the canine bicipital (BTR) and patellar tendon (PTR) reflex in healthy dogs, (2) to compare the IA of the BTR and PTR evaluation and (3) the identification of intrinsic (sex, age, fur length, weight) and extrinsic (observer´s expertise, body side) risk factors on the IA of both reflexes. The observers were subdivided into three groups based on their expected level of expertise (neurologists = highest -, practitioners = middle-and veterinary students = lowest level of expertise). For the BTR, 54 thoracic limbs were analyzed and compared to the evaluation of the PTR on 64 pelvic limbs. Each observer had to evaluate the reflex presence (RP) (present or absent) and the reflex activity (RA) using a 5-point ordinal scale. Multiple reliability coefficients were calculated. The influence of the risk factors has been calculated using a mixed regression-model. The Odds Ratio for each factor was presented. The higher the level of expertise the higher was the IA of the BTR. For RP(BTR), IA was highest for neurologists and for RA(BTR) the IA was lowest for students. The level of expertise had a significant impact on the degree of the IA in the evaluation of the bicipital tendon reflex: for the RA(BTR), practitioners had a 3.4-times ($p = 0.003$) and students a 7.0-times ($p < 0.001$) higher chance of discordance. In longhaired dogs the chance of disagreement was 2.6-times higher compared to shorthaired dogs in the evaluation of RA(BTR) ($p = 0.003$). Likewise, the IA of the RP(PTR) was the higher the higher the observers´ expertise was with neurologists having significantly highest values ($p < 0.001$). The RA(PTR) has been evaluated more consistent by practitioners and students than the RA(BTR). For practitioners this difference was significant (< 0.01). Our data suggests that neurologists assess the bicipital and patellar tendon reflex in dogs most reliably. None of the examined risk factors had a significant impact on the degree of IA in the evaluation of RP(PTR), while students had a 4.4-times higher chance of discordance when evaluating the RA(PTR) compared to the other groups. This effect was significant ($p < 0.001$). Neurologists can reliably assess the bicipital and patellar tendon reflex in healthy dogs. Observer´s level of expertise and the fur length of the dog affect the degree of IA of RA(BTR). The influence of the observer´s expertise is higher on the evaluation of the BTR than on the PTR [1)].

1)

Giebels F, Pieper L, Kohn B, Volk HA, Shihab N, Loderstedt S. Comparison of interobserver agreement between the evaluation of bicipital and the patellar tendon reflex in healthy dogs. PLoS One. 2019 Jul 10;14(7):e0219171. doi: 10.1371/journal.pone.0219171. eCollection 2019. PubMed PMID: 31291315.