



P 15 Mechanical tools for tick removal – differences of instruments and pulling or twisting?

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It is well known that attached ticks have to be removed as fast as possible to avoid or at least reduce transmission of several pathogens. To shed light into a rather controversially discussed topic, we conducted a study with 5 commercial tick removal devices. The tick card and the forceps were used by pulling, whereas the pen-tweezer, the 'lasso', and the tick twister should be rotated to remove the ticks. Mainly vets were supplied with these devices and instructed to remove 5 ticks per device and individually store them. Furthermore, a questionnaire about host species, time required for removal, effort to remove, reaction of the host species etc. had to be filled for each removed tick. In the laboratory, the injury of the mouthparts was measured and the level of engorgement determined. Yet, we received 525 removed ticks, mainly from dogs and cats. The dominant species and stage were females of *Ixodes ricinus* (95%). Rotation seems to reduce the injury of the mouthparts with occasional breaking of the hypostome, whereas using the pulling device likelihood of obtaining intact mouthparts, a broken hypostome, or totally injured mouthparts was nearly the same. Using the tick twister, the mouthparts showed the lowest injury, but this was not significant to the other devices based on the data available to date. The pen-tweezer and the lasso were ranked best in most of the other variables. This might be due to the fact that these devices are the most common. To date, no data are calculated about the degree of squeezing of the tick's idiosoma, which most likely occurs with these 2 devices due to their mode of operation. Further investigations and evaluations have to be done according to, e.g., the injury of the whole tick or the removal success at different levels of engorgement.