

## Review of “Effect of ‘tongue tie’ use on racing performance of Thoroughbreds in the United Kingdom”

*SZ Barakzai\*, C Finnegan, LA Boden*

*\*University of Edinburgh*

### Why was this study conducted?

Tongue ties (strips of material passed through the horse’s mouth over the tongue and tied under the jaw) are sometimes used on racehorses for one of two primary reasons. As a way to keep a horse from putting its tongue over the bit and thus avoiding control by the rider, the tongue tie is usually at least somewhat effective in most cases. When tongue ties are used in an attempt to prevent dorsal displacement of the soft palate (DDSP), anecdotal reports as well as some clinical research have indicated this procedure is effective on some horses and ineffective on others. This research was conducted to evaluate the use of tongue ties on racing performance in Thoroughbred racehorses in the United Kingdom.

### How was the research done?

Records were obtained from the Racing Post Online Database for exposed horses (those that had raced while wearing a tongue tie) and control horses (those that had never raced while wearing a tongue tie). Horses were eligible for selection if they had run in a race in one or more of 60 randomly chosen meetings between January 2001 and December 2003. To fit into the exposed group, horses had to meet the following requirements: had at least five race starts before wearing a tongue tie in a race; had not raced during the 18 months prior to August 1, 2008 so as to ensure that their training and racing careers were finished; and had not raced before January 1, 1999 because the use of tongue ties was not recorded before that date. Each exposed horse was matched by gender and age with one or two unexposed horses if such matches could be found. If exact matches could not be found, a horse one year older or younger than the exposed horse, or of the opposite gender, was used. The lifetime record for each control horse was examined to ensure that it had never raced with a tongue tie and had started in at least five races before the date when its matched exposed horse raced with a tongue tie.

Performances of exposed and unexposed horses were analyzed in three groups. Group 1 was made up of all exposed horses that wore a tongue tie at least once, plus their matched controls. Group 2 was made up only of exposed horses that ran with a tongue tie in place for three or more consecutive races after the first race in which a tongue tie was used, plus their matched controls. Group 3 was made up only of exposed horses that ran with a tongue tie in place for five or more consecutive races after the first race in which a tongue tie was used, plus their matched controls. In this arrangement, all horses were in group 1; group 2 was a subset of group 1; and group 3 was a subset of both groups 1 and 2.

Of all horses in the study, about 75% were geldings and about 25% were mares. Horses were 2 to 10 years old, with an average of 4.6 years old. Races were split almost equally between flat and over-fences events.

The researchers gathered data on the total number of lifetime starts before and after the date of the first race where a tongue tie was used as well as total race earnings for the five starts before and five starts after a tongue tie was introduced. Range, median, and average were figured for age, number of starts prior to the first

race using a tongue tie, number of starts within 12 months after beginning to use a tongue tie, and lifetime starts after beginning to use a tongue tie.

If a horse had increased total earnings in either three or five races after the first race using a tongue tie as compared to three (all groups) or five (groups 1 and 3) races prior to the first race using a tongue tie, this was defined as an improvement in total earnings. Total earnings before and after the date of the first race using a tongue tie were compared between exposed and unexposed groups.

## **What results were found?**

Exposed horses tended to have fewer race starts than unexposed horses before the first race using a tongue tie. After the date when a tongue tie was first used, horses in each set had about the same number of starts. However, exposed horses in groups 2 and 3 had significantly more starts than unexposed horses in the 12 months following the first race using a tongue tie.

For group 1, exposed horses were 1.85 times more likely than unexposed horses to have improved earnings in their next three races after the date when a tongue tie was first used. For group 2, exposed horses were 3.6 times more likely than matched unexposed horses to have improved earnings in their next three races after the date when a tongue tie was first used. For group 3, exposed horses were 4.24 times more likely than matched unexposed horses to have improved earnings in their next three races after the date when a tongue tie was used, and 5.05 times more likely than matched unexposed horses to have improved earnings in their next five races after the date when a tongue tie was used.

## **What does this tell us about the use of tongue ties in racing Thoroughbreds?**

Though previous research has shown inconclusive results regarding the efficacy of tongue ties, this study seemed to indicate an advantage when certain groups of horses wore the device. The authors state, "To date, most experimental studies have evaluated clinically normal horses, and not those with suspected or confirmed DDSP. Clinical studies that evaluated racing performance in suspected and confirmed cases of DDSP evaluated tongue tie use grouped together with other conservative treatments, rather than evaluating tongue tie use specifically. No other study to date has evaluated the effect of tongue tie use on racing performance *per se*, regardless of the indication for using a tongue tie. The data here appear to show that tongue tie use has a beneficial effect on racing performance in selected horses that are perceived by their trainer to be afflicted with DDSP or which are run with a tongue tie in place to improve jockey control, and that this beneficial effect on racing performance is particularly marked for horses that run in at least three or five consecutive races wearing a tongue tie."

Some skewing of groups is possible, as horses that ran well with a tongue tie were probably raced in a tongue tie again, while horses that did not show significant improvement may not have been. The authors also pointed out that horses wearing tongue ties had as many or more starts after their first race with a tongue tie compared to control horses, so use of a tongue tie should not be seen as limiting the duration of a horse's racing career. No attempt was made in this study to distinguish between horses with suspected or confirmed DDSP and horses that had a training or control problem.

The authors commented that while use of a tongue tie appeared to enhance performance in some horses, the results of the study should not be seen as a promotion of tongue tie use for normal horses as a performance-enhancing aid.

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