

## A Case Study in Canine Trigger Point Therapy

Submitted by Ken Bain 11/1/15

At a recent agility competition, the owner of a 4 year old female border collie, named Pogo, requested a trigger point therapy session. The owner had no specific problems to be addressed.

Findings during the trigger point session:

1. Significantly diminished passive range of motion (ROM) in the left shoulder on extension (approximately 70% of normal)
2. Slightly diminished ROM on left shoulder flexion with elbow extension.
3. All other limbs were slightly diminished in their ROMs, but not significant.
4. Active trigger points were found in left teres major, left thoracic trapezius, left tricep (long head), and right iliopsoas with hyperirritability on each.
5. All trigger points were treated and normal ROMs were established.

The trigger point session lasted 35 minutes.

Unbeknownst to me, Pogo had been given a GAIT4Dog® Lameness Score (GLS) using a GAIT4Dog® Walkway. A gait evaluation was done 5 minutes before the trigger point session and again 60 minutes after the session. The results were shared with me after the second evaluation, such that the data did not affect or influence the treatment.

The pre-treatment gait analysis:

GLS		Paw Parameters	Left Front	Right Front	Left Hind	Right Hind
LF 79	RF 110	Step Length (cm)	45.085	48.26	46.567	43.815
		Stride Length (cm)	92.39	94.62	90.81	90.81
LH 108	RH 107	Step/Stride Ratio	48.8%	51%	51.3%	48.3%
		Reach (cm)			19.3	17.8
		Stance Time (sec)	0.333	0.354	0.271	0.287
		Stance %	59.6	60.6	48.9	52.6
		Pressure %	23.8	33.1	21.7	21.4

The post-treatment gait analysis:

GLS		Paw Parameters	Left Front	Right Front	Left Hind	Right Hind
LF 100	RF 98	Step Length (cm)	45.508	46.99	46.567	53.975
		Stride Length (cm)	91.44	93.98	99.70	100.65
LH 97	RH 105	Step/Stride Ratio	49.8%	50%	46.7%	53.6%
		Reach (cm)			-2.8	-3.8
		Stance Time (sec)	0.238	0.258	0.179	0.179
		Stance %	49.6	52.4	33.5	34.6
		Pressure %	30.1	29.4	19.4	21.1

The GLS score is designed to show a grade for the amount of off-loading and over-loading of a limb. A perfect score is 100. Numbers below 100 indicate a level of off-loading of a limb (lameness). Numbers above 100 indicate over-loading of a limb (compensation). GLS scores in the range of 83-92 indicate a grade 1 lameness. GLS scores of 47-83 indicate a grade 2 lameness. GLS scores below 47 represent a grade 3 lameness.

To simplify the results of the pre-treatment analysis, the normalized percentage pressure and GLS scores will be reviewed. In the ideal model of a medium-sized dog, the front limbs should carry 60% of the body weight (30% per leg) and the hind limbs should carry the remaining 40% of the body weight (20% per leg). Therefore a perfect score, which would result in a GLS of 100 is 30% in each front leg and 20% in each rear leg.

Pogo scored a GLS of 79 in the front left leg, indicating a grade 2 lameness. Correlating the pressure data, only 23.8% of the body weight is being supported by that leg. Ideally this should be 30% which implies diminished weight bearing capability, or lameness.

Looking at the same parameters after the trigger point therapy session, the GLS score on the left front leg was scored as 100 which is ideal with no indication of lameness. The resulting percentage of weight bearing pressure on that leg was 30.1%, which is also ideal.

## Conclusion

The results for this particular case show improvement in the weight bearing capability for the front left leg following the trigger point therapy session. This leg presented with a significantly limited ROM on shoulder extension with trigger points in many of the antagonist muscles for shoulder extension. A reasonable conclusion is that the hyperirritability of the affected shoulder muscles may be leading to pain during the walking phase which leads to offloading weight from that leg. Relieving the hyperirritability and dysfunction caused by trigger points can restore the normal weight bearing capability of the affected leg. This data also indicates how quickly dysfunction from trigger points can be reversed when treated effectively.

Special thanks to Robby Porter and Lindsey Hinds of It's Possible for donating their time and use of the GAIT4Dog® Walkway system for this case study.