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| Practitioner | Hydro 1 Cooper |
| Appointment | 9 May 2026, 8:20AM |
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GAIT ANALYSIS

Reason for Gait Assessment

Willow first started with us at Splash Paws following stiffness and lameness to her right hindlimb. However, in her most recent hydrotherapy session she showed a slight pelvic hike through her left hindlimb. We have undertaken a gait analysis session to further analyse altered gait patterns through her hindlimbs.

Client Feedback & Client Observations

Willow's owner says she has been doing well since her last session. On one of her walks at the weekend she seemed to be a little reluctant and put on the breaks however her owner thinks this was because Willow was being stubborn.

Health Check Notes

Happy to come in
A little stiff and reduced through left shoulder extension
A little stiff through left elbow flexion
A little reduced shoulder extension to right but less stiffness than left
Hypertonic to caudal shoulder muscles bilaterally
Fasciculations to lumbar epaxials and a little fidgety when applying deeper pressure to lumbar sacral region
Stiff through right hip range of movement
A little reluctant to extend right hip and reduced in range
A little reduced on right hip flexion
Stretched through lower spine to achieve extension of left hip
Reluctant to extend stifles bilaterally

A little stiff through left stifle flexion
Hypertonic to right quadriceps
Hypertonic to hamstrings and gracilis on left hindlimb

STANCE ANALYSER notes (Static Analysis)

LIMB PRESSURE %

Left FORE - 36%

Right FORE - 27%

Left REAR - 22%

Right REAR - 15%

MUSCLE MEASUREMENTS

Measurements in CMs

Left FORE - 27cm

Right FORE - 27cm

Left REAR - 47cm

Right REAR - 47cm

TENDIBOOTS RESULTS (Dynamic Analysis)

WALK

FORE LIMBS: LFore / RFore

Strides: 93 / 94

Stride Height cm: 9cm / 9cm

Stride Length cm: 26cm / 28cm

Peak Grf/KG: 21.7N/kg / 24.7N/kg

Swing Duration ms: 246ms / 257ms

Stride Duration ms: 631ms / 632ms

Stationary Duration ms: 384ms / 374ms

HIND LIMBS : LHind / RHind

Strides: 90 / 90
Stride Height cm: 9cm / 7cm
Stride Length cm: 20cm / 19cm
Peak Grf/KG: 17.0N/kg / 15.1N/kg
Swing Duration ms: 244ms / 250ms
Stride Duration ms: 654ms / 655ms
Stationary Duration ms: 410ms / 405ms

TROT

FORE LIMBS: LFore / RFore

Strides: 77 / 78
Stride Height cm: 20cm / 13cm
Stride Length cm: 38cm / 36cm
Peak Grf/KG: 34.1N/kg / 28.6N/kg
Swing Duration ms: 254ms / 260ms
Stride Duration ms: 512ms / 511ms
Stationary Duration ms: 257ms / 251ms

HIND LIMBS : LHind / RHind

Strides: 76 / 78
Stride Height cm: 14cm / 7cm
Stride Length cm: 28cm / 16cm
Peak Grf/KG: 27.5N/kg / 21.3N/kg
Swing Duration ms: 258ms / 162ms
Stride Duration ms: 510ms / 511ms
Stationary Duration ms: 252ms / 348ms

SUMMARY

Willow was a really good girl for her gait analysis session and seemed to really enjoy herself! We were able to take recordings of walk and trot using the Tendiboots.

Stance:

- Ideally, we would like 30% on each of her forelimbs, and 20% on each of her hindlimbs.

- Willow's stance reveals that she is offloading her right hindlimb and over loading the left forelimb. This may be a result of discomfort or weakness through the right hindlimb
- Willow also shows a small increase in weight bearing through the left hindlimb. This may show why she is experiencing discomfort and stiffness in this limb during palpation assessment.

Walk:

- Willow's forelimb results at walk are very positive and show no significant differences.
- She presents an even stride height through bilateral forelimbs and only a 2cm difference in stride length. This suggests that Willow is comfortable through flexion and extension of her forelimbs and is engaging equally as a result.
- Willow shows a 3 N/kg reduction in mechanical load through the left forelimb. This may suggest that she is placing the limb cautiously compared to the right; however, this could also suggest that Willow is not over loading this limb in the same way she does while standing.
- Willow demonstrates only a minimal difference in swing and stationary durations between her forelimbs. She opts to keep the right forelimb in swing duration for 11ms longer and the left forelimb in stationary duration for 10ms longer. Given the small and closely matched differences, this pattern may reflect Willow's preferred gait rather than an indication of discomfort.
- Willow's hindlimb results at walk are also positive and show no significant differences.
- She does show a minor reduction in stride height and length through the right hindlimb, suggesting that she isn't fully engaging the limb. She also shows a 1.9 N/kg reduction in mechanical load through the right hindlimb. This may imply that she is placing the limb cautiously and avoiding a heavy load.
- Willow demonstrates a 6ms increase in swing duration and a 5ms decrease in stationary duration through the right hindlimb. This may imply that she is keeping this limb in a non-active state to avoid full use. However, as this pattern is similar to that observed in her forelimb movement, it may instead represent her normal gait pattern rather than an indication of discomfort.

Trot:

- Willow's forelimb results at trot differ slightly from walk and show one significant difference.
- She presents a 7cm reduction in stride height through the right forelimb. This represents a significant difference and dissimilar to walk. This finding may suggest discomfort during flexion of this limb; however, as the other measurements relating to the right forelimb do not show significant differences, this may instead represent a compensatory movement pattern.
- Willow demonstrates a 5.5 N/kg difference in mechanical load between the forelimbs with the left forelimb bearing more weight. This may imply that Willow is placing the limb heavier than at walk, following a similar pattern to that seen in her stance analysis. This loading pattern may represent compensation for offloading the right hindlimb.
- Willow shows a very similar swing, stationary and stride duration between bilateral forelimbs implying that she is not feeling discomfort or avoiding use of either limb.
- Willow's hindlimb results at trot also differ from her walk and show a few significant differences.
- She shows a significant reduction in stride height (7cm) and stride length (12cm) through the right hindlimb. During her health check, Willow also showed discomfort with right hip extension, which is consistent with these findings.
- Willow also demonstrates a 6.2 N/kg reduction in mechanical load through the right hindlimb. This may imply that she is placing the limb cautiously and potentially showing signs of a weight-bearing lameness through this limb.
- Willow demonstrates a marked reduction in stationary duration and a marked increase in swing duration in the left hindlimb, with a 96ms difference recorded for both parameters. These findings are inconsistent with the previously identified gait changes in the right hindlimb. Willow may be exhibiting reduced stride height and length through the right hindlimb due to premature placement in an attempt to offload the left hindlimb. The observed difference in mechanical load may also reflect heavier, less controlled placement of the left hindlimb, rather than more cautious placement of the right hindlimb.

Overall, Willow's results have provided greater insight into her gait pattern. At walk, she demonstrates relatively comfortable and even movement through all limbs with only minor differences observed. However, at trot, her gait pattern changes significantly, with increased signs of discomfort through the hindlimbs. The findings suggest the presence of discomfort in the right hindlimb which has been noted in Willow's treatment previously, In

addition, the results indicate a possible developing lameness in the left hindlimb, which has only recently been observed.

ADVICE & THERAPY PLAN SUGGESTIONS

We have advised to continue weekly massage therapy and hydrotherapy for another 5-6 weeks. This will aim to improve hindlimb engagement and comfort. Following this we have advised a repeat gait analysis to assess Willow's progress and the potential need for further intervention.

We have recommended walking Willow on both the left and right sides to encourage more balanced engagement overall.