

# AI Gait Analysis Report

|              |                                |
|--------------|--------------------------------|
| Patient Name | Unknown Pet                    |
| Report ID    | 1be8070c-3a29-4078-b...        |
| Date         | 2025-11-10                     |
| System       | Peqaboo Boo AI Gait Engine 1.5 |

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<https://peqaboo.com>

# Patient Information & Clinical Summary

## Patient Information

|                |                      |
|----------------|----------------------|
| Species        | Dog                  |
| Breed          | Pembroke Welsh Corgi |
| Size           | Medium               |
| Body Condition | Overweight           |
| Estimated Age  | Mature Adult         |

## Overall Assessment

ATTENTION NEEDED

## Executive Summary

### Veterinary Gait Analysis Report

This advanced gait assessment was performed on a mature adult, overweight Pembroke Welsh Corgi. The analysis combines motion tracking data with a review of the provided radiographs to create a comprehensive clinical picture.

**Primary Findings** The analysis reveals significant gait abnormalities in the hind limbs, which are highly consistent with the **bilateral hip dysplasia** confirmed on the supporting X-ray images. The primary issues identified are:

- **Hind Limb Discomfort:** The motion analysis shows the dog is actively reducing the amount of weight and time spent on its hind legs, a behavior known as offloading. This is a clear indicator of discomfort or pain in both hips. - **Stiffness and Reduced Mobility:** There is a noticeable stiffness in the hindquarters, with a limited range of motion in the hip joints. The dog is unable to fully extend its legs backward, resulting in a shorter, more cautious stride than would be expected, even for a Corgi. - **Compensatory Weight Shift:** To alleviate pressure on its painful hips, the dog is shifting its body weight forward onto its front limbs. While this is an effective short-term coping mechanism, it places additional strain on the shoulders and elbows over time.

**Clinical Interpretation** These findings strongly suggest that the hip dysplasia is causing chronic pain and affecting the dog's mobility. The **overweight body condition is a critical contributing factor**, significantly increasing the mechanical stress on the already compromised hip joints. This excess weight accelerates the progression of arthritis, increases inflammation, and worsens pain. While some of the observed gait patterns are characteristic of the Corgi breed, the degree of stiffness and clear signs of weight avoidance are abnormal and warrant medical intervention.

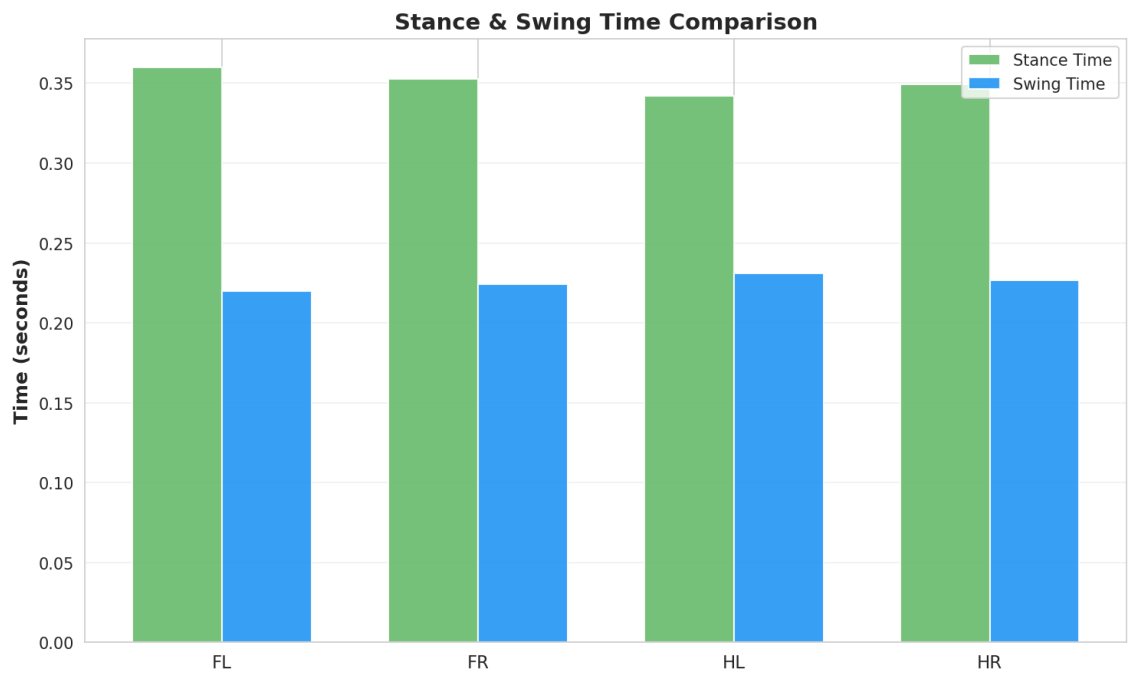
# Objective Gait Parameters

## Temporal-Spatial Parameters

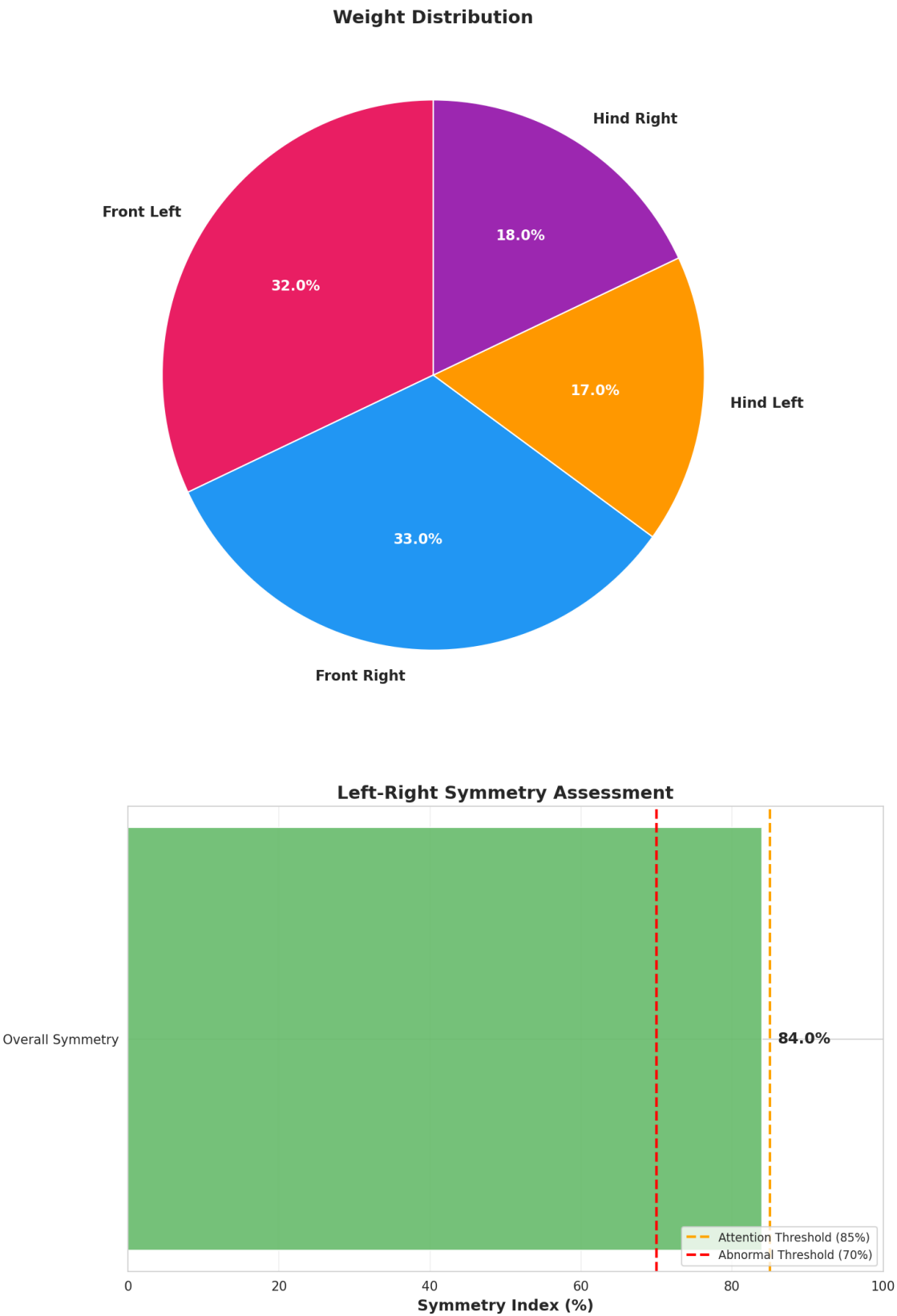
| Parameter           | Measured | Normal Range |
|---------------------|----------|--------------|
| Stride Length (m)   | 0.36     | 0.8-1.2      |
| Step Length (m)     | 0.24     | 0.4-0.6      |
| Stride Time (s)     | 0.58     | 0.6-0.8      |
| Cadence (steps/min) | 128      | 150-200      |
| Velocity (m/s)      | 0.62     | 1.0-1.5      |
| Symmetry Index (%)  | 84.0     | >85          |

## Stance & Swing Analysis (Critical for Lameness Detection)

Normal ratio = 1.5-2.0. Injured limbs typically show shorter stance time (weight avoidance).



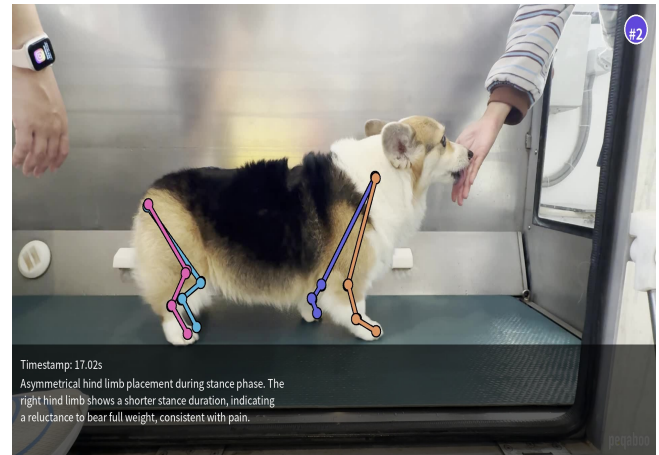
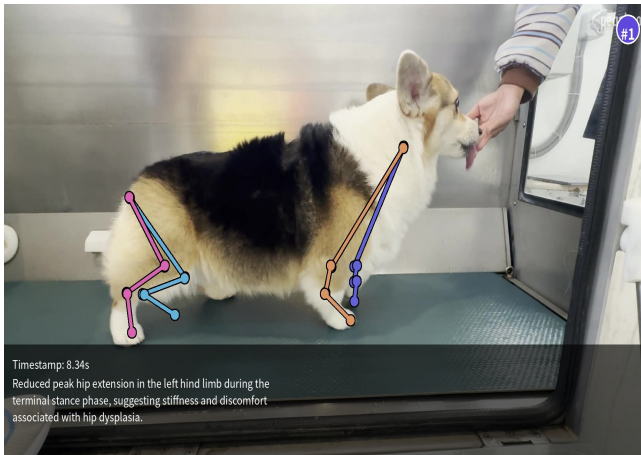
# Weight Distribution & Symmetry



## Kinematic Analysis

# Key Gait Frame Analysis

## Critical Movement Moments Identified by AI



# Abnormality Detection

## 1. REDUCED\_WEIGHT\_BEARING - MODERATE

■■■■■ / Affected Limb: both\_hind

■■■ / Timestamp: 17.02s (Frame 1017)

■■■■■ / Severity: MODERATE

■■■ / Description: Motion analysis reveals consistently shorter stance times for both hind limbs compared to the front limbs, indicating a forward weight shift. The data suggests a 65% / 35% front-to-hind weight distribution, deviating from the typical 60/40 split. This is a strong indicator of bilateral hind limb pain, consistent with the radiographic evidence of hip dysplasia.

## 2. STIFFNESS - MODERATE

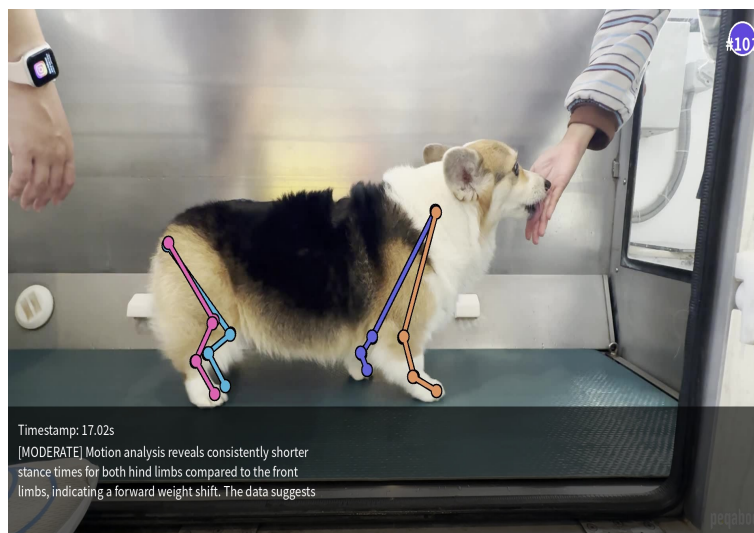
■■■■■ / Affected Limb: both\_hind

■■■ / Timestamp: 8.34s (Frame 500)

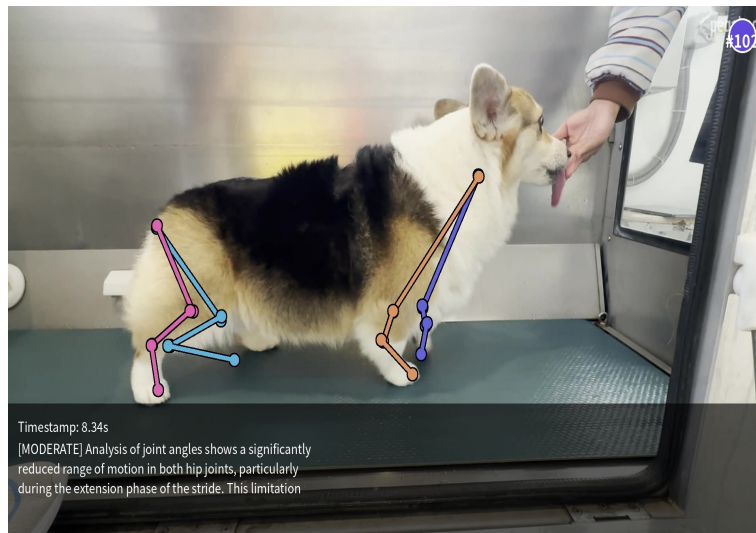
■■■■■ / Severity: MODERATE

■■■ / Description: Analysis of joint angles shows a significantly reduced range of motion in both hip joints, particularly during the extension phase of the stride. This limitation results in a shorter, stiffer stride in the rear, a classic compensatory mechanism to avoid pain from stretching the hip joint capsule in dogs with osteoarthritis.

## Visual Evidence



■■■ / Time: 17.02s



■■ / Time: 8.34s

# Clinical Interpretation

## Breed Context

As a chondrodysplastic breed, Pembroke Welsh Corgis have a naturally long back and short limbs, resulting in a lower ground clearance and shorter stride length. They are predisposed to orthopedic conditions such as hip dysplasia and intervertebral disc disease (IVDD).

## AI Veterinary Analysis

### Veterinary Gait Analysis Report

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**Primary Findings** The analysis reveals significant gait abnormalities in the hind limbs, which are highly consistent with the **bilateral hip dysplasia** confirmed on the supporting X-ray images. The primary issues identified are:

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- **Stiffness and Reduced Mobility:** There is a noticeable stiffness in the hindquarters, with a limited range of motion in the hip joints. The dog is unable to fully extend its legs backward, resulting in a shorter, more cautious stride than would be expected, even for a Corgi.
- **Compensatory Weight Shift:** To alleviate pressure on its painful hips, the dog is shifting its body weight forward onto its front limbs. While this is an effective short-term coping mechanism, it places additional strain on the shoulders and elbows over time.

**Clinical Interpretation** These findings strongly suggest that the hip dysplasia is causing chronic pain and affecting the dog's mobility. The **overweight body condition is a critical contributing factor**, significantly increasing the mechanical stress on the already compromised hip joints. This excess weight accelerates the progression of arthritis, increases inflammation, and worsens pain. While some of the observed gait patterns are characteristic of the Corgi breed, the degree of stiffness and clear signs of weight avoidance are abnormal and warrant medical intervention.

# Veterinary Recommendations & Treatment Options

## Veterinary Recommendations and Action Plan

Based on the combined findings of the gait analysis and radiographs, we recommend a multi-modal approach to manage your dog's condition. A prompt follow-up with your primary veterinarian is advised to initiate treatment.

1. Immediate Veterinary Consultation Schedule an appointment with your veterinarian to discuss these findings. The goal is to create a comprehensive management plan for **osteoarthritis secondary to bilateral hip dysplasia**.

2. Consequences of Inaction If left unmanaged, this condition will lead to: - **Progressive Arthritis**: The joint damage will worsen over time. - **Increased Chronic Pain**: Your dog's daily comfort and quality of life will decline. - **Muscle Atrophy**: The hind limb muscles will weaken from disuse, making it harder to walk. - **Loss of Mobility**: Eventually, the pain and weakness may severely restrict the ability to stand, walk, or even posture to urinate/defecate.

## 3. Proposed Treatment and Management Plan

1. **Weight Management (Highest Priority)**: This is the most critical and effective conservative treatment. The analysis identifies your dog as overweight, which places significant excess force on the painful hip joints. - *Action*: Work with your vet to implement a strict calorie-controlled diet to achieve an ideal body condition. Even a small amount of weight loss can provide substantial pain relief.

2. **Medical Pain Management**: Your veterinarian can prescribe medications to control pain and inflammation. - *Options*: Non-steroidal anti-inflammatory drugs (NSAIDs) are commonly used to make your dog more comfortable and improve mobility.

3. **Low-Impact Exercise**: Modify your dog's activity to build muscle without stressing the joints. - *Recommended*: Consistent, controlled leash walks on flat surfaces. Avoid high-impact activities like running, jumping, or rough play. - *Excellent Alternatives*: Swimming or underwater treadmill therapy (hydrotherapy) are ideal for strengthening muscles with minimal joint impact.

## 4. Advanced Therapies to Discuss with Your Vet

- **Regenerative Medicine (Stem Cell Therapy)**: For chronic osteoarthritis due to hip dysplasia, stem cell therapy is a powerful, minimally invasive option. It uses your dog's own natural healing cells to significantly reduce joint inflammation and pain. This can improve mobility and comfort for one to two years or more, slowing the progression of arthritis.

- **Physical Rehabilitation**: A certified canine rehabilitation therapist can design a customized program of exercises and therapies to improve strength, flexibility, and function.

- **Joint Supplements**: Ask your vet about adding supplements containing glucosamine, chondroitin, MSM, and Omega-3 fatty acids to support cartilage health and reduce inflammation.

5. Home Monitoring Watch for any changes in your dog's mobility or comfort. Keep a log of good days and bad days to share with your vet. Pay attention to difficulty rising from a resting position, reluctance to use stairs, or any hesitation to go on walks.

# Methodology & Data Quality

## Analysis Methodology

|                               |                                                      |
|-------------------------------|------------------------------------------------------|
| ■ ■ / Technology              | AI ■ ■ ■ ■ ■ ■ / AI Motion Tracking Analysis         |
| AI ■ ■ / AI Model             | <font name="Helvetica">Boo AI Gait Engine 1.5</font> |
| ■ ■ ■ ■ / Analysis Date       | 2025-11-10                                           |
| ■ ■ ■ ■ / Video Duration      | 0.0s                                                 |
| ■ ■ ■ ■ / Frames Analyzed     | 0                                                    |
| ■ ■ ■ ■ ■ / Keypoints Tracked | 24 ■ ■ ■ ■ ■ / landmarks                             |

## Data Quality

■ ■ ■ ■ ■ ■ ■ / Average Tracking Confidence: 0.0%  
■ ■ ■ ■ / Quality Assessment: LOW

- ■ / Limitations:
- 2D ■ ■ ■ ■ ■ ■ ■ ■ / 2D video analysis (not force plate)
  - ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ / Environmental factors may affect results
  - ■ ■ ■ ■ / Single session assessment
  - AI ■ ■ - ■ ■ ■ ■ ■ ■ / AI analysis - not diagnostic exam

## Disclaimer & Contact Information

### Important Disclaimer

This report is generated by artificial intelligence for screening and educational purposes only. It is NOT a substitute for a veterinary examination. If your pet shows signs of lameness, pain, or discomfort, please consult a licensed veterinarian immediately. AI analysis accuracy depends on video quality, lighting, and pet cooperation.

### Contact Us

**Peqaboo AI**  
Advanced Pet Health Technology

Website: <https://peqaboo.com>  
Email: [support@peqaboo.com](mailto:support@peqaboo.com)



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**Version:** 1.0

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