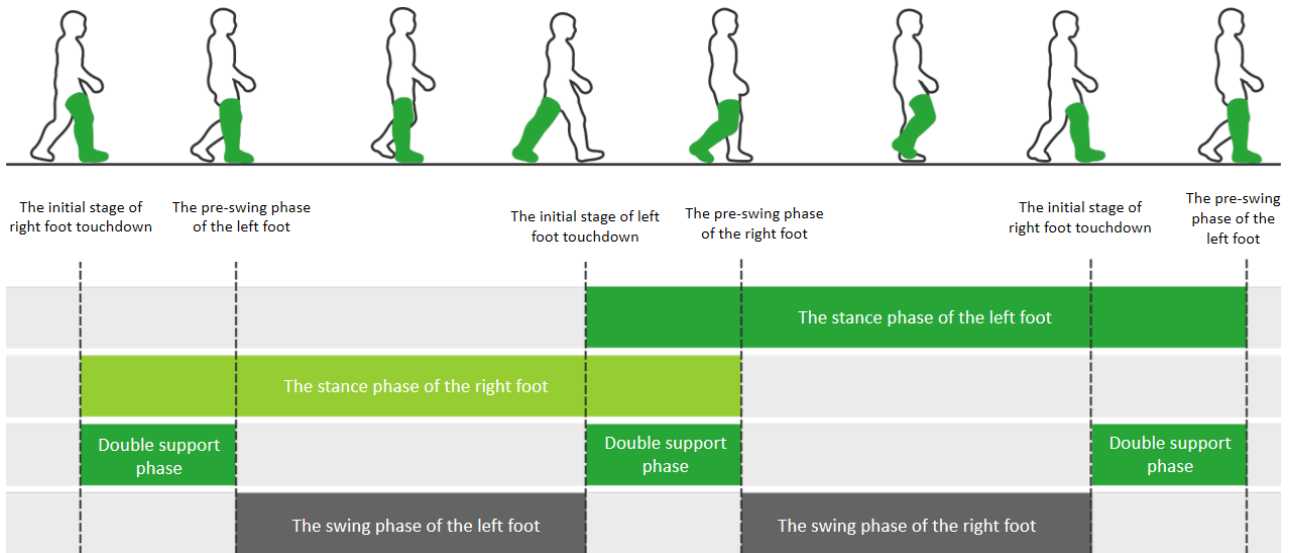


# Test Items: Dynamic Gait



## Phase Parameters

<b>Stance Phase</b>	L	49.7±24.4%		100%
	R	72.6±16.8%		100%
<b>Landing Phase</b>	L	5.8±4.8%		100%
	R	4.1±17.4%		100%
<b>Flat Foot Phase</b>	L	38.0±23.7%		100%
	R	59.4±20.1%		100%
<b>Propulsion Phase</b>	L	5.9±5.5%		100%
	R	9.0±13.1%		100%
<b>Swing Phase</b>	L	50.3±24.4%		100%
	R	27.4±16.8%		100%
<b>Double Support Phase</b>	-	7.9±6.7%		100%

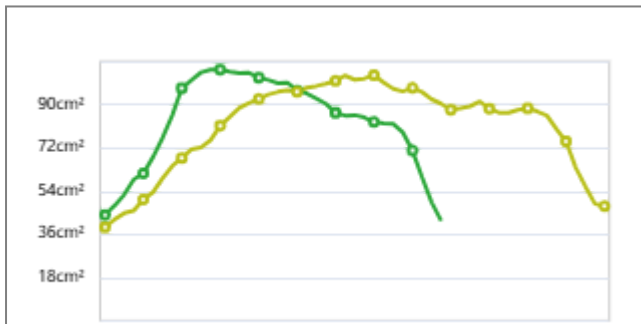
# Test Items: Dynamic Gait

## Spatial Parameters

Foot Angle	L	-2.1±3.5°	-20°		20°
	R	4.5±10.7°	-20°		█
Step Length	L	26.6±4.0cm	█		100cm
	R	28.1±7.3cm	█		100cm
Stride Length	-	54.8±8.4cm	█		200cm
Step Width	-	6.6±5.8cm	█		200cm
Step Cadence	-	114Steps/min	█		200Steps/min

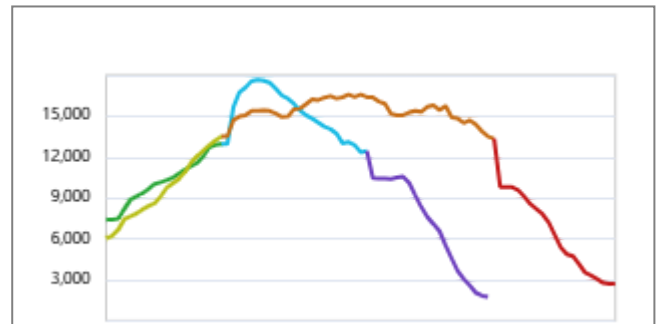
## Contact Area Curve

**Left Foot** █ Maximum Contact Area  
**Right Foot** █ Maximum Contact Area



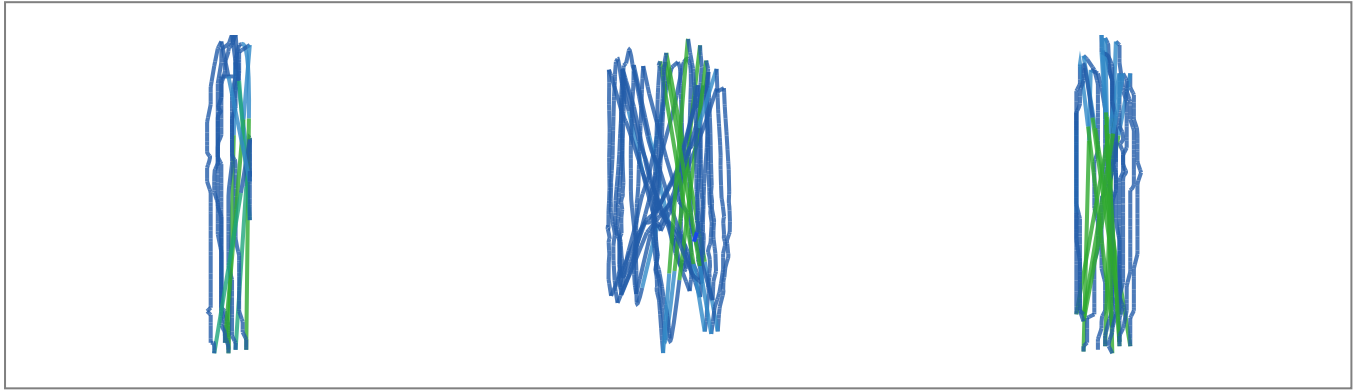
## Walking Pressure Curve

**Left Foot** █ Ground Contact Phase  
█ Flat Foot Phase  
█ Push-off Phase  
**Right Foot** █ Ground Contact Phase  
█ Flat Foot Phase  
█ Push-off Phase






# Test Items: Dynamic Gait

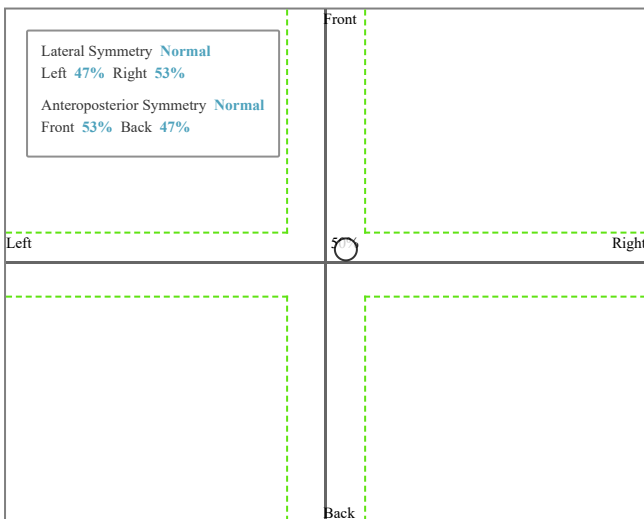
## COP Trajectory



## COP Parameters

Gait Line Length	L	348±242mm		500mm
	R	684±397mm		500mm
Maximum Gait Line Velocity	-	4022cm/s		500cm/s

## Center of Mass



## Symmetry of Bipodal CoP Trajectory

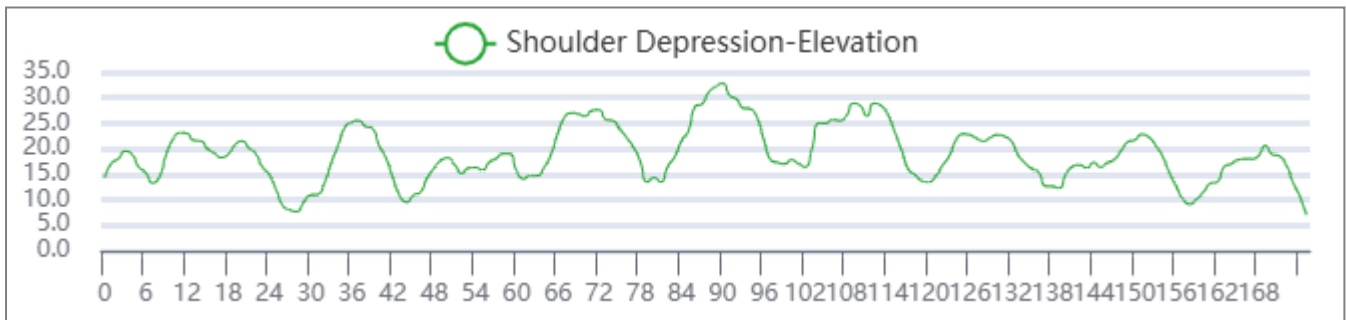


# Test Items: Posture Cycle Analysis

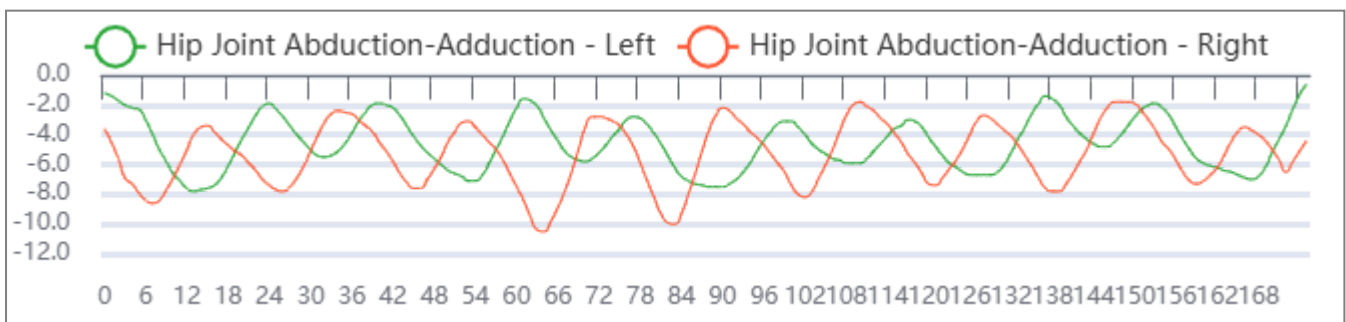
## Posture Data Conclusion

<b>Vertical Amplitude</b>	--	-10.9mm	Upward	-4.4mm		-17.2mm	Downward	
<b>Trunk Tilt</b>	Left-Right Tilt	2°/0.7°	Left Tilt	2.8°		1.4°	Right Tilt	<b>Normal</b>
	Vertical Amplitude	9°/10.6°	Forward Tilt	9.8°		10.9°	Rearward Tilt	<b>Large anterior-posterior sway amplitude</b>
<b>Shoulder - Collapse/Elevation</b>	Left Shoulder	2.8°/2.7°	Collapse	3.9°		5.7°	Elevation	<b>Normal</b>
	Right Shoulder	3.1°/2.8°	Collapse	5.7°		3.9°	Elevation	<b>Normal</b>
<b>Hip Joint - Abduction/Adduction</b>	Left Hip	2.2°/6.3°	Adduction	3.1°		7.5°	Abduction	<b>Normal</b>
	Right Hip	2.5°/8.3°	Adduction	3.4°		10.5°	Abduction	<b>Normal</b>
<b>Knee Joint - Flexion/Extension</b>	Left Knee	30.8°/2°	Extension	36.8°		3.5°	Flexion	<b>Normal</b>
	Right Knee	32.8°/6.6°	Extension	44.4°		9.8°	Flexion	<b>Normal</b>
<b>Knee Joint - Inversion/Eversion</b>	Left Knee	0.6°/3.9°	Eversion	1.2°		4.6°	Inversion	<b>Normal</b>
	Right Knee	2°/8.7°	Eversion	4°		13.2°	Inversion	<b>Normal</b>

### Shoulder Joint



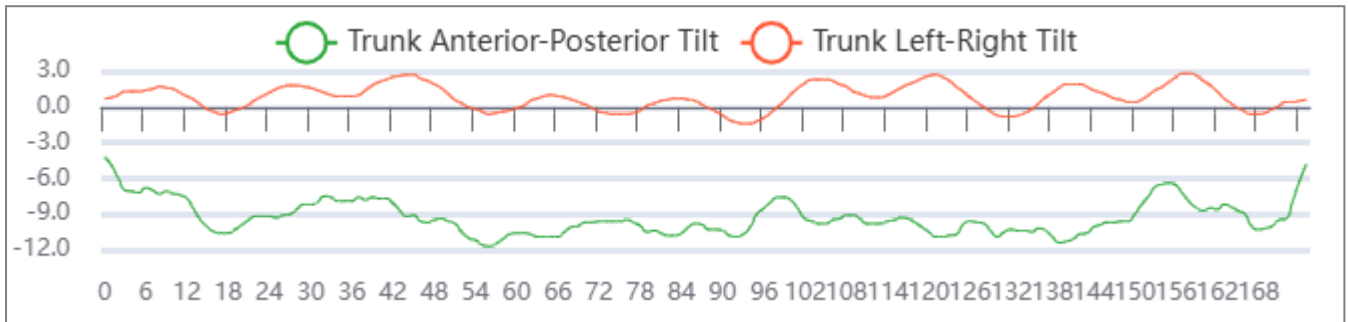
### Hip Joint



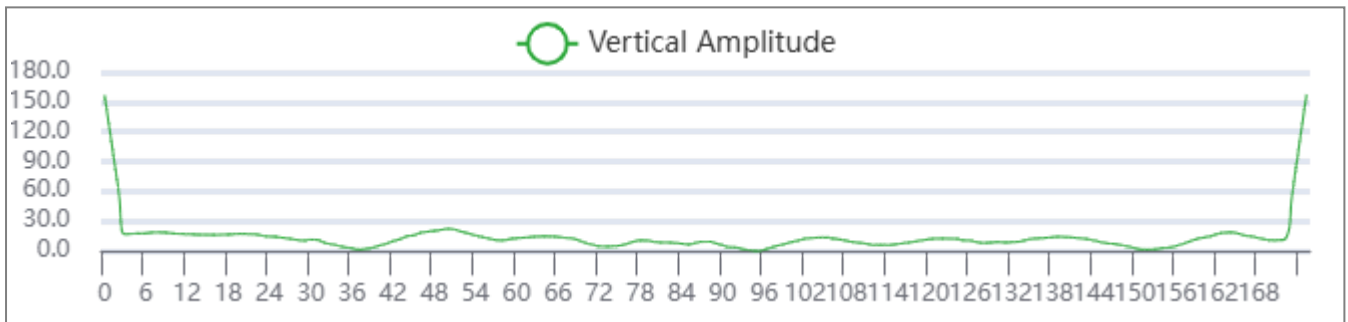
# Test Items: Posture Cycle Analysis

## Posture Data Conclusion

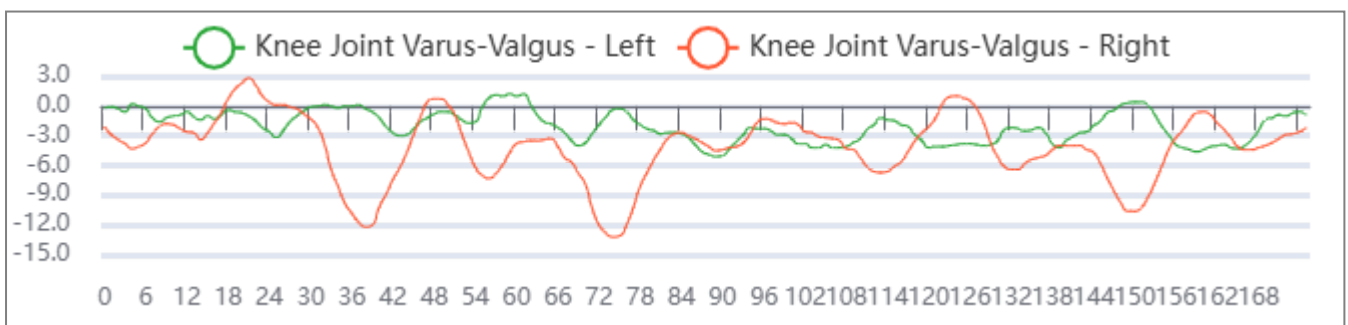
Trunk



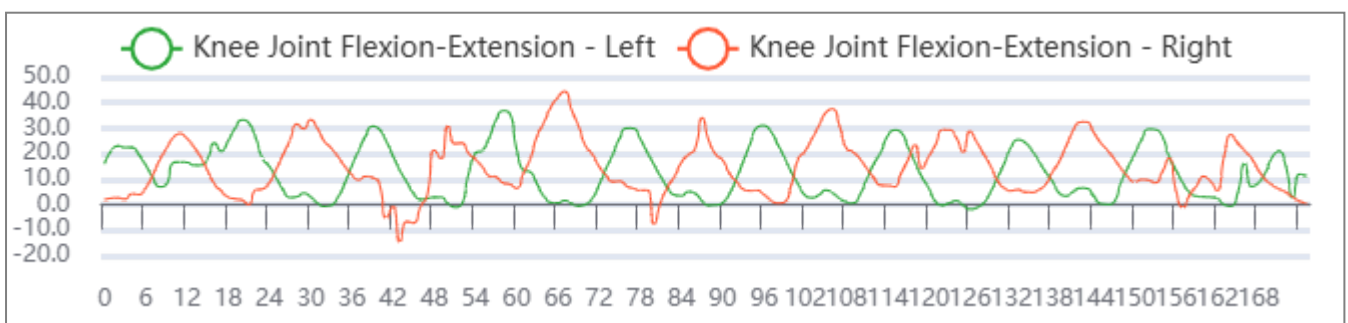
Vertical Amplitude



Knee Joint



Knee Joint



## Test Items: AI Analysis

### **\*\*Movement Assessment Report\*\***

**\*\*Client Profile\*\***: Female, 25 years old, 160cm tall, 60kg weight.

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### **### \*\*1. Movement Assessment Conclusion\*\***

#### **\*\*Hip Joint\*\***:

- Left hip abduction (average: 2.2°) and adduction (average: 6.3°) show mild hypermobility in adduction, exceeding the reference range (max: 7.5°). Right hip adduction (average: 8.3°) is significantly elevated, indicating potential overactivity of the adductor muscles or imbalance between hip flexors/extensors.
- Hip flexion (left: 19.4°, right: 22.9°) and extension (left: 14°, right: 9.8°) are within normal ranges, but reduced extension on the right may suggest weak gluteal activation or tight hamstrings.

#### **\*\*Knee Joint\*\***:

- Left knee valgus (average: 3.9°) and right knee varus (average: 8.7°) indicate lateral instability, likely linked to foot mechanics (e.g., flat feet or pronation). The right knee varus is beyond the reference range (max: 13.2°), increasing stress on medial menisci and ligaments.
- Knee flexion (left: 30.8°, right: 32.8°) is within normal limits, but limited extension on the right (average: 6.6°) suggests patellar tracking issues or quadriceps weakness.

#### **\*\*Ankle Joint\*\***:

- Left ankle dorsiflexion (average: 65.8°) is exceptionally high, exceeding the reference range (max: 68.7°), which may cause compensatory foot pronation or tibial torsion. Right ankle plantarflexion (average: 18.4°) is elevated, possibly due to calf muscle hypertrophy or altered gait dynamics.
- Ankle inversion (left: 5°, right: 5.3°) and eversion (left: 12.6°, right: 8.8°) show asymmetry, suggesting proprioceptive deficits or muscular imbalances affecting stability.

#### **\*\*Trunk and Pelvis\*\***:

- Trunk anterior tilt (average: 9°) and lateral tilt (left: 2°, right: 0.7°) indicate postural instability, potentially linked to core muscle weakness or pelvic misalignment.
- Pelvic internal rotation (left: 18.2°, right: 23.6°) and leftward tilt (left: 2.6°, right: 1.7°) suggest functional compensation for lower limb asymmetries, increasing risk of lower back strain.

#### **\*\*Gait Analysis\*\***:

- Step length asymmetry (-4.4±5.8mm) and uneven step width (6.6±5.8cm) indicate gait instability. Reduced stance phase on the right (72.6±16.8%) and increased swing phase (27.4±16.8%) suggest possible motor control deficits or musculoskeletal imbalances.
- Maximum gait velocity (4022 cm/s) is slightly above average, but variability in swing and stance phases highlights inconsistent movement patterns.

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### **### \*\*2. Risk Analysis\*\***

- **\*\*Lower Limb Instability\*\***: Excessive ankle dorsiflexion and knee varus/valgus angles increase stress on ligaments, cartilage, and menisci, raising the risk of chronic injuries (e.g., ACL tears, meniscal damage).
- **\*\*Postural Imbalance\*\***: Pelvic rotation and trunk tilt may lead to lumbar disc herniation or sciatica due to prolonged spinal compression.
- **\*\*Muscle Imbalances\*\***: Overactive adductors (hip) and underactive gluteals (hip/right knee) could cause patellofemoral pain syndrome or IT band syndrome.
- **\*\*Gait Asymmetry\*\***: Uneven step lengths and phases may result in joint degeneration (e.g., osteoarthritis) or increased fall risk during daily activities.

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### **### \*\*3. Improvement Recommendations\*\***

- **\*\*Strengthen Core & Pelvic Stabilizers\*\***: Perform bird-dog exercises, planks, and clamshells to enhance lumbar and pelvic control.

## Test Items: AI Analysis

- **Correct Lower Limb Alignment**: Use orthotics for foot arch support, perform resisted ankle inversion/eversion exercises, and engage in hip abductor strengthening (e.g., side-lying leg lifts).
- **Improve Gait Symmetry**: Incorporate step drills with resistance bands, focus on heel-to-toe transitions, and practice single-leg balance exercises.
- **Stretch Tight Muscles**: Target hip flexors (Piriformis stretch), hamstrings (seated forward fold), and calf muscles (wall stretches).

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**Note**: The above analysis is based on current data. If age, height, or weight information is inaccurate, please provide updated metrics to ensure assessment reliability.

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