Gait Analysis Report

Patient ID: _____

Name: _____

Address: _____

Birth Date: _____

Examination Date: _____

Height: _____ cm

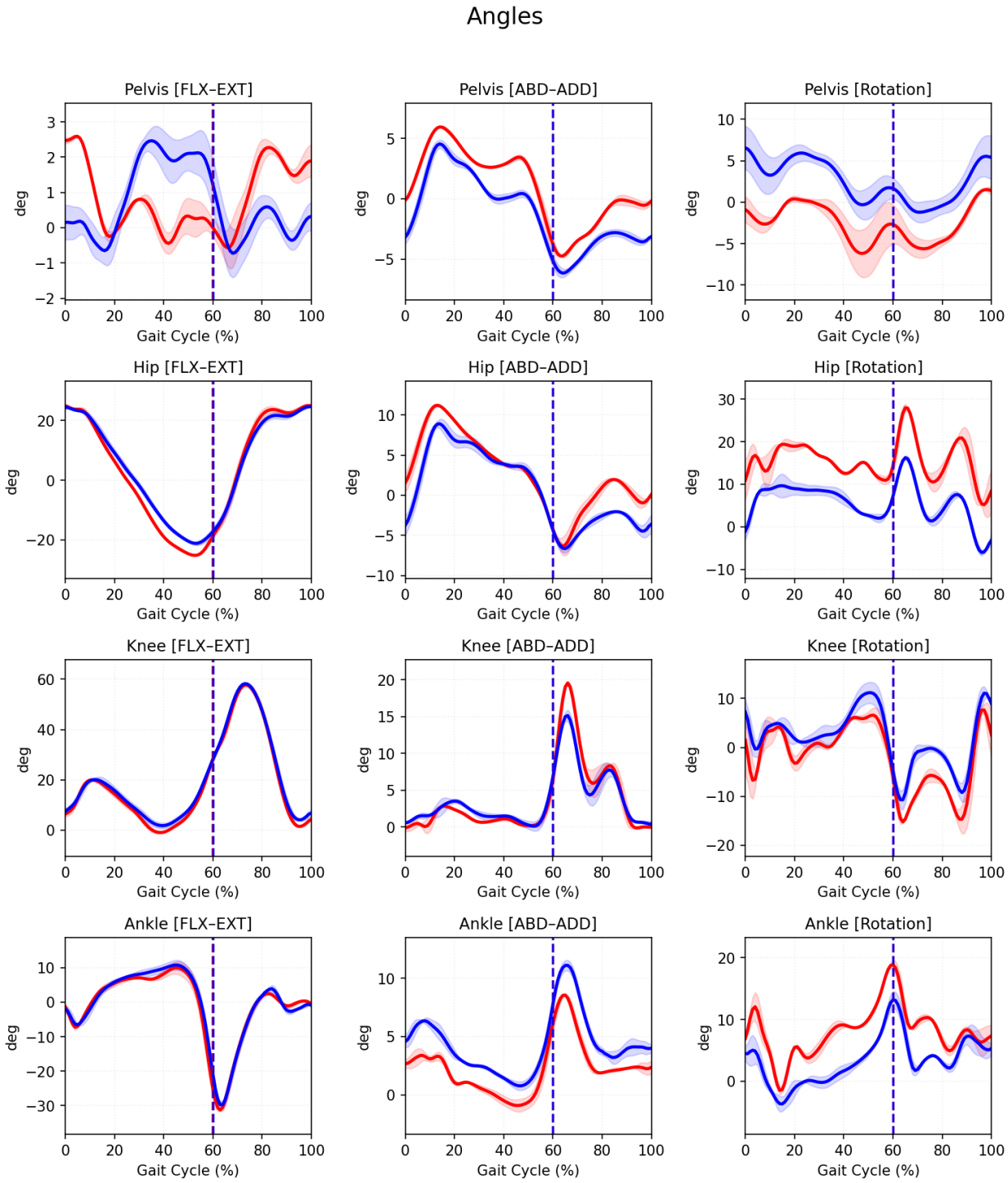
Weight: _____ kg

Diagnosis: _____

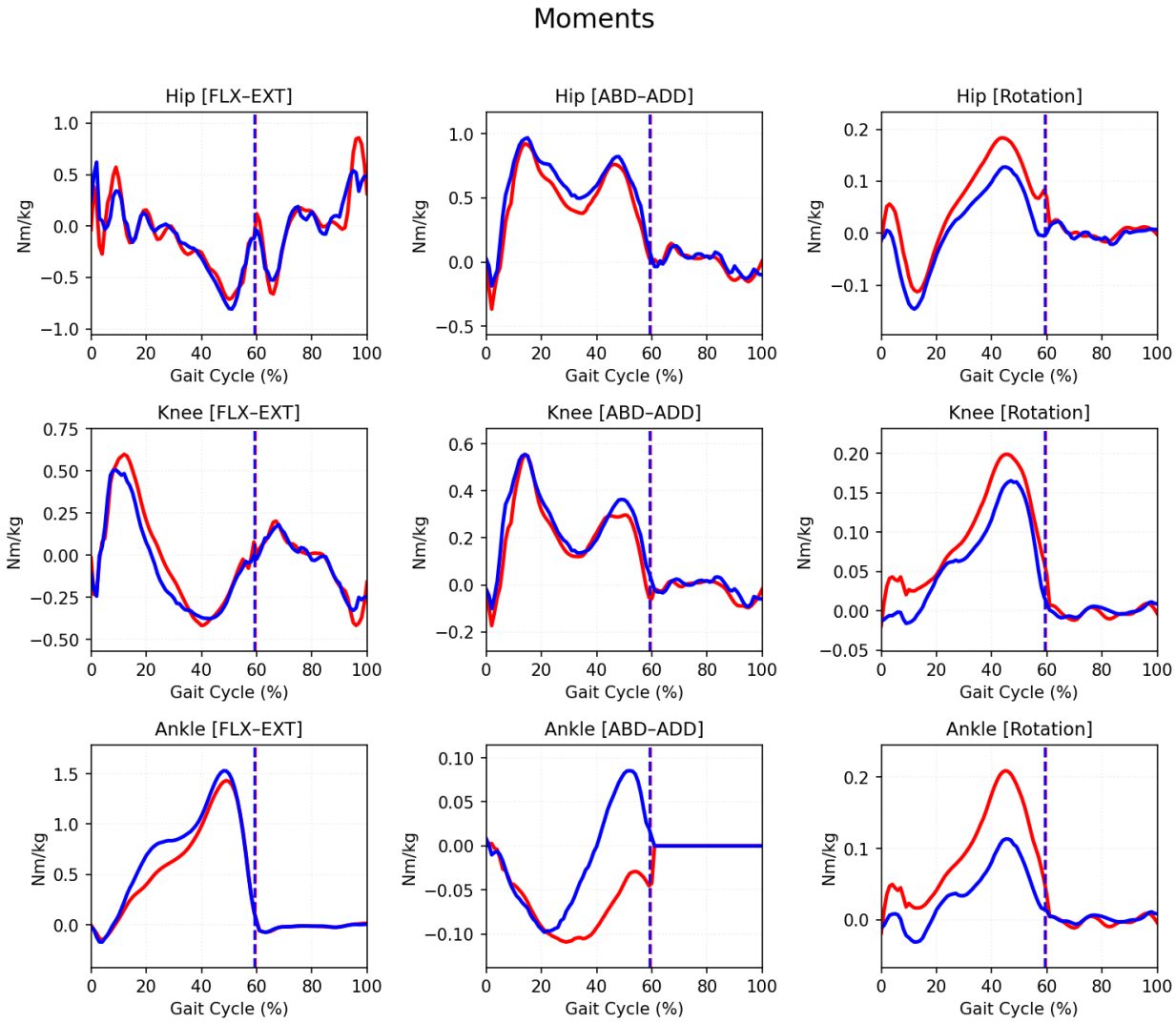
Spatiotemporal Parameters

Cadence: 100.5 (R), 99.9 (L) steps/min
Speed: 0.69 (R), 0.69 (L) m/s
Foot Off: 65.7% (R), 66.9% (L)
Single Support: 31.8% (R), 32.8% (L)
Double Support: 33.9% (R), 34.2% (L)

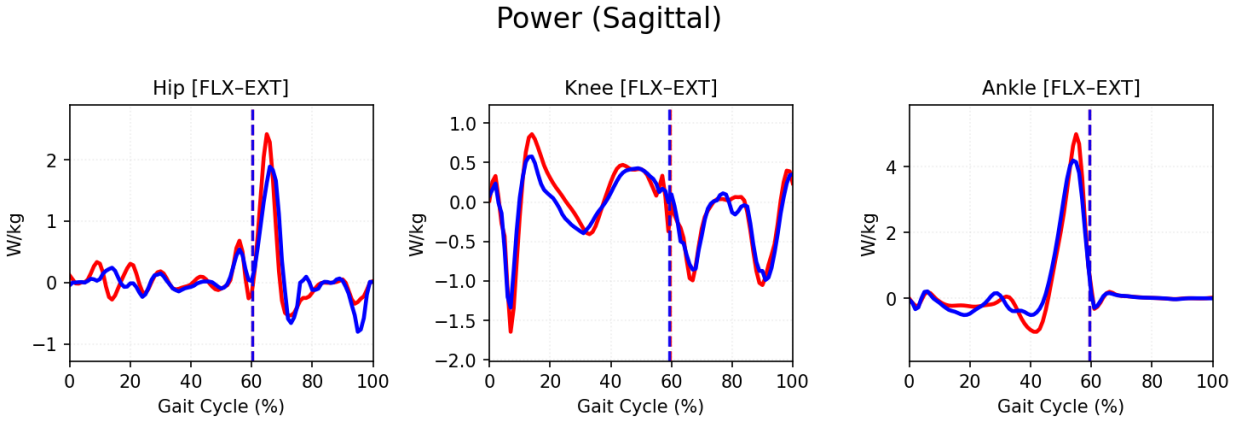
Angles


Angles
Pelvis [FLX–EXT]
Pelvis [ABD–ADD]
Pelvis [Rotation]
Hip [FLX–EXT]
Hip [ABD–ADD]
Hip [Rotation]
Knee [FLX–EXT]
Knee [ABD–ADD]
Knee [Rotation]
Ankle [FLX–EXT]
Ankle [ABD–ADD]
Ankle [Rotation]
deg
Gait Cycle (%)

Moments



Power



Interpretation & Clinical Conclusion

1) Spatiotemporal Summary

- Cadence: R 100.5, L 99.9 steps/min (symmetric).

- Speed: 0.69 m/s (slow).

- Foot-off: R 65.7%, L 66.9% of gait cycle (late).

- Single support: R 31.8%, L 32.8% (reduced).

- Double support: R 33.9%, L 34.2% (elevated).

Overall: cautious, slow gait with prolonged double support and delayed transition to swing.

2) Kinematics

- Pelvis

- Sagittal tilt small and within a few degrees; variable but without a clear asymmetry.

- Frontal obliquity shows normal phasing; mild excursion.

- Transverse rotation increased with side-to-side asymmetry; pelvis rotates more in the direction of the right limb throughout stance.

- Hip

- Sagittal: IC in ~20–25° flexion; extension in late stance reaches only about neutral to ~5° extension bilaterally (reduced terminal extension).

- Frontal: adduction in loading then moves toward abduction around pre-swing; magnitudes moderate.

- Transverse: marked asymmetry—Right hip remains internally rotated (~10–25°) through most of the cycle; Left hip is externally rotated (~5–10°), with large excursions in late swing.

- Knee

- Sagittal: typical pattern—early stance flexion (~15–20°), extension toward 0° mid-stance, and swing flexion ~60°; fairly symmetric.

- Frontal: large coronal plane excursion with peaks ~15–18° around late stance/early swing on both sides.

- Transverse: notable internal rotation peak (~15–20°) around mid-stance bilaterally.

- Ankle/Foot

- Sagittal: dorsiflexes to ~10–12° mid-stance, then plantarflexes to ~20–25° at push-off; swing returns close to neutral/ slight dorsiflexion—symmetric.

- Frontal: increased inversion/eversion excursion with a late-stance peak (~8–10°); some side-to-side difference.

- Transverse: large axial rotation, with late-stance internal rotation peaks (~15–20°); Right > Left.

3) Kinetics (Moments)

- Hip

- Sagittal: clear early-stance extensor moment (~0.5–0.6 Nm/kg), switches to flexor (~−0.4 to −0.5 Nm/kg) mid-late stance, then rises again to an extensor moment near pre-swing (up to ~0.8–1.0 Nm/kg), slightly larger on the Right.

- Frontal: abductor moment present in early stance (~0.5–0.7 Nm/kg), tapering toward toe-off; symmetric.

- Transverse: small internal-rotation moment peaking ~0.15–0.2 Nm/kg around mid-stance; Right > Left.

- Knee

- Sagittal: typical pattern—initial external-flexion demand (~0.5–0.7 Nm/kg) followed by an extensor moment in mid-stance (~−0.2 to −0.3 Nm/kg); symmetric.

- Frontal: ab/adduction moments up to ~0.4–0.5 Nm/kg; symmetric.

- Transverse: internal-rotation moment rises to ~0.15–0.2 Nm/kg around mid-stance; bilateral.

- Ankle

- Sagittal: strong plantarflexor moment peaking ~1.3–1.5 Nm/kg in late stance; Right and Left robust.

- Frontal and Transverse: small-to-moderate moments with late-stance peaks (abd/add up to ~0.3–0.4 Nm/kg on Right; rotation up to ~0.2 Nm/kg bilaterally).

4) Power

- Hip (sagittal): large positive burst in pre-swing/early swing (H3), peaking ~2.5 W/kg on the Right and ~1.8–2.0 W/kg on the Left—used to advance the limb. Low-to-moderate power elsewhere.

- Knee (sagittal): early-stance generation (~0.6–0.8 W/kg) followed by absorption (~−0.5 to −0.7 W/kg) in mid-stance; additional absorption in late swing (~−1.0 to −1.5 W/kg); largely symmetric.

- Ankle (sagittal): very large push-off burst (A2) just before toe-off—~5 W/kg Right and ~4–4.5 W/kg Left—preceded by small early-stance absorption.

5) Key Abnormalities

1) Slow walking with prolonged double support and late foot-off (≈66%), consistent with a cautious gait pattern.

2) Marked transverse-plane asymmetry: Right limb persistently internally rotated while Left is externally rotated; pelvis, knee, and ankle show concordant increases in axial rotation (Right > Left).

3) Reduced terminal hip extension bilaterally (does not reach typical 10° extension).

4) Excessive coronal plane excursions at the knee (peaks ~15–18°) and increased ankle inversion/eversion motion around late stance.

5) Disproportionately large ankle plantarflexor moment and push-off power (A2) for the slow speed, especially on the Right—suggesting reliance on ankle propulsion.

6) Large pre-swing hip power burst (H3), Right > Left, to help initiate swing—likely compensatory for limited hip extension and slow speed.

6) Clinical Conclusion

This is a slow, cautious gait with delayed toe-off. The dominant feature is a transverse-plane asymmetry (Right toe-in/limb internal rotation and Left toe-out/external rotation), accompanied by increased axial rotation moments and motions at the knee and ankle. Hip extension in terminal stance is limited, and the patient relies on strong ankle push-off and a pronounced pre-swing hip power burst—more on the Right—to progress. Correlate with structural torsional alignment and hip flexor length; consider interventions targeting hip extension mobility and transverse/coronal plane control while preserving efficient ankle push-off.