

T-TEST AGILITY ANALYSIS

Comprehensive Biomechanical Assessment



Demo Athlete

| Male



SESSION DATE

05.10.2026



PROTOCOL

T-Test



SESSION ID

#1000



DATE OF BIRTH

—



HEIGHT

180 cm



WEIGHT

75.0 kg

Report generated on 05.10.2026

This report contains automated sports-performance recommendations based on biomechanical analysis. Coaches should adapt exercise selection and training load to the athlete's goals, experience and current readiness.

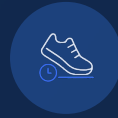
Metrics

T-TEST AGILITY METRICS



Cadence

144 steps/min



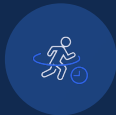
Avg Contact Time

LEFT

0.226 seconds

RIGHT

0.213 seconds



Avg Turn Time

1.332 seconds



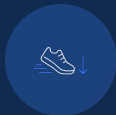
Turn Direction

LEFT

1 times

RIGHT

3 times



Force

LEFT

104.5 kg

RIGHT

114.2 kg

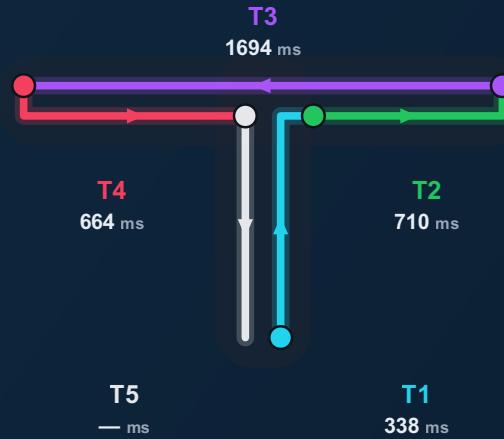


Braking Index

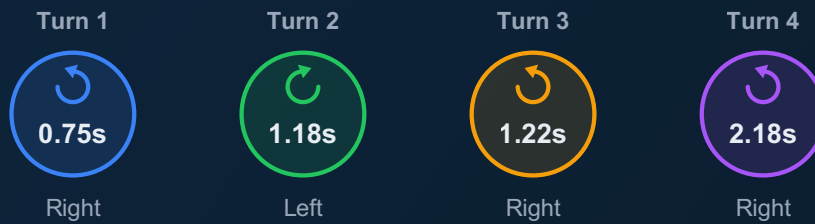
0.2996

T-Test Charts

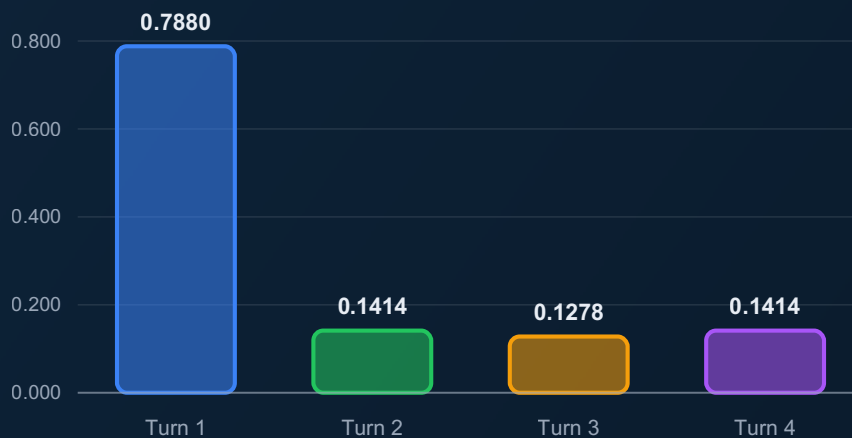
T-DRILL PATH DIAGRAM



TURNS



BRAKING INDEX

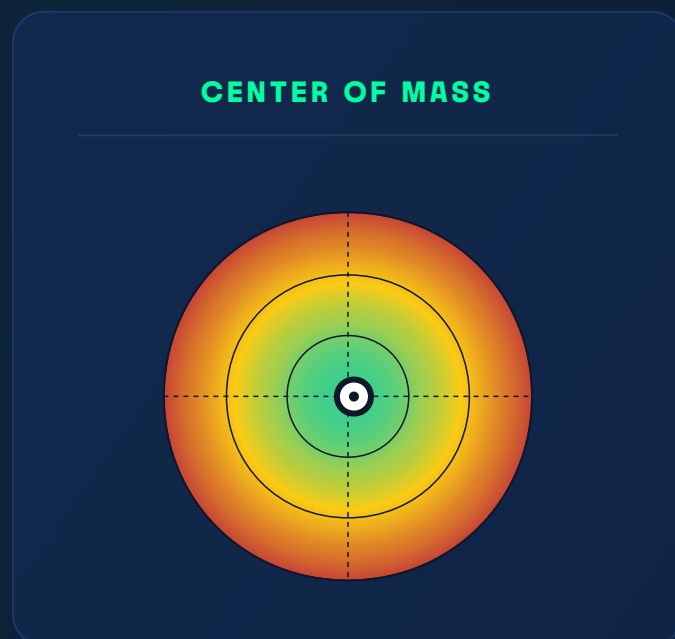


Foot Pressure Distribution

DURING T-TEST



Center of Mass



Note: Normal CoM positioning is near the center with a slight forward shift.

Exercise Recommendations

Key Findings

- Significant stride length asymmetry (Left: 2.30 m, Right: 1.72 m) and stride time asymmetry during high-velocity movement.
- Low average braking index (0.2996), indicating poor eccentric deceleration and reactive braking quality.
- Direction-specific change-of-direction (COD) asymmetry, with turns to the right being approximately 16% slower than turns to the left.
- Low stride cadence (144 steps/min) relative to the running speed, indicating suboptimal reactive strength and prolonged ground contact times.

Assessment Results

- Normalize stride length and stride time symmetry during acceleration and sprinting.
- Improve eccentric deceleration capacity and reactive braking control to increase the braking index.
- Enhance change-of-direction efficiency and velocity specifically during right-turning maneuvers.
- Increase stride cadence and reactive power output through plyometric and stiffness training.

Exercise Plan

1

Single-Leg Romanian Deadlift to High Knee

LOWER EXTREMITY

UNILATERAL

TECHNIQUE

Starting position: Stand upright on the right leg with the left knee slightly bent and arms at the sides. Hinge forward at the hips while extending the left leg straight behind you, keeping the pelvis level. Lower the torso until it is parallel to the floor, maintaining a neutral spine. Drive the left leg forward and upward into a high-knee position while returning to an upright stance on the right leg. Hold the top position for 1 second before repeating. Tempo: 3-1-1

SETS

3

REPS

8

per side

FREQUENCY

3x per week

PRECAUTIONS

Avoid rounding the lumbar spine or allowing the pelvis to rotate outward during the hinge phase.

COACH MONITORING POINTS

Monitor for pelvic rotation in the transverse plane and ensure knee alignment remains neutral over the foot.

2

Acceleration to Deceleration-to-Stick

LOWER EXTREMITY

ECCENTRIC

TECHNIQUE

Starting position: Stand in an athletic, split-stance position behind a starting line. Sprint forward at 80% effort for 5 meters. Plant the lead foot and rapidly decelerate within a 1-meter zone, dropping the center of mass. Absorb the force and hold a low, stable athletic stance for 2 seconds without taking extra steps. Maintain neutral knee alignment over the toes during the deceleration phase. Tempo: Explosive sprint, rapid deceleration, 2 s hold

SETS

4

REPS

5

reps

FREQUENCY

3x per week

PRECAUTIONS

Ensure the patient does not land with a completely straight knee; emphasize knee flexion to absorb impact.

COACH MONITORING POINTS

Observe for dynamic knee valgus during the sudden deceleration and check for trunk control.

Exercise Plan

3 Left-Foot Plant 90-Degree Cut

LOWER EXTREMITY

AGILITY

TECHNIQUE

Starting position: Stand in an athletic stance, ready to sprint forward. Sprint forward 5 meters toward a designated marker. Plant the left foot firmly, rotating the hips 90 degrees to the right. Push off the medial aspect of the left foot to accelerate laterally to the right. Maintain a low center of mass and avoid lateral trunk tilt during the cut. Tempo: Explosive cut and re-acceleration

SETS

4

REPS

6

cuts

FREQUENCY

3x per week

PRECAUTIONS

Ensure the cutting foot is planted firmly with the entire sole to avoid ankle inversion injuries.

COACH MONITORING POINTS

Check for excessive lateral trunk lean over the planting foot, which indicates poor lateral core stability.

4 Low-Box Hurdle Hops

LOWER EXTREMITY

PLYOMETRIC

TECHNIQUE

Starting position: Stand facing a series of 15-cm mini hurdles spaced 1 meter apart. Perform continuous, rapid double-leg hops over the hurdles. Minimize ground contact time by utilizing a stiff ankle joint and active forefoot landing. Drive the arms in sync with the lower body to maintain vertical momentum. Keep the knees aligned and avoid excessive flexion upon landing. Tempo: Rapid, minimal ground contact

SETS

3

REPS

10

hurdles per set

FREQUENCY

3x per week

PRECAUTIONS

Discontinue if the patient exhibits heel-striking or significant knee collapse on landing.

COACH MONITORING POINTS

Evaluate ankle stiffness and ensure the patient is landing on the forefoot/midfoot to reduce ground contact time.

Exercise Plan

5 Lateral Banded Shuffle with Reactive Hold

LOWER EXTREMITY

LATERAL

TECHNIQUE

Starting position: Stand in a half-squat athletic position with a resistance band placed around the ankles. Take a wide lateral step with the leading foot, maintaining tension on the band. Follow with the trailing foot, keeping the feet hip-width apart. Perform 3 rapid lateral shuffles, then immediately freeze and hold a low athletic stance for 2 seconds. Ensure knees do not collapse inward and the trunk remains upright. Tempo: Rapid shuffle, 2 s hold

SETS

3

REPS

5

reps per
direction

FREQUENCY

3x per week

PRECAUTIONS

Do not allow the feet to cross over or touch during the shuffle.

COACH MONITORING POINTS

Monitor for dynamic valgus and ensure the pelvis remains level throughout the lateral movement.

6 Nordic Hamstring Curl

LOWER EXTREMITY

ECCENTRIC

TECHNIQUE

Starting position: Kneel on a padded mat with ankles secured by a partner or anchor, torso upright. Keep the hips extended and the torso straight from the knees to the shoulders. Lower the body forward as slowly as possible, resisting gravity with the hamstrings. Catch yourself with your hands when you can no longer control the descent. Push back up explosively to the starting position using your upper body to minimize concentric hamstring load. Tempo: 4 s descent, explosive push-up

SETS

3

REPS

6

reps

FREQUENCY

2x per week

PRECAUTIONS

Avoid flexing at the hips to compensate during the descent phase.

COACH MONITORING POINTS

Ensure the patient maintains a straight line from the knees to the shoulders, indicating true eccentric hamstring loading.