



# Drop Vertical Jump

[double-leg]

1 reps · captured 22 Apr 2026, 09:06 · **demo-subject**

## NOTES

16 y/o female volleyball player. No prior injury history, referred for drop vertical jump screening as part of a preseason injury-risk assessment.

Currently asymptomatic and participating fully in training and competition. No history of knee, ankle, or hip pain, and no prior lower-limb surgery.

Coaching staff report the athlete has been added to the varsity roster this season with an increase in jump-training volume (plyometrics 2x/week plus regular practice).

Athlete reports feeling generally strong and has no current movement concerns, though family history includes a sibling with a prior ACL injury. No current strength or mobility deficits reported subjectively.

Goal for this session is to screen landing mechanics and frontal-plane knee control during a standardized drop vertical jump, and to flag any movement patterns associated with elevated injury risk ahead of the competitive season.

## METRIC OVERVIEW

Jump height (cm)

**51.4 cm**



Reactive strength index (m/s)

**1.03 m/s**



Contact time (s)

**0.50 s**



Peak knee extension speed during concentric contact (deg/s)

L **444.0 °/s** R **446.0 °/s**



Peak dynamic knee valgus during eccentric contact (deg)

L **8.80 °** R **13.4 °**



Peak knee flexion during contact (deg)

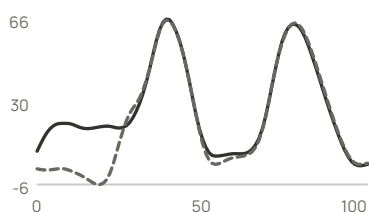
L **82.3 °** R **85.4 °**



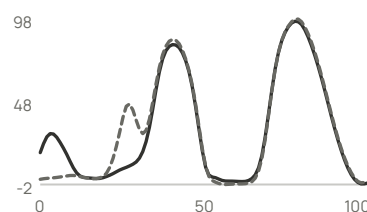
## NORMALIZED JOINT KINEMATICS

— Left — Right 95% CI

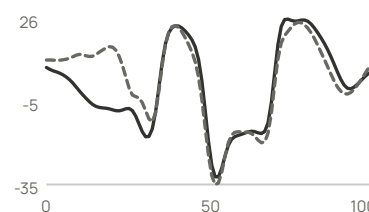
Hip Flexion (°)



Knee Flexion (°)



Ankle Dorsiflexion (°)



DETAILED RESULTS

| METRIC                                                      | LEFT      | RIGHT     | ASYMMETRY |
|-------------------------------------------------------------|-----------|-----------|-----------|
| Jump height (cm)                                            | 51.4 cm   |           |           |
| Reactive strength index (m/s)                               | 1.03 m/s  |           |           |
| Contact time (s)                                            | 0.50 s    |           |           |
| Knee flexion at initial contact (deg)                       | 30 °      | 36 °      | 14.6%     |
| Peak knee flexion during contact (deg)                      | 82 °      | 85 °      | 3.6%      |
| Peak hip flexion during eccentric contact (deg)             | 66 °      | 65 °      | 0.8%      |
| Peak dynamic knee valgus during eccentric contact (deg)     | 9 °       | 13 °      | 34.3%     |
| Peak trunk flexion during eccentric contact (deg)           | 59 °      |           |           |
| Peak trunk lean during eccentric contact (deg)              | 1 °       |           |           |
| Peak COM vertical velocity during concentric contact (m/s)  | 2.58 m/s  |           |           |
| Peak hip extension speed during concentric contact (deg/s)  | 239.0 °/s | 238.0 °/s | 0.4%      |
| Peak knee extension speed during concentric contact (deg/s) | 444.0 °/s | 446.0 °/s | 0.4%      |
| Eccentric time (s)                                          | 0.24 s    |           |           |
| Concentric time (s)                                         | 0.26 s    |           |           |
| Peak COM vertical velocity during eccentric contact (m/s)   | -2.3 m/s  |           |           |
| Knee flexion at initial landing contact (deg)               | 21 °      | 19 °      | 8.3%      |
| Peak knee flexion during landing (deg)                      | 96 °      | 98 °      | 1.3%      |
| Peak dynamic knee valgus during landing (deg)               | 2 °       | 11 °      | 83.2%     |

MEDIA

