

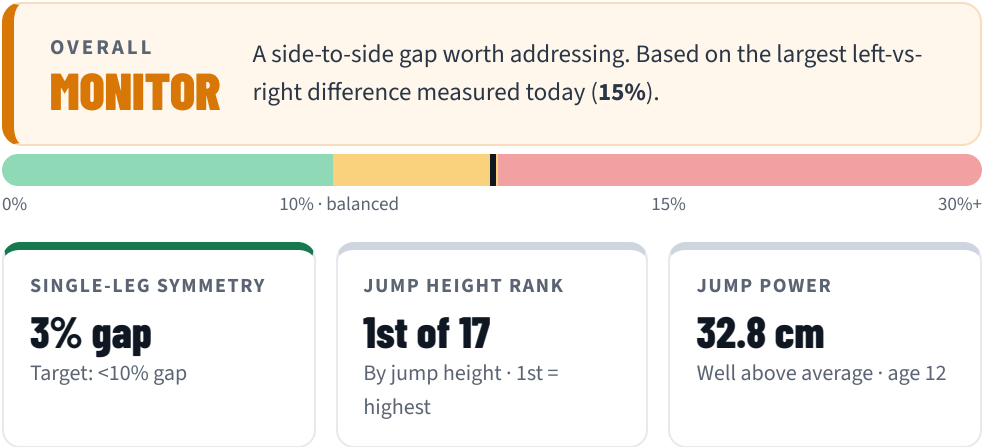
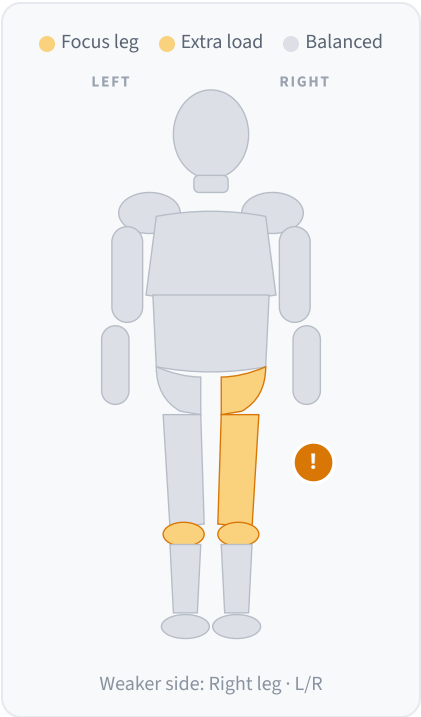
TIFFANY LUO

ACL Readiness Screen · SDSC Surf

Date: 2026-07-21

Age: 12 yrs

Platform: VALD ForceDecks



JUMP BALANCE – LEFT VS RIGHT

A jump has three phases — she **loads & brakes** on the way down, **pushes off**, then **lands**. We measure how evenly her legs share the work in each, plus a single-leg test. Bars show the left-vs-right gap (shorter = more balanced; target under 10%).

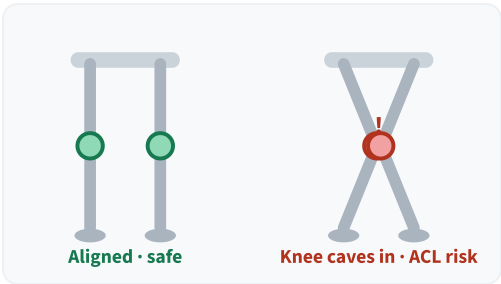


What this means. How she **absorbs landings** — from headers, jumps and challenges — is uneven, with one leg taking more of the impact — a modest left-vs-right difference. (Landing varies jump-to-jump, so the single-leg test confirms and pinpoints it.) A gap like this is one of the most established, **modifiable** risk factors for a non-contact knee injury — far better caught now, on a force plate, than after an injury. The good news: it's very trainable.

This is a movement **screen**, not a medical diagnosis. The next pages explain how an ACL injury happens, what this means for her game, her numbers, and the plan. Captured on VALD ForceDecks (dual force plates). © Catalyst Performance.

TIFFANY – UNDERSTANDING THE RESULT

HOW A NON-CONTACT ACL INJURY HAPPENS



The **ACL** is the main ligament that stabilises the knee — it stops the shin sliding forward and the knee twisting inward. About **70% of ACL tears are non-contact**: they happen in a split second when an athlete **decelerates, lands, or cuts and the knee caves inward** (the position on the right).

A leg that's **weaker or less controlled is more likely to collapse into that position** — and less able to absorb the load — so the ligament takes the strain. **That's why a left-vs-right asymmetry matters: it flags the leg least able to handle the exact forces that tear an ACL.** For Tiffany, it's her **landing** — one leg taking more of the impact, where the knee can be driven inward.

WHAT THIS MEANS FOR TIFFANY'S GAME

ON THE PITCH

- **Absorbing headers, jumps & tackles** — One leg takes more of the impact each time.
- **Stability on landing** — Uneven absorption can let the knee drift inward (valgus).
- **Confirmed with single-leg testing** — Landing varies jump-to-jump.

WHY IT MATTERS – THE EVIDENCE

- Female soccer players are **4–6× more likely** to tear an ACL than boys.
- About **70% are non-contact** — on cuts, decelerations and landings, the exact movements measured here.
- A left-vs-right gap over **10–15%** is a recognised, **modifiable** risk factor and a return-to-play standard.
- Soccer-specific neuromuscular training (FIFA 11+) cuts ACL injuries **30–50%** — and works best in youth.

Refs: Arendt & Dick 1995; Grindem 2016; Bishop 2018; Sadoghi 2012 (meta-analysis).

MORE THAN INJURY – PERFORMANCE

Symmetry isn't only protective — it's faster. The same balance that guards the knee also drives her game:

- **Acceleration & cutting** — Even drive off both legs means a quicker first step and sharper change of direction.
- **Power transfer** — Her jump of **32.8 cm** (Well above average for her age) is her explosive base — balanced legs put it into sprints, jumps and shots.
- **Durability** — When one leg isn't overworking, she fatigues less and stays available all season.

POWER & SPRING – HER FULL BATTERY

Beyond balance, we also measured how much power Tiffany produces and how well she re-uses it as **"spring"** — captured on the same plates, the same day. These are her performance engines.

JUMP POWER
32.8 cm
Well above average · age 12

REACTIVE STRENGTH
1.57
Strong spring · "spring"

ARM-ASSISTED JUMP
33.9 cm
+1.1 cm from arm swing

Reactive Strength (RSI) is how fast she rebounds off the ground — springy, elastic power that adds speed and protects the joints on landing. The **arm-assisted jump** shows her true explosive ceiling with a natural arm swing.

TIFFANY — HER NUMBERS & PLAN

HOW TIFFANY'S NUMBERS COMPARE

MEASURE	TIFFANY	TARGET / REFERENCE	STATUS
Single-leg jump symmetry (L vs R)	3% gap	<10% gap (≥90% symmetry)	On target
Push-off balance (take-off)	4% gap	<10% gap	On target
Load / brake balance (decelerating)	8% gap	<10% gap	On target
Landing balance (impact)	26% gap	<10% gap	Monitor
Counter-movement jump height	32.8 cm	Well above average vs girls age 12	Baseline
Reactive strength — “spring” (RSI)	1.57	Higher = springier rebound jump	On target
Arm-assisted jump height	33.9 cm	Explosive power with arm swing	Baseline

Jump Height vs Girls Her Age (12) — Tiffany 32.8cm · Well above average



Symmetry targets follow return-to-sport standards (≥90% limb symmetry). The jump-height benchmark is an approximate developmental reference for female youth, not a clinical percentile.

WHAT TO WORK ON — TIFFANY'S TAKE-HOME

- 1 **Drop-and-stick landings** — Step off a low box, land soft on both feet with even weight, knees tracking over the toes — hold 2 seconds. Most non-contact ACL tears happen on stiff, uneven, knees-in landings.
- 2 **Single-leg landing holds** — A small hop, stick the landing on one leg and hold — mirror both sides to even them out.

Coach-led general guidance from today's screen — a starting point, not a prescription. The complimentary follow-up adds the single-leg test and turns this into a personalized, supervised plan with a re-test to show progress.

HOW WE CAN HELP — NEXT STEPS

FREE RESULTS CALL
Complimentary · 15 min

Walk through Tiffany's results with our staff and map out what to do next.

IN-DEPTH EVALUATION
\$169 · 1 hour

A fuller VALD force-plate battery — more movements tested to pinpoint the cause and build her plan.

COMPLETE ASSESSMENT
\$349 · 2 hours

The full VALD evaluation **plus** hands-on flexibility & mobility screening with our ATC on the table.

BOOK TIFFANY'S SESSION

Recommended given today's result — reply to this email, text us, or talk to your coach — we'll get her started.

How this was measured. Captured on **VALD ForceDecks** — dual force plates sampling **1,000x/second**, the same system used by professional and national teams. Every value is the **average of 3 maximal jumps** for reliability, and compared against published youth-athlete reference ranges. Prepared by the Catalyst Performance team.

Important. Wellness **screen**, not a medical diagnosis or injury prediction — asymmetry is one risk indicator, not a guarantee either way. Results vary day to day; any pain or prior injury should be seen by a physician/PT. © Catalyst Performance · catalystperformancesd.com