CASE STUDY

Quantifying Residual Muscle Imbalances in Collegiate Soccer Athlete with Second ACL Injury

ATHLETE CHALLENGE

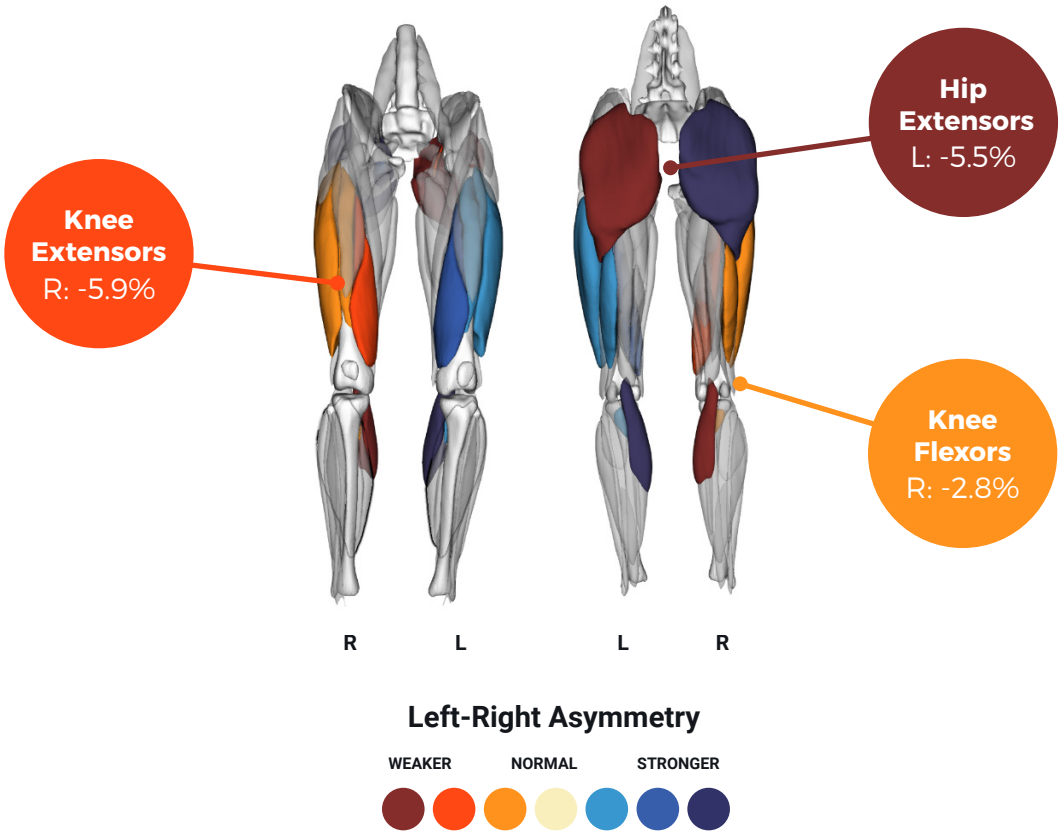
A female collegiate soccer athlete ruptured her right anterior cruciate ligament (ACL) and underwent ACL reconstruction. After post-operative rehabilitation and functional testing, the athlete was cleared to return to play. Six months after surgery to the right ACL, the athlete ruptured her left ACL.

APPROACH

A Springbok analysis was conducted just prior to reconstruction of the left ruptured ACL. This analysis quantified individual muscle volumes for all muscles in the lower limbs and identified left-right asymmetries and development patterns.

RESULTS

Residual Muscle Imbalances from Prior Injury



KEY OBSERVATIONS

- Muscle imbalances and patterns of atrophy from the previous ACL injury remained in the right knee extensors and flexors after the athlete was cleared for play following functional testing
  - Quadricep and hamstring muscles on right leg notably smaller than left
  - Notable bilateral underdevelopment of vastus intermedius
- Potential compensatory patterns of muscle development with right gluteus maximus larger and more hypertrophied than the left
  - Hip external rotators significantly larger on right leg
- Bilateral pattern of underdevelopment in lower leg muscles and general overdevelopment in hip adductors and hip external rotators
  - This pattern of proximal overdevelopment and distal underdevelopment is characteristic of high-level athletes

KEY OUTCOMES

★★★ Precisely identified residual muscle imbalances

Directed a personalized rehab program

REVOLUTIONIZING HOW THE WORLD
VIEWS HUMAN MUSCLE

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ANALYTICS

PLEASE CONTACT US FOR MORE INFORMATION

SpringbokAnalytics.com
215.680.9078
info@SpringbokAnalytics.com

Springbok Analytics
1928 Arlington Blvd.
Charlottesville, VA 22903