

INTERPRETING SONOGRAPHIC FINDINGS TO EVALUATE LEA SYMPTOMS AND PERFORMANCE VARIABLES ACROSS THE COMPETITIVE SEASON

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PURPOSE

To investigate the effect of the competitive season on the relationship with low energy availability (LEA) symptoms and tendon integrity

METHODS

- 16 female volleyball athletes tested Pre/Post season
- **Ht:** Stadiometer
- **Body composition:** Multifrequency bioelectrical impedance
- **Tendon Health:** sonograph
- **LEA risk:** Low energy availability female questionnaire (LEAF-Q)
- **Statistics:** Paired-sample T-Test

Age 19.8±1.1yrs	Height 174.9±8.1cm
Body Mass 73.2±9.1kg	Body Fat % 22.9±7.3%

Increased Tendon Cross Sectional Area Can be Observed with Proper Maintenance of Body Composition Indicating the Strengthening of Tendons, Thus Increasing Their Integrity Despite LEA Risk

TERMINOLOGY

- PTCSA- Patella Cross Sectional Area
- ACSA- Achillies Cross Sectional Area
- DJ- Drop Jump
- SLHop- Single Leg Hop
- CKC- Closed Kinetic Chain Upper Stability Test

RESULTS

Increased mean diff:

- LPTCSA $6.27 \pm 11.2\text{cm}^2$ ($p=0.05$)
- RACSA $7.2 \pm 5.51\text{cm}^2$ ($p< 0.01$)
- LACSA $5.0 \pm 6.23\text{cm}^2$ ($p< 0.01$)
- CKC $2.30 \pm 1.47\text{reps}$ ($p< 0.01$)
- LSLHop $29.66 \pm 12.26\text{cm}$ ($p< 0.01$)

Decreased mean diff:

- DJ $-17.91 \pm 26.88\text{cm}$ ($p=0.03$)

CONCLUSION

Understanding LEA, the competitive season demands, and maintenance of body composition can inform training protocols to avoid injury and protect tendon integrity, thus reducing injury risk. Performance decrements obtained during the competitive season due to training insufficiencies can be worsened with the presence of LEA. However, LEA risk showed no significant relationship with tendon health.