

Table 3-8 Overhead Squat Compensation Patterns

Compensations at
Foot and Ankle <ul style="list-style-type: none"> Foot pronation: Y / N Externally rotation: Y / N
Knees <ul style="list-style-type: none"> Valgus collapse: Y / N Varus: Y / N
Lumbo-Pelvic-Hip Complex <ul style="list-style-type: none"> Asymmetrical weight shift: Y / N Lumbar lordosis: Y / N Hip adduction: Y / N Hip internal rotation: Y / N
What to Do With Findings
Foot Pronation and External Rotation <ul style="list-style-type: none"> Tightness: Soleus, lateral gastrocnemius, biceps femoris, peroneals, piriformis
Knee Valgus and Internal Rotation <ul style="list-style-type: none"> Tightness: Gastrocnemius/soleus, adductors, IT band Weakness: Gluteus medius
Lumbar Lordosis <ul style="list-style-type: none"> Tightness: Erector spinae and psoas Weakness: Transverse abdominis, internal obliques
Hip Adduction <ul style="list-style-type: none"> Tightness: Hip adductors Weakness: Gluteus medius
Hip Internal Rotation <ul style="list-style-type: none"> Weakness: Gluteus maximus, hip external rotators

LANDING ERROR SCORING SYSTEM

The Landing Error Scoring System (LESS) was developed by Padua²⁵ to identify individuals at high risk for ACL injury. The test involves a jump-landing task incorporating vertical and horizontal movements as the patient jumps from a 30-cm high box to a distance of 50% of his or her height away from the box, and immediately rebounds for a maximal vertical jump on landing (Figure 3-12). The LESS score is simply a count of landing technique “errors” on a range of readily observable items of human movement.

Table 3-9 Single-Leg Squat Compensation Patterns

Compensations at
Foot and Ankle <ul style="list-style-type: none"> Foot pronation: Y / N Externally rotation: Y / N
Knees <ul style="list-style-type: none"> Valgus collapse: Y / N Varus: Y / N
Lumbo-Pelvic-Hip Complex <ul style="list-style-type: none"> Lumbar lordosis: Y / N Lateral trunk flexion: Y / N Trunk rotation: Y / N Hip adduction: Y / N Hip internal rotation: Y / N
What to Do With Findings
Foot Pronation and External Rotation <ul style="list-style-type: none"> Tightness: Soleus, lateral gastrocnemius, biceps femoris, peroneals, piriformis
Knee Valgus and Internal Rotation <ul style="list-style-type: none"> Tightness: Gastrocnemius/soleus, adductors, IT band Weakness: Gluteus medius, adductors, IT band
Lumbar Lordosis <ul style="list-style-type: none"> Tightness: Erector spinae and psoas Weakness: Transverse abdominis, internal obliques
Lateral Trunk Flexion <ul style="list-style-type: none"> Weakness: Core musculature
Trunk Rotation <ul style="list-style-type: none"> Weakness: Core musculature
Hip Adduction <ul style="list-style-type: none"> Tightness: Hip adductors Weakness: Gluteus medius
Hip Internal Rotation <ul style="list-style-type: none"> Weakness: Gluteus maximus, hip external rotators

The landing technique is analyzed from both a side view and a frontal view by the athletic trainer. There are 17 scored items in the LESS (Table 3-10). A higher LESS score indicates poor technique in landing from a jump, a lower LESS score indicates better jump-landing technique.