

Look-Modify-Refer: A Practical Field-Based Approach to Lower-Extremity Injury Risk Management in Basketball

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Headline

Modern basketball performance depends on repeated jumping, landing, deceleration, and rapid changes of direction, which support athletic performance but also expose athletes to high lower-extremity loads (1,2). This technical note presents an evidence-informed Look-Modify-Refer framework to help coaches observe movement quality, modify training, manage workload, and support lower-extremity injury-risk reduction without specialised equipment (3,4).

Aim

Basketball athletes repeatedly perform jumping, landing, changes of direction, and deceleration tasks, which place high loads on the lower extremities (1,2). Coaches see these movements during practice, but it can be difficult to judge when movement quality, fatigue, or workload requires a change in training. Therefore, the purpose of this technical note is to present a Look-Modify-Refer framework that coaches can use to identify observable movement concerns and make appropriate adjustments during routine basketball practice.

Why Coaches Matter

Coaches observe athletes throughout routine practice and are often among the first to notice changes in movement quality, physical performance, fatigue, or well-being. Through practice design, they can influence training exposure, movement demands, and lower-extremity injury risk (2,3). Coaches should not diagnose injuries, but they can identify concerning movement patterns, adjust training tasks, and refer athletes to qualified healthcare professionals when symptoms persist. These responsibilities are closely linked to basketball-specific movement abilities such as landing control, deceleration ability, and single-leg stability, which may support performance and reduce lower-extremity injury risk (5).

The Look-Modify-Refer Framework

In the Look stage, coaches observe athletes' movement during normal basketball practice. This includes landing mechanics, single-leg stability, cutting and deceleration quality, visible fatigue, and symptoms reported by athletes. Coaches should pay particular attention to inward knee motion during landing, poor postural control, and persistent anterior knee pain associated with repeated jumping and landing (5,6). Recurrent ankle instability complaints should also be monitored during routine practice.

These observations are not injury diagnoses. They are practical signs that closer monitoring or a training modification may be needed.

In the Modify stage, coaches adjust training tasks when concerning movement patterns or symptoms are identified. For example, they may reduce jump volume when anterior knee pain persists, increase recovery time when fatigue affects movement quality, or use external feedback to promote knee-over-foot alignment during landing tasks (5,6). These adjustments may improve movement quality, support basketball performance, and reduce exposure to factors associated with lower-extremity injury risk (3,4).

In the Refer stage, coaches refer athletes to qualified healthcare professionals when pain, swelling, functional limitation, recurrent giving-way episodes, or marked changes in movement quality persist. Referral should be viewed as part of athlete welfare, especially when symptoms do not improve after reasonable training modification.

Table 1 summarises how coaches can apply the Look-Modify-Refer approach during routine basketball practice. The table links common observable movement concerns with immediate coaching actions and referral triggers, while emphasising that coach observation should support training decisions rather than injury diagnosis.

Discussion

Improve Landing and Deceleration Quality

Coaches should encourage athletes to land softly, use more hip and knee flexion, maintain knee-over-foot alignment, and control deceleration during change-of-direction tasks. Better landing and deceleration quality may improve force absorption, movement efficiency, and functional performance (5).

Develop Neuromuscular Control

Balance, single-leg control, agility, and change-of-direction exercises can be added to routine basketball practice. These activities can be incorporated into routine basketball practice with little equipment. Improved neuromuscular control may support movement efficiency, balance, and dynamic stability (4).

Basketball-specific neuromuscular training programmes have shown positive effects on lower-extremity injury reduction and can be used by coaches during regular practice sessions (7,8). Proprioceptive exercises may also improve balance and reduce ankle injury incidence in basketball athletes (9).

Table 1. The Look-Modify-Refer framework for basketball coaches

Look: coach observation	Possible concern	Modify: immediate coaching action	Refer: when to refer
Knee moves inward during landing	Reduced landing control or ACL-related movement concern	Reduce jump volume, provide knee-over-foot feedback, and incorporate landing-control drills	Pain, swelling, repeated giving-way episodes, or marked asymmetry
Poor single-leg balance after landing	Reduced neuromuscular control or ankle instability concern	Add balance and single-leg landing exercises	Recurrent instability complaints or inability to complete practice
Uncontrolled cutting or deceleration mechanics	Elevated lower-extremity loading or poor movement control	Emphasise controlled deceleration and progressive movement-control drills	Functional limitation persists
Persistent load-related anterior knee pain following jumping	Possible patellar tendon loading concern	Reduce jump exposure and monitor 24-hour symptom response	Pain persists, worsens, or affects sport participation
Declining movement quality with fatigue	Excessive training stress or inadequate recovery	Modify training volume or intensity and increase recovery opportunities	Symptoms remain despite modification

Note. ACL = anterior cruciate ligament. The framework is intended to support coach observation and training modification, not injury diagnosis.

Table 2. Example weekly integration of the Look-Modify-Refer approach

Day	Focus	Coach observation
Monday	Landing mechanics and balance	Knee-over-foot alignment; single-leg stability
Tuesday	Regular basketball practice	Fatigue, soreness, and symptoms reported by athletes
Wednesday	Agility and deceleration control	Trunk control; stopping mechanics; cutting quality
Thursday	Regular basketball practice	Workload response; recovery status; movement quality
Friday	Single-leg stability and landing control	Landing quality under fatigue; postural control
Daily	Fatigue, soreness, and movement quality check	Pain, swelling, giving-way episodes, or performance drop

Monitor Workload and Fatigue

Coaches should monitor persistent soreness, reduced movement quality, visible fatigue, and changes in athletic performance. Training volume or intensity may need to be adjusted when fatigue-related movement deterioration is observed. This may help coaches manage training exposure while maintaining movement quality. Particular attention should be given to athletes reporting persistent anterior knee pain, because repeated jumping and landing place substantial loads on the patellar tendon (6).

Table 2 suggests an example of how coaches may integrate short movement-focused tasks across the training week while continuing to observe fatigue, soreness, workload response, symptoms, and movement quality during regular basketball practice.

Practical Applications

The Look-Modify-Refer framework gives basketball coaches a simple way to connect observation with action during training and competition. Through observation, coaches may identify movement concerns related to landing control, single-leg stability, and deceleration mechanics (5). When potentially risky movement patterns are observed, coaches can modify training immediately without specialised equipment by reducing jump

volume, adjusting drill intensity, increasing recovery time, or giving movement-focused feedback (4,7). Coaches should use the framework to observe and modify athlete movement, not to diagnose injuries.

Limitations

This framework is not intended to diagnose injuries. Many recommendations are based on associations in the existing literature rather than direct testing of the Look-Modify-Refer framework. Basketball-specific evidence may also remain limited in some areas (2,3). Individual athlete characteristics, training history, playing level, and access to healthcare support may influence how the framework is used. Future research should test the Look-Modify-Refer framework in real-world basketball environments.

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