Inspiring Greatness

INDEPENDENCE SCHOOL DISTRICT

Virtual Learning

Side to side in lower extremity biomechanics during multidirectional jump landing in sports

Biomechanics of Sports

5/11/2020

Lesson: 5/11/2020

Objective/Learning Target:

1. The student will learn about side to side lower extremity biomechanics during multidirectional jump landing in sports.

Lower Extremities

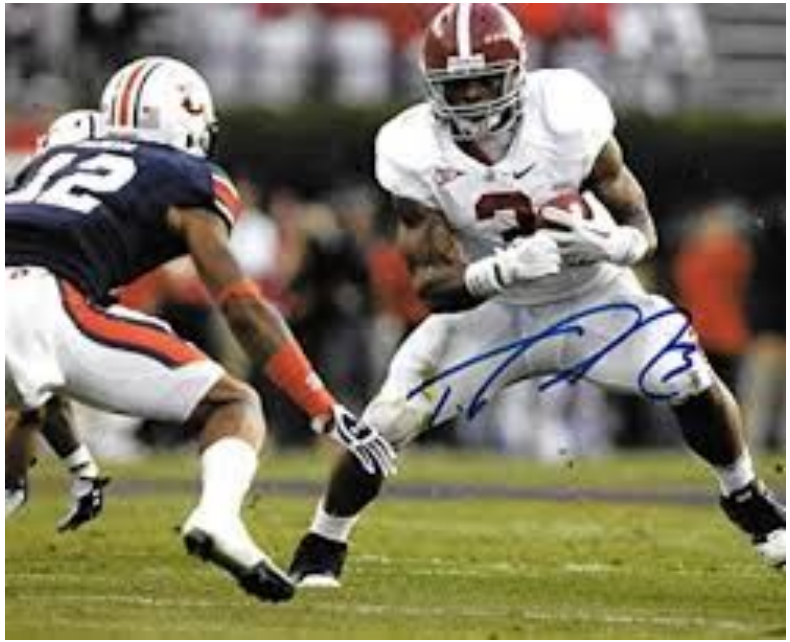
Side-to-side differences of lower extremities may influence the likelihood of injury.

Differences could be muscular mass or definition, length of each leg, dominant/non-dominant leg, or muscular strength/flexibility.

Adding to the complexity of jump-landing in various directions increases likelihood of injury.

The “Jump” Cut

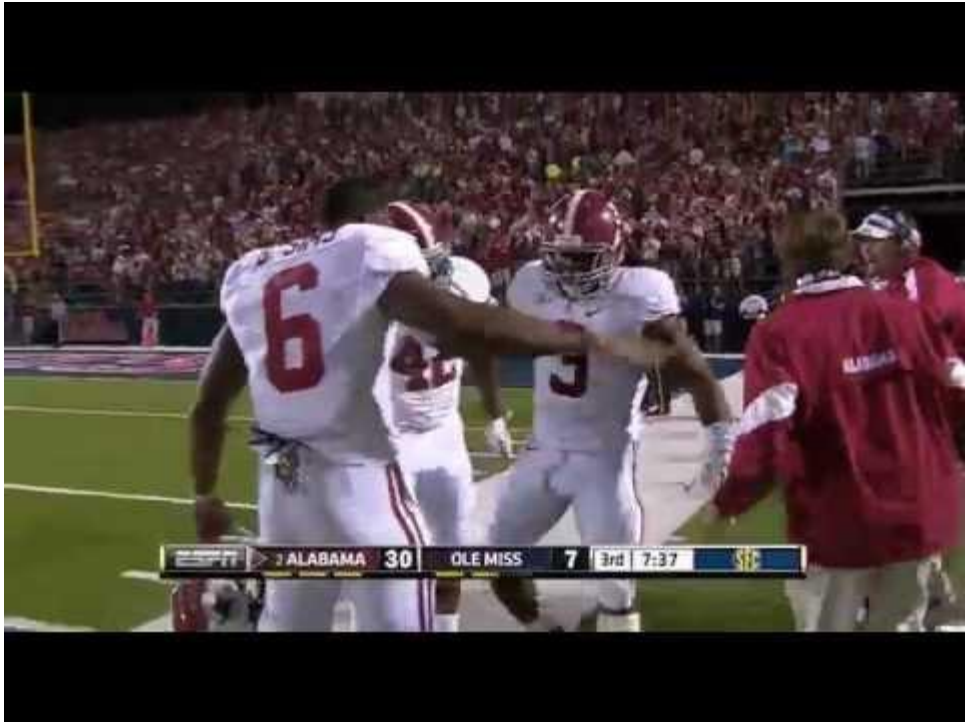
Also known as the “Juke” is a lateral change in direction of forces.



Juking

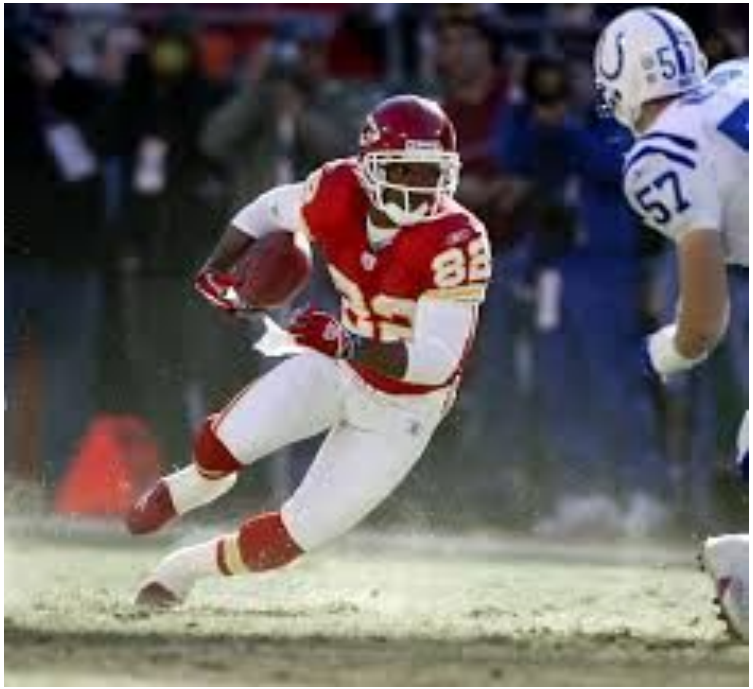
Juking puts pressure on lower extremities in order to keep the upper extremities in balance.

The term “Keeping your feet” is a basic observational term used when watching this dynamic move.



Research Application

Research shows that a significantly higher increase of ankle dorsiflexion angle was observed in lateral direction compared to other directions.



Application

Substantial weight transferred from one side of the body with momentum results in catastrophic loss of balance with the bodies inability to maintain homeostasis.

Result, could be significant injury or simply a loss of balance.