**Squat jump**

Data collection will involve high-speed video capture (≥240 Hz) using one or more cameras positioned in the sagittal plane, and, when available, a multi-camera motion capture system.

Retroreflective markers will be placed on anatomical landmarks including the acromion, greater trochanter, lateral femoral condyle, lateral malleolus, and fifth metatarsal to define the trunk, thigh, shank, and foot segments. A calibration frame of known dimensions will be introduced in the field of view to convert pixel data into real-world distances.

Recorded trials will be digitized using motion analysis software such as Kinovea (2D).

Kinematic variables of interest will include joint angles (hip, knee, ankle), angular velocities, vertical displacement of the center of mass, take-off velocity, time of flight, and jump height.

Key events—initiation of concentric phase, take-off (loss of ground contact), apex (maximum vertical displacement), and landing—will be defined manually within the time series.

Subsequent analysis will compute velocity at take-off from the derivative of displacement, and jump height both from kinematic data (apex minus take-off position) and from flight-time equations.