

LIFT POSTURE ANALYSIS_F

Analysis of a firefighter lifting a high-rise pack from floor to shoulder.



00:02 Initiating Lift

Note extended position of right knee (highlighted in red). Try to keep lower extremities aligned (foot, ankle, knee, hip).

Neutral shoulder and upper body alignment over high-rise pack. Low trunk and knee angles suggest more knee flexion and less hip flexion further indicating use of legs to support weight of high-rise pack (HRP).



00:03 Initiating vertical translation of HRP

Wide (shoulder width) hand placement will facilitate placement of HRP on shoulder at top of lift. Higher knee angle translates to forward trunk posture. More of the HRP weight will be translated through the lower back and trunk. Use more leg strength to support object weight.



00:03 Mid-point of HRP vertical translation

The circle is representing the trunk posture from a frontal position that is more easily seen in the side camera position.

Note the increasing knee angle and decreasing forward trunk angle.



00:04 Initiating placement of HRP on shoulder

Note left leg is starting to turn to start walking. Try to establish a secure HRP on shoulder before initiating walking to avoid low back strain.

Torque placed on low back while turning to lift HRP to shoulder.



00:04 Placing HRP on shoulder

Highlighting non-parallel foot position. Note external rotation of knee; putting strain on knee and hip. Maintain neutral posture with foot, ankle, knee and hip to reduce lower body strain.



00:04 Securing HRP on shoulder

Feet do not remain secure on floor but trunk remains in a neutral posture.

Note lifted foot posture.



00:05 HRP secured on shoulder

Note non-neutral neck posture to accommodate HRP on shoulder. Ensure upper extremity and neck training programs reflect this demand.