



Jump and Plyometric Training Progression

Goals

1. Safely condition the knee and lower limb for the demands of jumping and landing during sports activity
2. Provide a logical sequence of progressive drills for pre-sports conditioning
3. Provide objective criteria for safe progression from training to sports participation

Phases of Training

Double-leg training

Double-leg complex training

Single-leg training

Recommended Frequency 2 times per week

Sequencing

Begin each training session with a warm-up routine. Perform the jumping drills listed in the appropriate phase of your rehab. Be sure to limit your total contacts (or jumps) to the suggested amount listed for each training session to prevent injury. Progress within the phase as you master each exercise, performing each jump with proper technique and without pain.

Warm-up and Stretch

Generally, you should cycle, jog or use an elliptical trainer, rower or other device for 15 to 20 minutes so that you break a sweat before starting the program. After completing the jumping drills, cool down by stretching for 15 to 20 minutes.

Criteria to Progress

Do not progress to the next step in the phase until the present step is pain free, and you can perform with proper technique and without difficulty (muscle soreness or fatigue).

Technical Essentials

Each hop or jump should be performed with concentration on good technique. Perform each jump with a 'stick' landing, i.e. you should land and hold your balance momentarily before proceeding to the next jump. Keep the feet apart and do not let the knees rotate inward when taking off or landing. Soften the impact by landing on the balls of the feet and land with some bend in the knees and hips.

Precautions

Do not begin jump/plyometric training without clearance from your doctor and physical therapist. Jump training places heavy loads on the kneecap, patellar tendon and knee joint surfaces. Pain at these areas during jumping exercises should be reported to your physical therapist

Jump and Plyometric Training Progression

Phase 1

60 foot contacts/session

Double Limb (DL) hops on mini-trampoline
DL hops on soft surface (carpeted floor, gym floor)
DL Jump rope

Suggested Final Workout:

DL hops on mini-trampoline x 30 repetitions
DL hops on soft surface x 10 reps
DL hops with jump rope x 20 reps

Phase 2

90 foot contacts/session

DL forward hop, 6-12" distance
DL side-to-side hops, 6-12" distance
DL broad jumps, 12-18" distance
DL broad jump-to-vertical jump
Jump rope, alternating single limb (SL) hops

Suggested Final Workout:

Warm-up with DL jumps on mini-tramp or jump rope x 30 reps
DL forward hop x 5 reps
DL side-to-side hops x 5 reps each side DL
broad jumps x 5 reps
DL broad jump-to-vertical x 5 reps
Jump rope, alternate SL hops x 30 reps

Phase 3

120 foot contacts/session

90° DL Jump
180° DL Jump
DL broad jump-to-vertical with 90°-180° turn Single
limb (SL) hops in place on mini-trampoline
Jump rope, double/triple SL hops, alternating feet
SL forward hop, 6-12" distance
SL side-to-side hops, 6-12" distance

Suggested Final Workout:

Warm-up with mini-tramp or jump rope with DL → SL hops x 30-60 reps DL
forward hops (x 5 reps) and side-to-side hops (x 5 reps each direction)
90° to 180° DL Jumps x 5 reps each
DL broad jump-to-vertical with 90° to 180° turn x 5 reps each



ALAN H. LEE, M.D.
ORTHOPAEDIC SURGERY AND SPORTS MEDICINE

Keck School of
Medicine of **USC**

SL forward hops (x 5 reps) and side-to-side hops (x 5 reps each direction)

During this phase, drills can be advanced with exercises jumping over cones/hurdles and use of an agility ladder.