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Agility and Plyometric Program

This program is designed as a guide for clinicians and patients through a progressive series of agility and plyometric exercises to promote successful return to sport and reduce injury risk. Patients should demonstrate > 80% on the Functional Assessment prior to initiating this program. Specific intervention should be based on the needs of the individual and should consider clinical decision making. If you have questions, contact the referring physician.

PHASE I: ANTERIOR PROGRESSION

Rehab Goals	<ul style="list-style-type: none"> ▪ Safely recondition the knee ▪ Provide a logical sequence of progressive drills for pre-sports conditioning
Agility	<ul style="list-style-type: none"> ▪ Forward run ▪ Backward run ▪ Forward lean in to a run ▪ Forward run with 3-step deceleration ▪ Figure 8 run ▪ Circle run ▪ Ladder
Plyometrics	<ul style="list-style-type: none"> ▪ Shuttle press: Double leg alternating leg single leg jumps ▪ Double leg: <ul style="list-style-type: none"> ○ Jumps on to a box jump off of a box jumps on/off box ○ Forward jumps, forward jump to broad jump ○ Tuck jumps ○ Backward/forward hops over line/cone ▪ Single leg (these exercises are challenging and should be considered for more advanced athletes): <ul style="list-style-type: none"> ○ Progressive single leg jump tasks ○ Bounding run ○ Scissor jumps ○ Backward/forward hops over line/cone
Criteria to Progress	<ul style="list-style-type: none"> ▪ No increase in pain or swelling ▪ Pain-free during loading activities ▪ Demonstrates proper movement patterns

PHASE II: LATERAL PROGRESSION

Rehab Goals	<ul style="list-style-type: none"> ▪ Safely recondition the knee ▪ Provide a logical sequence of progressive drills for the Level 1 sport athlete
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Agility *Continue with Phase I interventions	<ul style="list-style-type: none"> ▪ Side shuffle ▪ Carioca ▪ Crossover steps ▪ Shuttle run ▪ Zig-zag run ▪ Ladder
Plyometrics *Continue with Phase I interventions	<ul style="list-style-type: none"> ▪ Double leg: <ul style="list-style-type: none"> ○ Lateral jumps over line/cone ○ Lateral tuck jumps over cone ▪ Single leg (these exercises are challenging and should be considered for more advanced athletes): <ul style="list-style-type: none"> ○ Lateral jumps over line/cone ○ Lateral jumps with sport cord
Criteria to Progress	<ul style="list-style-type: none"> ▪ No increase in pain or swelling ▪ Pain-free during loading activities ▪ Demonstrates proper movement patterns

PHASE III: MULTIPLANAR PROGRESSION

Rehab Goals	<ul style="list-style-type: none"> ▪ Challenge the Level 1 sport athlete in preparation for final clearance for return to sport
Agility *Continue with Phase I-II interventions	<ul style="list-style-type: none"> ▪ Box drill ▪ Star drill ▪ Side shuffle with hurdles
Plyometrics *Continue with Phase I-II interventions	<ul style="list-style-type: none"> ▪ Box jumps with quick change of direction ▪ 90 and 180 degree jumps
Criteria to Progress	<ul style="list-style-type: none"> ▪ Clearance from MD ▪ Functional Assessment <ul style="list-style-type: none"> ○ Quad/HS/glut index $\geq 90\%$ contra lateral side (isokinetic testing if available) ○ Hamstring/Quad ratio $\geq 70\%$ ○ Hop Testing $\geq 90\%$ contralateral side ▪ KOOS-sports questionnaire $>90\%$ ▪ International Knee Committee Subjective Knee Evaluation >93 ▪ Psych Readiness to Return to Sport (PRRS)

**Acknowledgement: This rehab protocol was largely adopted from the protocols at MGH Sports Medicine Physical Therapy, which can be found at <https://www.massgeneral.org/orthopaedics/sports-medicine/physical-therapy/sports-rehab-protocols>*