






PLYO METRICS

PROGRESSIONS

PLYOMETRICS 101

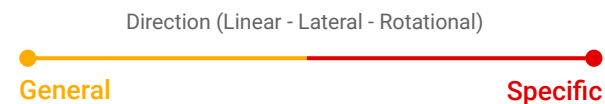
Athletes are built to generate and absorb force in rapid succession, and both rate of force development (propulsion) and rate of force absorption (braking) are key indicators for movement competency and capability within sports performance.

Plyometrics is trained in differing degrees of intensity and complexity

Movement Classification (Dominant motor pattern)	Direction (Force vectors + Vertical/ Horizontal emphasis)	Initiation (Contraction types)
 <p>JUMP 2 foot take off → 2 foot landing</p>	<ul style="list-style-type: none"> • LINEAR (Moving in the sagittal plane) • LATERAL (Moving in the frontal plane) 	<ul style="list-style-type: none"> • Landing Mechanics (LM) Eccentric control • Squat jump (SJ) Concentric only
 <p>HOP 1 foot take off → same foot landing</p>	<ul style="list-style-type: none"> • ROTATIONAL (Moving in transverse plane) 	<ul style="list-style-type: none"> • Countermovement Jump (CMJ) Stretch shortening cycle (SSC)
 <p>BOUND 1 foot take off → opposite foot landing</p>		<ul style="list-style-type: none"> • Depth/Drop Jump (DJ) ECCENTRIC → concentric

*Can modify the amount of SSC contribution by changing either eccentric loading time or concentric force production demands

PLYOMETRICS GEARS



Plyometrics Guidelines				
Phase	Level 1	Level 2	Level 3	Level 4
Maturation	Pre-Puberty	Circa -Puberty		Post-Puberty
Chronological age	Male 12-14 years Female 11-13 years	Male 14-16 years Female 13-15 years		Male 16-23 years Female 15-21 years
Competency	Force Absorption	Introduction to propulsion	Introduction to stretch shortening cycle	Progress movement, direction, innitiation
Objective	Eccentric control & stabilisation	Concentric focus	Eccentric + Concentric	High intensity plyometrics
Modality	Landing mechanics	Squat jump	Countermovement jumps	Depth/Drop Jump + Combination

PLYOMETRICS MATRIX

Intensity

Phase	Level 1	Level 2	Level 3	Level 4
Foundation	Isometric Squats (holding)	Box Jump (SJ)	Box Jump (CMJ)	Altitude drops
+	<i>ISO split squats, ISO single leg squats</i>	<i>DL-SL, SL-DL, SL-SL, medial, lateral, rotational</i>	<i>DL-SL, SL-DL, SL-SL, medial, lateral, rotational</i>	<i>SL altitude drops</i>
Development	Drop Squats	Squat Jump	Countermovement Jump	Depth jump / Drop jump
+	<i>DL-SL, SL-DL, SL-SL</i>	<i>bound, hop, rotational</i>	<i>bound, hop, rotational</i>	<i>SL Depth/Drop jump</i>
Performance	Low amplitude pogos -airtrack/trampoline -sand	SJ over hurdle	CMJ over hurdle	Combinations Jumps
+	<i>linear, lateral, hop</i>	<i>SL medial, lateral, rotational bound, hop</i>	<i>SL medial, lateral, rotational bound, hop, continuous</i>	<i>Sport-specific tasks (eg. jumping header with a soccer ball)</i>

Progression

*ISO = isometric; DL = Double leg; SL = Single leg; CMJ = Countermovement; SJ = Squat jump

MOVEMENT COMPETENCY CHECKLIST

DROP SQUAT

- ☐ Rapid triple flexion at the ankle, knee and hip
- ☐ Land with a flat-foot
- ☐ Avoid excessive knee valgus
- ☐ Ensure shoulders are in line with the knees
- ☐ Maintain neutral spine position

SQUAT JUMP

- ☐ Feet hip-width apart
- ☐ Squat to preferred depth and hold squat position for 2-3 seconds
- ☐ Without hips dipping, explosively extend the knees, hips and ankles to jump up
- ☐ Arms swing up and reach upwards during flight
- ☐ Cushion the landing by flexing the hips and knees as the balls of the feet land on the ground

COUNTERMOVEMENT JUMP

- ☐ Feet hip-width apart
- ☐ Rapidly descent into a preferred squat depth
- ☐ Without any pause, explosively extend the knees, hips and ankles to jump up
- ☐ Arms swing up and reach upwards during flight
- ☐ Cushion the landing by flexing the hips and knees as the balls of the feet land on the ground

DROP/DEPTH JUMP

- ☐ Ankles dorsiflexed while stepping off box
- ☐ Double-foot landing with an active flat-foot contact
- ☐ Rapid yet forceful ground contact
- ☐ Maintain an upright trunk
- ☐ Gradually intensify stretch load by increasing drop height, based on ground contact times or reactive strength index (RSI) measurements

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