



Plyometric Training Plan for Marathon & Ultra Runners

This structured plyometric training plan is designed to enhance tendon strength, improve running economy, and maximise power for endurance athletes. It follows a progressive model to ensure adaptation while minimising injury risk.

1. Plyometrics Before Running (Best for Performance & Adaptation)

- **Why?** Plyometrics require **freshness, coordination, and power**. Doing them first ensures maximum force output and proper neuromuscular activation.
- **Best for:** Shorter runs, speed sessions, or strength training days.
- **Example:**
 - Dynamic warm-up
 - Plyometric drills (e.g., bounding, depth jumps, hurdle hops)
 - Running session (if it's an easy or moderate run)

2. Plyometrics Before Strength Training (Best for Power Development)

- **Why?** Plyos are explosive and require full effort. If done after heavy strength work, they lose effectiveness.
- **Best for:** Strength + power sessions (e.g., squats + depth jumps).
- **Example:**
 - Warm-up
 - Plyometric exercises (low volume)
 - Strength training (e.g., squats, deadlifts)

3. Plyometrics After Running (Only for Low-Intensity Runs)

- **Why?** If the focus is endurance, running takes priority. Plyometrics afterward should be **low-intensity** to avoid excessive fatigue.
- **Best for:** Easy or moderate-distance days, not after high-intensity workouts.
- **Example:**
 - Run (easy/moderate pace)
 - Low-volume plyos (e.g., skipping, ankle hops)
 - Cool-down

4. NEVER Do Plyos After a Hard Run or Long Run

- Doing high-intensity plyos after a long or intense run increases injury risk due to **fatigue and poor movement quality**.

Final Recommendation:

- **Pre-run:** Best for activation & performance (especially before speed or interval sessions).
- **Pre-strength:** Best for power gains.
- **Post-run:** Only for easy run days, and keep the volume low.
- **Avoid after long or intense runs.**

Phase 1: Foundation Phase (Weeks 1-6)

Goal: Build tendon and ligament strength and improve coordination.

- **Frequency:** 2x per week
- **Intensity:** Low to moderate

Exercise	Sets	Reps	Rest
Ankle Hops	3	20	30 sec
Pogos (small bounces)	3	20	30 sec
Single-Leg Balance Hops	3	10 each leg	30 sec
Box Step-Offs	3	10	30 sec
Calf Raises (Slow Eccentric)	3	12	45 sec
Jump Rope (low intensity)	3	30 sec	30 sec

Phase 2: Strength & Reactivity (Weeks 7-12)

Goal: Increase reactive strength and force production.

- **Frequency:** 2-3x per week
- **Intensity:** Moderate to high

Exercise	Sets	Reps	Rest
Bounding	4	30m	45 sec
Hurdle Hops	4	8	45 sec
Depth Jumps (low box)	3	6	60 sec
Lateral Hops	3	10 each leg	45 sec
Explosive Step-Ups	3	8 each leg	45 sec
Jump Rope (higher intensity)	3	45 sec	30 sec

Phase 3: Power & Efficiency (Weeks 13-18)

Goal: Maximise neuromuscular efficiency and power endurance.

- **Frequency:** 2x per week
- **Intensity:** High, but lower volume

Exercise	Sets	Reps	Rest
Depth Jumps (higher box)	4	5	60 sec
Sprint Starts	4	10m	60 sec
Bounding	3	40m	60 sec
Drop Squat to Jump	3	6	45 sec
Single-Leg Box Jumps	3	6 each leg	45 sec
Jump Rope (max effort)	3	60 sec	45 sec

Phase 4: Taper & Maintenance (Final 4 Weeks Before Race)

Goal: Maintain power while reducing fatigue.

- **Frequency:** 1-2x per week
- **Intensity:** Low volume, high efficiency

Exercise	Sets	Reps	Rest
Bounding	2	20m	60 sec
Hurdle Hops	2	6	45 sec
Depth Jumps (low box)	2	4	60 sec
Explosive Step-Ups	2	6 each leg	45 sec

Progressive Strength Training for Runners

For runners who want to incorporate **strength training alongside plyometrics**, here's a structured progression over 18 weeks. This plan ensures gradual adaptation, optimising strength without excessive fatigue.

Phase 1: Base Strength (Weeks 1-6)

- **Goal:** Build foundational strength and endurance.
- **Reps:** Moderate (8-12)
- **Load:** Light to moderate (~50-60% 1RM)

Session A (Lower Body Focus)

- Back Squat – 3 sets of 10 reps (50-60% 1RM)
- Romanian Deadlift – 3 sets of 10 reps (50-60% 1RM)

- Bulgarian Split Squat – 3 sets of 10 reps each leg
- Calf Raises – 3 sets of 15 reps
- Plank Hold – 3 sets of 45 sec

Session B (Full Body Focus)

- Deadlift – 3 sets of 8 reps (55-65% 1RM)
 - Step-Ups (Weighted) – 3 sets of 10 reps each leg
 - Pull-Ups – 3 sets of 6 reps
 - Single-Leg Glute Bridge – 3 sets of 12 reps each leg
 - Hanging Leg Raises – 3 sets of 12 reps
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Phase 2: Strength Development (Weeks 7-12)

- **Goal:** Increase maximal strength while maintaining endurance.
- **Reps:** Lower (5-8)
- **Load:** Moderate to heavy (65-80% 1RM)

Session A (Lower Body Focus)

- Back Squat – 4 sets of 6 reps (65-75% 1RM)
- Romanian Deadlift – 4 sets of 8 reps (65-75% 1RM)
- Bulgarian Split Squat – 3 sets of 8 reps each leg
- Calf Raises – 3 sets of 12 reps
- Side Plank Hold – 3 sets of 45 sec

Session B (Full Body Focus)

- Deadlift – 4 sets of 5 reps (70-80% 1RM)
 - Step-Ups (Weighted) – 3 sets of 8 reps each leg
 - Pull-Ups – 3 sets of 8 reps
 - Single-Leg Glute Bridge – 3 sets of 10 reps each leg
 - Hanging Leg Raises – 3 sets of 10 reps
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Phase 3: Power & Efficiency (Weeks 13-18)

- **Goal:** Convert strength to power, optimize efficiency.
- **Reps:** Low (3-6)
- **Load:** Heavy (80-90% 1RM)

Session A (Lower Body Focus)

- Back Squat – 5 sets of 4 reps (80-85% 1RM)
- Romanian Deadlift – 4 sets of 6 reps (75-85% 1RM)
- Bulgarian Split Squat – 3 sets of 6 reps each leg
- Calf Raises – 3 sets of 10 reps

- Hanging Leg Raises – 3 sets of 10 reps

Session B (Full Body Focus)

- Deadlift – 5 sets of 4 reps (85-90% 1RM)
 - Step-Ups (Weighted) – 3 sets of 6 reps each leg
 - Pull-Ups – 3 sets of 8 reps
 - Single-Leg Glute Bridge – 3 sets of 8 reps each leg
 - Plank Hold – 3 sets of 60 sec
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Guidelines for Strength Training

- ✓ Strength sessions should be done on **non-plyometric days** or after **easy runs**.
- ✓ Use percentages as guidelines but adjust based on recovery and form.
- ✓ Reduce intensity during race weeks to avoid fatigue.
- ✓ This plan aligns with plyometric development, ensuring progressive overload without excessive fatigue.

This ensures **progressive development from tendon conditioning to power output**, leading to improved running efficiency, reduced injury risk, and peak performance on race day!