# Optimizing In-season Strength, Power & Change of Direction

Research by Jarosz et al. (2023) →

# Train to Maintain
# not to Detrain

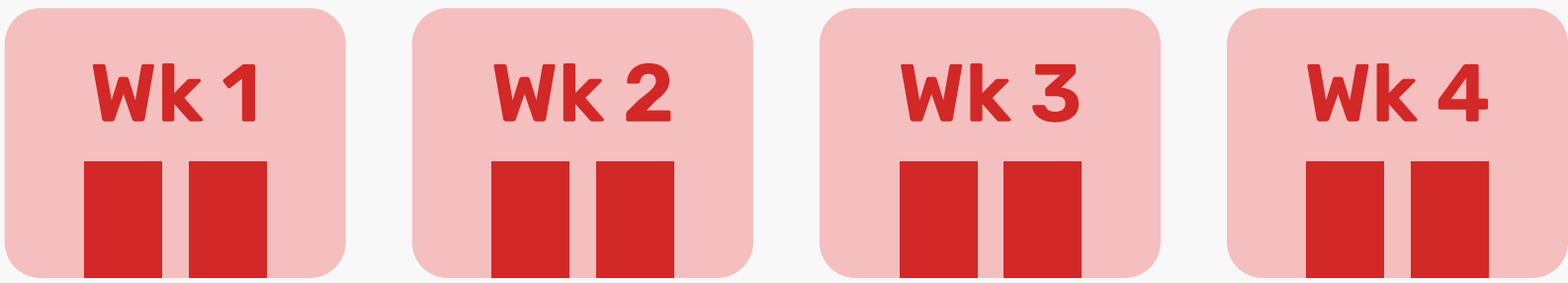
Soccer athletes must execute a variety of explosive movements such as accelerations, jumps, sprints and changes of direction (COD).

**Given these demands, it is crucial to identify and optimize training interventions that either maintain or enhance these qualities in-season.**

# Program

Both the flywheel resistance training (FRT) and traditional resistance training (TRT) groups were given 6 exercises with the focus specific to that groups training methods, whether that was traditional or flywheel (front squat - FSQ vs lateral squat - LSQ).

**Over the course of 4 weeks, 8 training sessions were conducted.**



# Outcomes

The main finding was that all training groups (TRT, FSQ, and LSQ), significantly improved broad jump distance, 5–0–5 COD turn time on the dominant limb and 1RM back squat strength.

| Variable | FSQ (%) | LSQ (%) | TRAD (%) |
|---|---|---|---|
| CMJ (cm) | 6.92* | 6.80* | 0.87 |
| Broad Jump (cm) | 0.83* | 5.83* | 1.26* |
| 5-0-5 Dominant leg | -1.31* | -2.19* | -1.30* |
| 5-0-5 Non-dominant leg | -0.85 | -0.87 | 0.42 |
| 1 RM Back Squat | 10.30* | 3.57* | |

# Outcomes

However, only the FRT (FSQ and LSQ) **significantly improved their counter-movement jump (CMJ) height.**

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|---|---|---|---|
| **CMJ (cm)** | **6.92*** | **6.80*** | **0.87** |
| Broad Jump (cm) | 0.83* | 5.83* | 1.26* |
| 5-0-5 Dominant leg | -1.31* | -2.19* | -1.30* |
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| 1 RM Back Squat | 10.30* | 3.57* | |

# Take Home Message

Both TRT and FRT lasting 4 weeks performed in-season not only maintained but improved 1 RM back squat, broad jump, and 5–0–5 change of direction performance, **while FRT was superior for improving vertical leg power in soccer players.**