



Early Post-Op Interventions for a Collegiate Football Athlete Following an Anterior Cruciate Ligament Reconstruction: A Case Report



Carter Cumbie, SPT, CSCS
Florida Southern College School of Physical Therapy

Background

- Roughly **200,000 ACL injuries occur each year in the United States** alone, and the majority of these cases opt for an ACL reconstruction surgery (ACLR).^{1,2}
- Research findings show that a goal-based, **return to sport program of at least 9-12 months** is considered the gold standard timeframe for athletes.¹⁵
- Regaining full ROM, especially **knee extension, is the most important factor** in the initial post-op phases for patient progression and positive outcomes.¹⁶



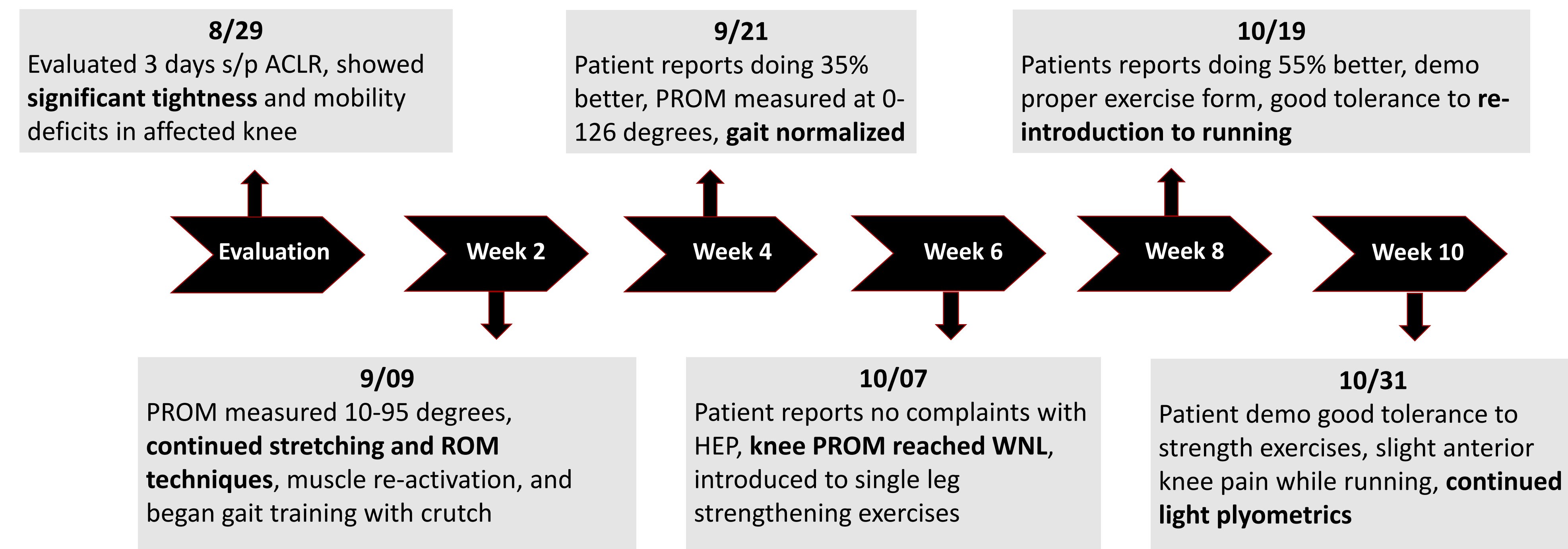
Purpose

- To examine the relationship between **early gains in knee flexion and extension range of motion**, and how those values are **prognostic factors** to determine the rate of progression throughout the rehabilitation process.

Case Description

- **21-year-old** black male, Division II **collegiate football player**
- Seen **3 days s/p left ACL Reconstruction** with meniscectomy, utilizing a BPTB autograft
- Presented with swelling and decreased ROM, **knee immobilizer and axillary crutches**, using a modified 3-point gait technique with **weight bearing as tolerated**
- Patient **goals; decreasing pain and swelling, regaining full ROM**, normalizing gait, and returning to strength and plyometric training exercises **within 10 weeks**

Timeline

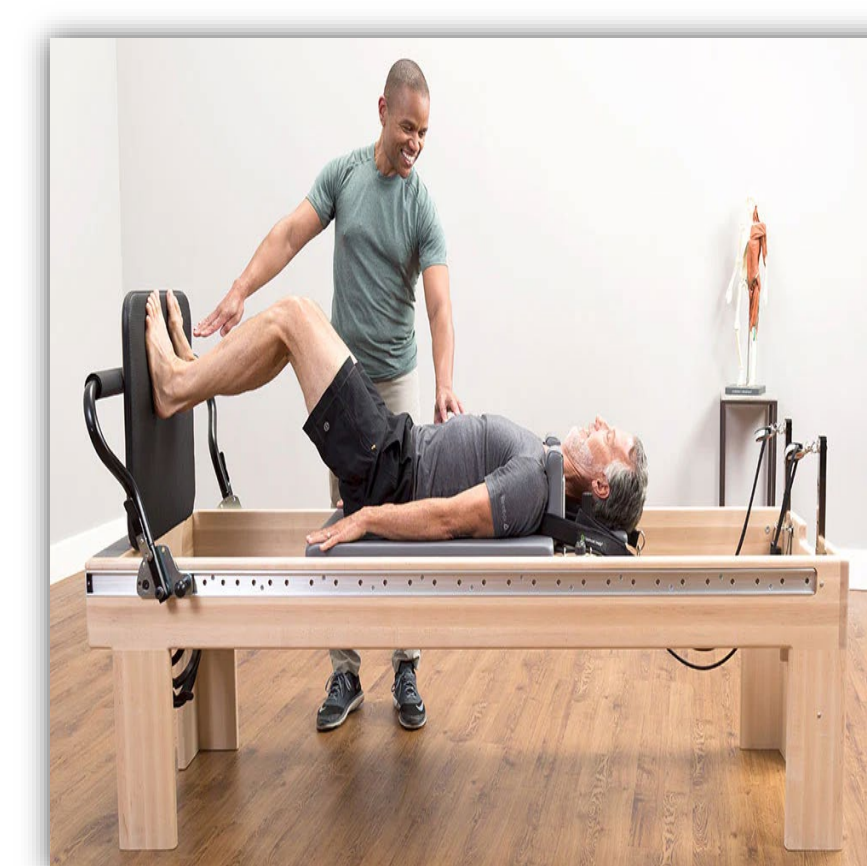
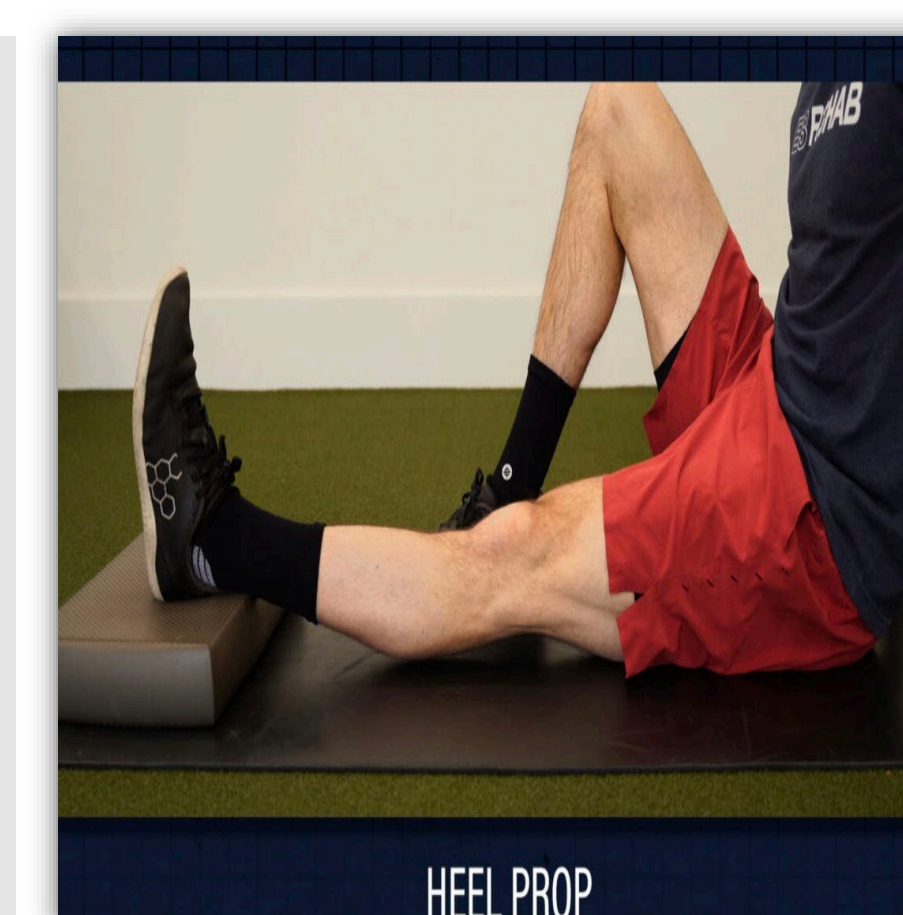


Interventions



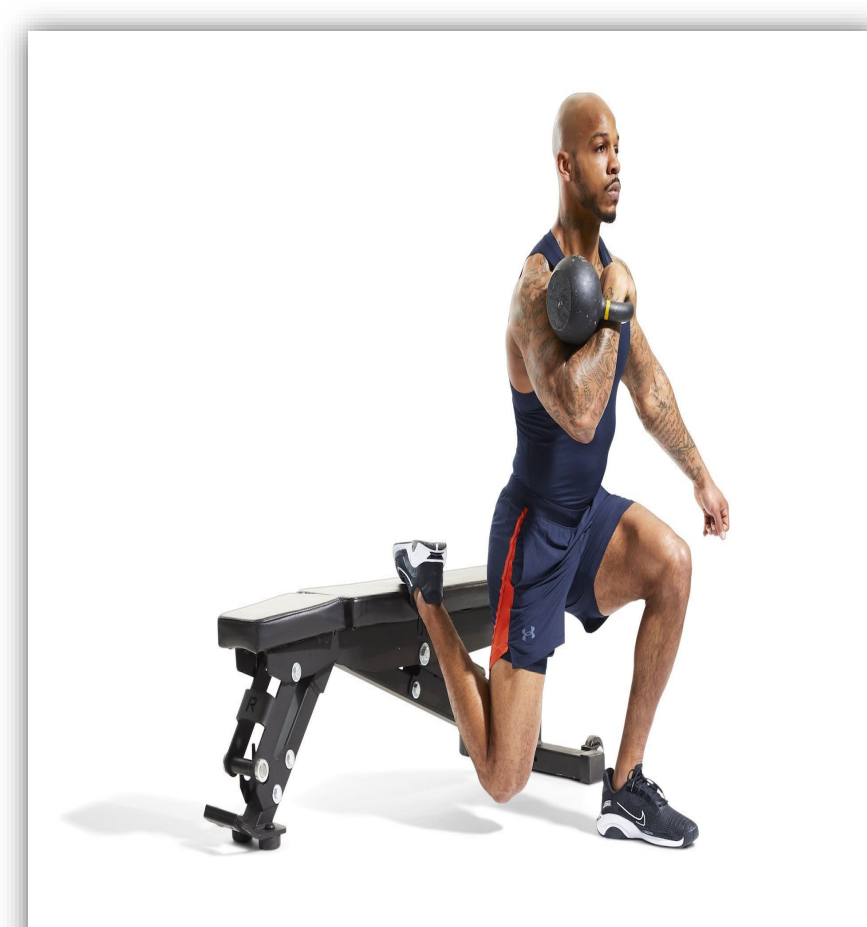
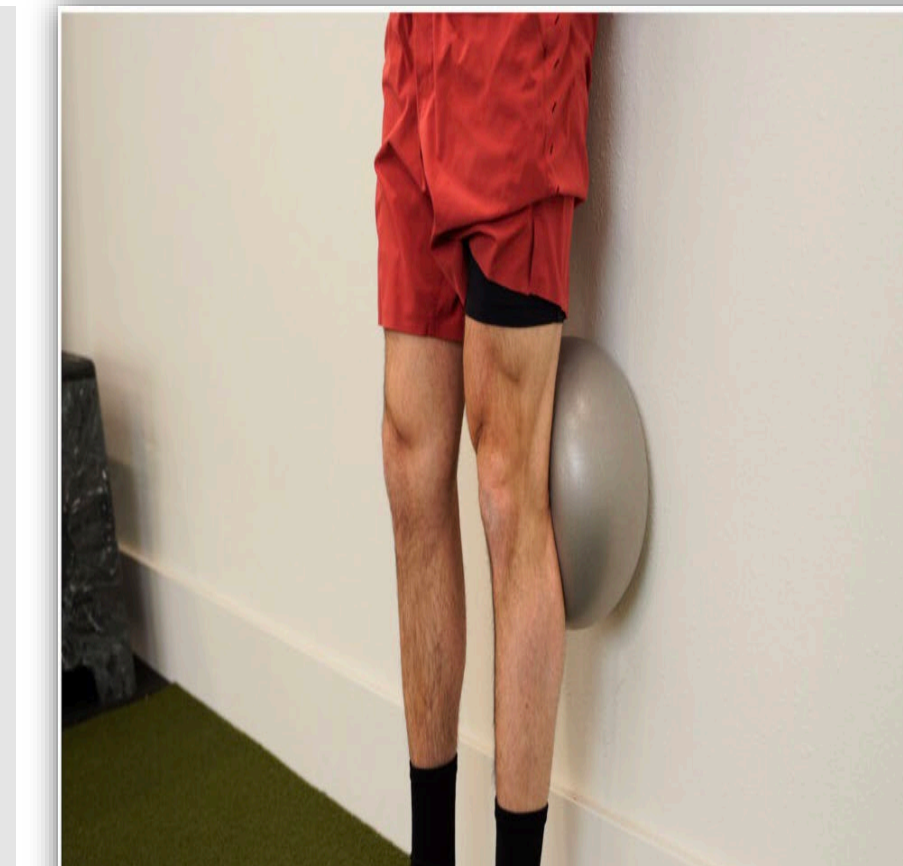
Weeks 1-3

- Objectives
 - Decrease swelling, **improve PROM**, and **facilitate quadriceps activation**
- Key interventions
 - PROM with overpressure, **weighted heel props**, STM/massage
 - Bike rocks, heel slides
 - **Quad sets/SLR with NMES assist**, standing weight shifts
 - Gait training with unilateral axillary crutch



Weeks 4-6

- Objectives
 - Address flexion ROM deficits, **initiate bilateral resistance training**
- Key interventions
 - PROM with overpressure, **reformer work**
 - Stationary bike, mini box squats, resisted hip abduction/extension
 - Bilateral leg press, single leg balancing activities
 - **Resisted terminal knee extension**, heel taps, step ups



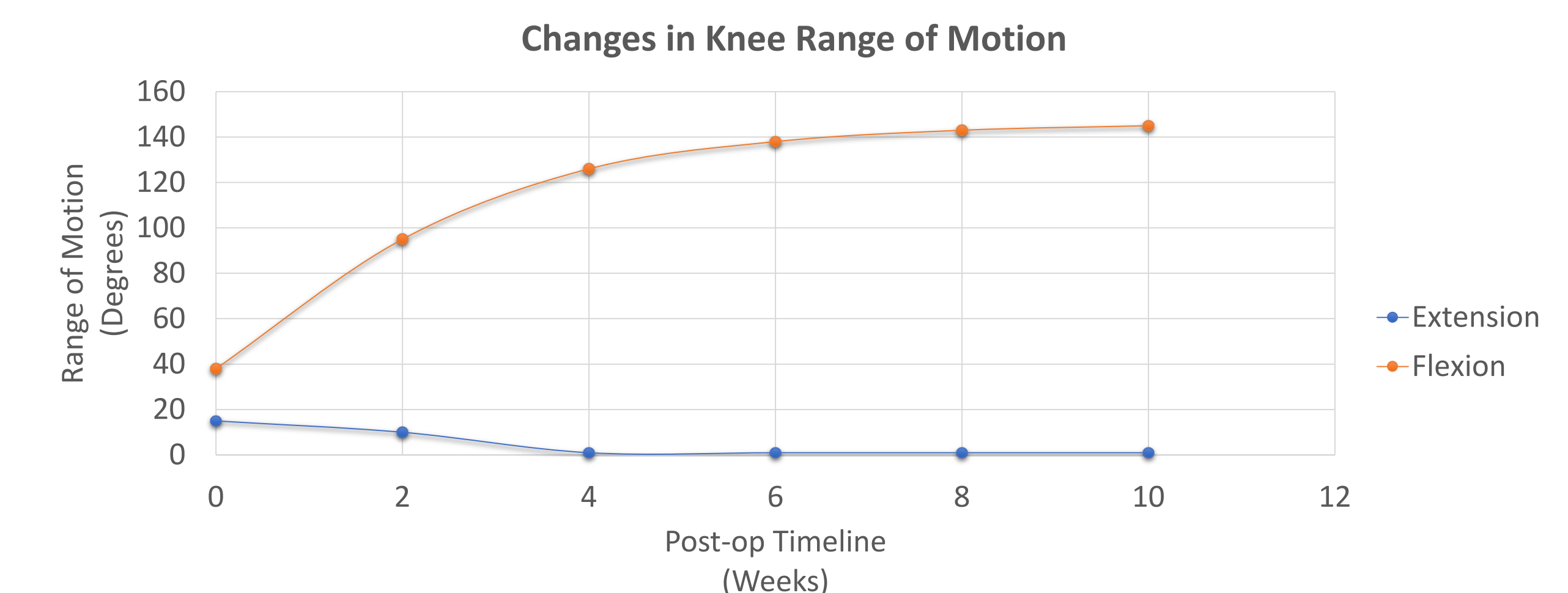
Weeks 7-10

- Objectives
 - Continue bilateral/**unilateral strengthening** and neuromuscular re-education activities, and begin **low-level plyometrics/light jogging**
- Key interventions
 - Barbell squats, weighted lunges, farmers carry
 - **Bulgarian split squats**, single leg Romanian deadlifts
 - Sled pulls, hand-eye coordination while balancing on foam pad
 - Agility hops, jump rope, **Alter-G treadmill®**



Outcome

	Visit 1 3 days s/p	Visit 5 2 wks s/p	Visit 10 4 wks s/p	Visit 15 6 wks s/p	Visit 20 8 wks s/p	Visit 25 10 wks s/p
Knee ROM (degrees)	15 - 38	10 - 95	0 - 126	0 - 138	0 - 143	0 - 145



Conclusion

- **Regaining full knee range of motion as early as possible** in the initial post-op phase is essential to a better prognosis and a decreased risk of adverse long-term complications
- Utilizing relevant **outcome measures and return-to-sport criteria** that is backed by research is important to track progress and begin sport-specific training for athletes after an ACL injury
- The decision to **return to sport and/or higher-level rehab exercises is multifactorial** and should include psychological and physical factors that align with both the therapist's clinical judgment and the patient's best interests

References

