CHRONIC EXERTIONAL COMPARTMENT SYNDROME
SUMMARY OF RECOMMENDATIONS

Disclaimer

- Progression is time and criterion-based, depending on soft tissue healing, patient demographics, and clinician evaluation.
- For questions, contact Dr. Sujan Gogu's clinic.

Risk Factor

Age range of 25 to 28 years

Male gender

Participation in running sports

Active military service

Abnormal running biomechanics like over-striding, over-pronation, and rear foot strike pattern at initial contact

Significant increase in weight-bearing activities and training volume

Use of anabolic steroids and creatine supplementation

Differential Diagnosis

Medial tibial stress syndrome

Stress fracture

Popliteal artery entrapment

Tibial nerve entrapment

Examination

Outcome Measures:

- **UWRI** (University of Wisconsin Running Injury and Recovery Index)
- **SANE** (Single Assessment Numerical Evaluation)
- **LEFS** (Lower Extremity Functional Scale)

Pain-free running distance

Assessment of structural and functional impairments

Evaluation of running gait biomechanics

Treatment Phases

1. **Symptom Relief**
2. **Running Gait Re-training**

Interventions

- Modification of risk factors identified
- Retraining of running gait mechanics
- Patient education on injury prevention and management
- Adjustment of activity levels
- Application of functional manual therapy techniques

Criteria for Discharge

- Resolution of symptoms during and after exertion
- Maintenance of a home exercise plan for continued improvement
- Ability to resume running without pain

Alternative Treatment Options	
Botulinum toxin A injection	Provides potential symptom relief within five months after a single injection
Ultrasound fascial placement	Involves local anesthesia followed by surgical creation of an opening in the fascia for pressure relief, with symptom relief lasting up to 18 months.
Surgical release of involved compartments	Refer to post-operative guidelines for detailed information.

Symptoms Management	
Symptom Management	**Details**
Patient Presentation	• Patients report pain in the anterolateral leg or deep calf during specific exertion levels, relieved by rest. • Neurological symptoms like numbness or tingling may occur. • Pain onset limits activity.
Activity Modification	• Reduce or cease activities triggering symptoms. • Non-pharmacological interventions (NSAIDs, stretching) ineffective without activity restriction. • Patient education on activity discontinuation.
Conservative Interventions	• **Manual Therapy:** Combining soft tissue techniques and joint mobilizations to address flexibility and joint mobility issues. • **Fasciotomy:** Surgical decompression to relieve muscle constriction in affected compartments.

Fasciotomy	**Details**
Evidence	• Strong evidence supports surgical decompression by opening the fascia. • **Success rates vary by compartment:** Anterior: 81% to 100% success rates. • **Deep posterior:** Cumulative success rate of 66%.
Complications	**Overall complication rate:** 3% to 17%, including infections, ankle pain, recurrence, and sensory changes.

Running Gait Retraining	
Running Gait Retraining	**Details**
Patient Presentation	• According to experts, many patients start running with their heel hitting the ground first. • Pain gets worse while running but goes away when they stop.
Running Changes	• Encourage landing on the middle or front part of the foot instead of the heel. • Aim for a step rate of at least 180 steps per minute, using a digital metronome to gradually increase the pace (5-10% at a time). • Include exercises to improve how they move and control their body while running. • Focus on activating the hamstring muscles more than the calf muscles when starting to swing the leg forward. • Adjust how the upper part of the leg moves to lessen the impact on the body. • Some running in bare feet or with very thin shoes may help with feeling the body and how it moves when training. • It should take about 6 weeks to get used to the changes.
Instructions for Running	• Use words like "Take shorter, quicker steps", "Run without making noise", "Land with the foot closer to under the body" • Show the runner a video of their running to help them learn.