

Chronic exertional compartment syndrome – unpicking a tricky diagnosis in primary care

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Exercise-induced leg pain (ELP) is a prevalent condition among exercising adults and can limit their ability to engage in physical activity or impair their performance.¹ In primary care, a proper understanding of the common causes of ELP can help exclude other diagnoses and identify patients with chronic exertional compartment syndrome (CECS) early. A focused history and clinical examination can aid in pointing towards a probable diagnosis and identifying patients who require secondary care referral.

CECS is defined as reversible pain and neuromuscular symptoms (tightness, cramping, paraesthesia, or muscle weakness) that are reported in a specific muscle (fibro-osseous) compartment in the absence of trauma.¹ The current theory suggests that increased size (hypertrophy), pressure, and vascular and metabolic demands of exercise can compromise muscles and nerves, leading to the typical self-limiting symptoms.¹ It is more commonly reported in men than women and usually affects individuals aged 20–25 who engage in activities that demand repetitive movements, such as runners, dancers, gymnasts or military personnel.¹

Patients often report 'shin' or 'calf pain' after a repeatable duration of exercise, localised to a specific compartment, with the anterior compartment being the most commonly affected.¹

When diagnosing ELP, it is crucial to consider specific features of the patient's history, such as the type and duration of physical activity that provoke symptoms and rapid resolution with stopping exercise.² The affected compartment may feel firm and tender to touch; in severe cases, patients may report sensory or motor deficits (Fig 1).^{1,2}

Clinicians should consider CECS when there is a typical history of exercise-induced pain and neuromuscular symptoms that come on with a predictable exercise trigger and are relieved within 15 minutes of rest.^{1,2} This can often be elicited by asking the patient to perform the exacerbating exercise during or before an appointment and assessing for clinical features and resolution of symptoms.

Before making a diagnosis, screening for other conditions, such as limb ischemia, peripheral neuropathies, radiating nerve-related conditions, bone stress injuries, spinal stenosis, cancer and muscular causes is crucial. If there is clinical suspicion of an underlying medical cause, further investigations, including laboratory tests and imaging, may be indicated.

ELP is a common condition in primary care, and a proper understanding of its common causes can help identify patients with CECS early. A focused history and clinical examination can

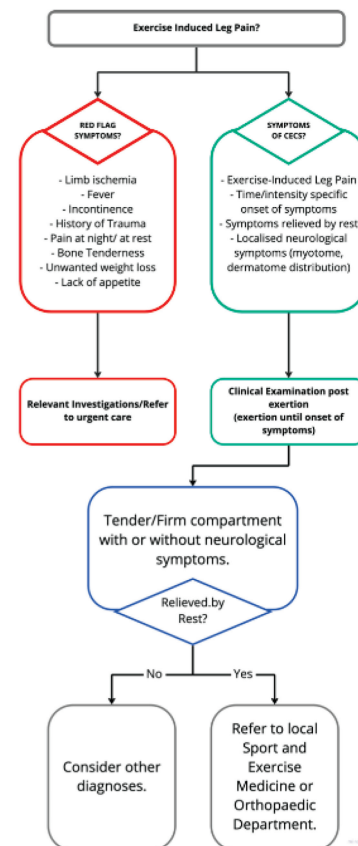


Fig 1. Diagnostic work-up of CECS.

aid in pointing towards a probable diagnosis and identifying patients who require secondary care referral. Early referral to local musculoskeletal or orthopaedic services is recommended for patients with persistent symptoms. ■

References

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