

Chronic Exercise Induced Compartment Syndrome

Chronic Exercise Induced Compartment Syndrome is a condition poorly recognised by both general public and many doctors. Whilst it can occur in any part of the body containing muscle compartments, the lower leg and forearm are most common. No-one knows exactly what causes this condition but the most widely accepted theory is that the muscles expand with blood during exercise and, in the majority of individuals, the compartment (a section of the limb divided by either bone or a fibrous/fascial wall) is large enough to accommodate this expansion. However in a small number of people, the compartment is too small (either developmentally or post-injury, such as a crush injury). In these individuals, the muscles get squashed against the walls and are unable to get rid of their lactic acid and other by-products of exercise. This causes a feeling of progressive increased tightness and pain which eventually causes that individual to stop exercising. The muscles then reduce in size and the pain usually subsides in a few minutes. Running is usually the precipitating factor in the lower limb and prolonged gripping or repetitive wrist movement (e.g. rowing) in the forearm.

The condition is diagnosed by a careful history (examination at rest is usually normal) and by measuring the pre- and post-exercise pressure within the muscle compartment of concern. In Compartment Syndrome, the pressure is characteristically very high immediately after exercise compared to a normal limb.

The pressure is measured with an intra-compartmental pressure monitor inserted (under local anaesthetic) into the compartment pre- and post-exercise. Whilst not completely pain free, the procedure is usually very well tolerated with a very low risk of problems and pain afterwards. If the history and pressures are positive for this condition then surgery to relieve the pressure in the compartment is usually curative.

