Chronic Exertional Compartment Syndrome: Results of Minimally Invasive Fasciotomy

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Introduction

• A significant increase in intramuscular pressure within a specific compartment of the leg during exertion

• Delay in diagnosis of up to 22 month
Study Goals

- To report the results of a single incision fasciotomy
Method

- Retrospective: 30 patients, 54 legs
- Operations between 2007 and 2011
Patient Data

- Mean age: 23.7 y (range, 18 – 47)
- F/U time: 30.6 m
- Time to diagnosis: 19 m
- Anterior compartment - in 54/54 legs
- Lateral compartment - in 50/54 legs
- Posterior compartment - in 5/54 legs
Compartment Pressure Measurement

Resting pressure $\geq 15\text{mm}\Hg$

1 minute post exercise $\geq 30\text{mm}\Hg$
Surgical Technique
Surgical Technique (Cont.)
Results
• Preop - Tegner score - 5.7 (median 5)
• Postop - Tegner score - 6.1 (median 7)
Results - Tegner score

**Level 10** - Competitive sports- soccer, football, rugby (national elite)
**Level 9** - Competitive sports- soccer, football, rugby (lower divisions), ice hockey, wrestling, gymnastics, basketball
**Level 8** - Competitive sports- racquetball or bandy, squash or badminton, track and field athletics (jumping, etc.), down-hill skiing
**Level 7** - Competitive sports- tennis, running, motorcars speedway, handball
Recreational sports- soccer, football, rugby, bandy, ice hockey, basketball, squash, racquetball, running
**Level 6** - Recreational sports- tennis and badminton, handball, racquetball, down-hill skiing, jogging at least 5 times per week
**Level 5** - Work - heavy labor (construction, etc.)
Competitive sports- cycling, cross-country skiing,
Recreational sports- jogging on uneven ground at least twice weekly
**Level 4** - Work - moderately heavy labor (e.g. truck driving, etc.)
**Level 3** - Work - light labor (nursing, etc.)
**Level 2** - Work - light labor
Walking on uneven ground possible, but impossible to back pack or hike
**Level 1** - Work - sedentary (secretarial, etc.)
**Level 0** - Sick leave or disability pension because of knee problems
Satisfaction

• Overall satisfaction: good and excellent for 47 out of 54 operated legs (87%)

• Only in 3 patients had posterior compartment decompression, two of them (3 out of 5 operated legs) reported poor satisfaction
Complications

- Hematoma in 8/54 (14%)
- Wound infections in 3/54 (5%)
- Nerve injury in 3/54 (5%)
Summary and Conclusions

• The only definitive treatment of CECS is fasciotomy, and it is the treatment of choice for the young and active individuals.

• Treatment of CECS with single incision fasciotomy results in high satisfaction rate.