

IMPROVED CLINICAL OUTCOMES USING SPECIALISED MEDICAL GRADE FOOTWEAR TECHNIQUES-a review of selected cases

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INTRODUCTION

There are a number of forms of Medical Grade (M-G) footwear that have been largely unknown, ignored or rejected in Australia that can offer significant advantages over many other forms of foot treatment.

There are many combinations of individual client needs, relative technical advantages / disadvantages and the available resources, requiring a matched range of treatment options. With broadening accountabilities and emphasis on functional outcomes, practitioners increasingly need to review and improve their services. Without a clear understanding and experience of complementary or alternative treatments, clinicians can limit their effectiveness and credibility.

The purpose of this paper is to encourage practitioners to visit or revisit specific areas of specialised M-G footwear, particularly of formal German origins. They may offer viable clinical alternatives in what is now a rapidly changing medical services context.

NATURE OF PRESENTATION

A range of cases will be used to demonstrate the relative benefits of less common forms of M-G footwear. Objective feedback includes the use of video cinematography, as well as defined improvements in functional outcomes. Specific clinical and technical differences in approach and technique from the usual Australian foot-footwear practices are explained.

REPRESENTATIVE EXAMPLE

A 36 year-old male with a history of right lower leg - foot problems following tibia, fibula and metatarsal bone no. 2 fractures. He had surgery including subtalar joint fusion. The right foot can not be actively lifted due to a partial paralysis. Ambulation of short distances was painful, even when

using a walking stick, AFO and modified footwear.

While on a gross examination, it seemed the arthodesed subtalar joint and the tibia fibula fracture sites were stable, mechanical stress caused direct pain, suggesting ongoing micro-instability. Conventional mechanical stress relief provided poor micro- and macro- control of the arthrodesis and fractured sites, probably allowing destructive (as opposed to therapeutic) micro-movement.

New treatment approach was adopted. The short-term aim was to limit as much non-axial stress as possible. Specific German-based, "orthopaedic" footwear was designed that offers excellent lower leg - ankle-mid foot control. Plaster casts of both feet were taken and the right was modified to maximise restriction of specified joint movement. Technology included Carbon-Kevlar-Epoxy reinforcement within an integrated inner shell and modified shoe shank. Footwear construction was substantial and complex.

This man immediately experienced total pain relief on ambulation, at dramatically higher levels without aids. Weight bearing (vertical) stress is still being applied to promote further healing, but the counter productive shearing-type stresses are contained. Pain is used as an indicator of uncontrolled, destructive forces. The degree of joint stabilisation provided by the M-G footwear is reduced as bony union consolidates.

SUMMARY

Several German-based Medical Grade Footwear managements that offer significant advantages in specific contexts are presented. Critical concepts, designs and techniques are analysed.