

Using innovative 3 D scanner technology to improve the supply of customised footwear to clients in Country South Australia.

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Podiatrists across Country South Australia regularly prescribe customised Footwear for clients with significant foot pathologies e.g. partial amputations. The provision of footwear that is clinically and functionally appropriate, cost effective and aesthetically appealing is challenging.

Background

Footwear prescribed by podiatrists in Country South Australia has until now been provided by traditional boot makers. Each boot maker uses different measuring and construction methods, which are traditional hand crafting techniques; dependent on the experience of the boot maker. They are time and labour intensive which is reflected in the cost of the footwear. Most boot makers are located in Adelaide which can mean multiple, long trips for many clients in order to obtain shoes.

Methods

A partnership was developed with a pedorthotist who has developed the 'SmartFit Scanning System[®]'. This system consists of a portable 3D foot scanner with a bespoke software application that produces a 3D image of the foot which can be digitally adjusted. This electronic file is sent directly to the manufacturing facility in China which utilises CAD CAM manufacturing methods to produce the footwear. A number of podiatrists working across Country South Australia were trained to use the system.

Sample cohorts of clients requiring footwear were assigned to either the existing providers or to the SmartFit Scanning System[®].

Outcome measures such as delivery time, price, functionality, aesthetic appearance client and satisfaction were collected.

Results

Clients that received footwear using the SmartFit Scanning System[®], found it more comfortable and aesthetically pleasing. There was a 30-50% reduction in costs, delivery time averaged 6-8 weeks versus 3-6 months.

Discussion

This project supports the concept of using 3d technology coupled with a remote manufacturing facility is an alternative way to provide access to timely, cost effective, aesthetically pleasing and functionally appropriate footwear, for clients in even the most remote areas in Australia.