

APERF Grant Leads to PhD and More Research

Rolf Scharfbillig, a PhD student at the University of South Australia, lecturer and tutor at the University of South Australia, and a podiatrist in private practice, received APERF support for his study on the Foot Posture Index.

The Foot Posture Index [FPI] is a new multi-dimensional and multi-planar tool aimed at quantifying the degree of pronation to supination of the foot. The FPI is comprised of eight criteria that produce a final 'score' of foot posture.

"The aim of this study was to investigate the relationship between four criteria of the FPI and anatomical angles measured by x-ray, in an attempt to validate the FPI. The x-rays were used as measurements, a 'gold standard' to compare the FPI measures against, so that the FPI could be used confidently by researchers and practitioners," Mr Scharfbillig said.

Two studies were undertaken: thirty-one subjects completed a correlation study where angulations measured from dorsoplantar and lateral x-rays were compared to the corresponding FPI criteria. Eleven of the participants from study one completed a second study where wedges were used to alter foot position, to determine whether changes

to foot position were sensitively reflected in FPI criterion scores and associated radiographic images. Study one demonstrated a significant correlation for only one criterion [talar head palpation], while study two demonstrated intra-subject sensitivity to overall changes from supinated to pronated and supinated to resting positions, but an insensitivity to changes between resting and pronated positions. The results suggest that while the FPI could be a useful tool to broadly classify foot postures, it cannot be said to be sensitive to all small movements when assessed via this method.

In the next phase of his research, Mr Scharfbillig will use the FPI to collect data on young people's feet.

"Having validated the tool, I will use it when I compare the feet of adolescents with Sever's disease to the feet of adolescents who are asymptomatic."

The APERF grant provided vital funding for the Foot Posture study, which, in turn, contributed to the success of Mr Scharfbillig's application for an upgrade from masters to PhD. In the longer term, his research into Sever's disease is likely to have clinical applications and in the meantime, podiatrists and researchers can benefit



Researcher Rolf Scharfbillig

from his research through a paper to be published in the prestigious *Journal of the American Podiatric Association*.

The Australian Podiatry Education and Research Foundation (APERF) was established in 1990 to fund research into the causes, prevention, and treatment of foot problems. With the help of generous donations from the podiatry community, APERF has funded 22 research projects in the past 12 years.

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