

**Conclusions:** This study identified that podiatrists cover a number of complex concepts during a diabetes related consultation. There was a disparity between key messages, meaning that what a podiatrist may think they have emphasised was not what the client heard or remembered when given verbal information only. This has potential negative implications for self-care and early identification of foot complications relating to diabetes. Podiatrists should consider how information is dissemination and provide written resources in plain English. Highlighting the key message may also assist the client at risk of future complications.

## POSTER PRESENTATIONS

### P1

#### Is eucalyptus oil an effective antifungal treatment for onychomycosis with and without nail matrix infection?

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**Background:** Onychomycosis is a fungal infection causing progressive destruction of the nail elements, with age increasing frequency of infection and potential for complications. The condition accounts for almost half of all nail issues yet continues to be largely under-reported and untreated. This study will investigate the antifungal efficacy of eucalyptus oil *in vivo*, for fungal nail infections with and without nail matrix infection.

**Methods:** A longitudinal prospective study was used to monitor the changes in toenail mycotic infections over a four-month period, using undiluted eucalyptus oil as a topical antifungal agent. Data were collected from 22 participants (14 men and 8 women) aged between 40 and 84 with a total of 70 toenails, 35 with nail matrix infection and 35 without. To review the effect of eucalyptus oil on the clinical appearance of the fungal infected nail plates, toenails were monitored at four-weekly intervals for a period of four months. The participants' satisfaction with the therapy was assessed using the OnyCOE-t questionnaire.

**Results:** Of the 70 nails analysed, the patterns of infection were classified as proximal subungual onychomycosis (49%), distal lateral subungual onychomycosis (47%), white superficial onychomycosis (3%), and total dystrophic (1%). Almost half of all participants (45%) had onychomycosis affecting only one toenail. Only 23% of participants had previously treated the infection and the mean duration of infection was 10 years and 3 months.

Nails with superficial onychomycosis (n=2) were found to have 86% clearance of infection after four months. One third of all nails (n=11) with distal lateral subungual onychomycosis and 50% (n=17) of nails with proximal subungual onychomycosis demonstrated a zone of clearance at the proximal nail plate tissue, suggesting a fungistatic effect of the eucalyptus oil.

**Conclusions:** Topical eucalyptus oil is more effective as an antifungal treatment for fungal infected toenails without nail matrix infection. Eucalyptus oil may provide an acceptable and cheaper alternative to prescription topical antifungal agents, for people with white superficial onychomycosis or distal lateral subungual fungal nail infections.

### P2

#### Gait characteristics associated with the foot and ankle in inflammatory arthritis: a systematic review and meta-analysis

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**Background:** Gait analysis is increasingly being used to characterise dysfunction of the lower limb and foot in people with inflammatory arthritis (IA). The aim of the systematic review was to evaluate the spatiotemporal, foot and ankle kinematic, kinetic, peak plantar pressure and muscle activity parameters between patients with inflammatory arthritis and healthy controls.

**Methods:** An electronic literature search was performed on Medline, CINAHL, SportsDiscus and The Cochrane Library. Methodological quality was assessed using a modified Quality Index. Effect sizes with 95% confidence intervals (CI) were calculated as the standardised mean difference (SMD). Meta-analysis was conducted if studies were homogenous.

**Results:** Thirty six studies with quality ranging from high to low met the inclusion criteria. The majority of studies reported gait parameters in RA. The gait pattern in RA was characterised by decreased walking speed (SMD 95% CI -1.57, -2.25 to -0.89), decreased cadence (SMD -0.97, -1.49 to -0.45), decreased stride length (SMD -1.66, -1.84 to -1.49), decreased ankle power (SMD -1.36, -1.70 to -1.02), increased double limb support time (SMD 1.03, 0.84 to 1.22), and peak plantar pressures at the forefoot (SMD 1.11, 0.76 to 1.45). Walking velocity was reduced in psoriatic arthritis and gout with no differences in ankylosing spondylitis. No studies have been conducted in polymyalgia rheumatica, systemic sclerosis or systemic lupus erythematosus.

**Conclusions:** The review identified the majority of studies reporting gait adaptations in RA, but limited evidence relating to other IA conditions. Poor data reporting, small sample sizes and heterogeneity across IA conditions limit the interpretation of the findings. Future studies may consider a standardised analytical approach to gait analysis that will provide clinicians and researchers with objective evidence of foot function in people with IA.

### P3

#### The assessment of inflammatory and structural lesions of the Achilles tendon by ultrasound imaging in inflammatory arthritis: a systematic review and meta-analysis

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**Background:** Ultrasound (US) is a highly sensitive, reliable and non-invasive tool which allows for the assessment of inflammatory and structural lesions of tendons and enthesal sites. The aim of the systematic review and meta-analysis was to examine inflammatory and structural US lesions of the Achilles tendon (AT) in people with inflammatory arthritis compared to controls.

**Methods:** An electronic literature search was performed on Medline, CINAHL, SportDiscus and The Cochrane Library. Methodological quality was assessed using a modified Quality Index. Odds ratios with 95% confidence intervals (CI) were determined. Meta-analysis was conducted on those studies considered to be homogenous.

**Results:** Thirteen high to medium quality studies met the inclusion criteria. The majority of studies reported on US lesions in spondyloarthropathy (SpA), with limited evidence for other forms of IA. US lesions were not consistently defined with regard to Outcome Measures in Rheumatology Clinical Trials (OMERACT) definitions and numerous scoring systems were used across the majority of studies. The mean AT thickness at the enthesis in people with SpA was 0.54 mm thicker (95% CI 0.10 to 0.97 mm) with more frequent erosions in people with SpA (odds ratio (95%CI)) (7.43 (1.99 - 27.77), P = 0.003) and rheumatoid arthritis (RA) (odds ratio (95%CI)) (9.60 (1.23 - 74.94), P = 0.03), compared to controls. There was no significant difference in the frequency of enthesophyte formation in people with SpA compared to controls (odds ratio (95%CI)) (2.48 (0.64 - 9.70), P = 0.19).

**Conclusions:** The systematic review identified that a majority of studies reporting US lesions indicative of inflammation and structural damage were in SpA, but limited evidence relating to other forms of inflammatory arthritis.