Footwear choices influencing patients with gout

Member updates

Conference well attended

Check out the podiatry conference list on page 17
The end of one year and the beginning of another year … a time to reflect and a time to hope. 2011 has been an exceptional year for me and for the FIP. I have completed one full year (and a few months) of my term as FIP President and I have also retired from full time employment with Brighton University. While one door has closed, so many more are opening up.

That is also true of the FIP. Despite the economic turmoil around the world, our international podiatry association has grown tremendously over the past few years, both in terms of new members and in activities. In fact, we anticipate adding at least two new member countries to the FIP at our annual general meeting in Glasgow, Scotland on October 14, 2013. I encourage FIP delegates to note the date and mark it in your calendar to attend.

The FIP has continued making progress in a number of key areas, such as the World Foot Health Awareness Month campaign and helping member associations lobby their governments about the significant benefits of podiatry. We have also been working on a number of new initiatives, such as establishing and strengthening strategic alliances with other associations and organizations. We’re also gearing up to encourage more submissions for our humanitarian awards. More information about this will be provided early in the new year. As well, we’ve established an international diabetes mellitus foot commission to help coordinate the information, awareness, materials and activities happening around the world about this global epidemic.

Looking forward, we are already well entrenched in the planning of the 2013 World Congress of Podiatry and we are striving to make it the best one yet. The FIP is on track and moving full steam ahead. Our International Academy of Podiatric Medical Educators now has a new chairman, Dr. Vince Hetherington, who is working closely with the academy board in a number of areas and I’m pleased to see that significant progress has already been made – the database has been updated with current and expanded information, plans are being developed for the scientific portion of the 2013 World Congress, connections are being established with educational journals and strategic planning for the academy’s future is underway. As well, the academy website is on target for going "live" early in the new year. We also had a new addition to the FIP board this year, with Heidi Corcoran from Hong Kong stepping into the Secretary General position.

On all accounts, the FIP has continued to move forward in its mandate to serve as the international focal point for podiatry around the world. I predict that this progress will continue in the new year, making the FIP even stronger, more encompassing and beneficial for all our members and our corporate partners too.

Happy holidays everyone!
Update – International Academy of Podiatric Medical Educators

A conference call of the FIP Academy of Podiatric Medical Educators on Sunday December 11, 2011 generated a good discussion about the academy’s goals for the new year.

Some of the topics discussed included the academy webpage, the status of school/college registration for the academy and the educational survey, plus the academy’s participation in the scientific committee for the 2013 World Congress.

Dr. Hetherington advised the academy board that the scientific committee will be responsible for developing the academic program for the World Congress and recommended that FIP member countries should be involved in providing input regarding content of the sessions, including lectures and workshops, as well as recommendations for plenary session speakers. He also noted that the scientific committee will deal with continuing medical education/continuing professional development needs and providing readers to review the abstracts submitted for presentation at the meeting. It was also suggested that the academy may want to secure program sponsors from the academic arena such as publishers (text and software) and other potential educational exhibitor resources.

The conference call also included discussion about the role of a student chapter at colleges/schools for the academy and also the minimum level of education for membership in the academy. As well, there was discussion about the importance of developing a strategic plan to ensure future progress of the academy.

Spenco®

The shape that feels great.™

Only Spenco TOTAL SUPPORT™ Sandals have the full contact comfort™ footbed — The perfect combination of support from heel to toe made from stuff that cushions feet in comfort. Visit spenco.com to see for yourself how TOTAL SUPPORT™ Sandals instantly align feet and help reduce pronation and supination.

26 bones
33 joints
107 ligaments
19 muscles
19 tendons

45 years of medical heritage to create 1 sandal that fits them best.

TOTAL SUPPORT™

®Registered and ™Trademark of Spenco Medical Corporation. ©2011 SMC. All Rights Reserved

After reading this magazine, please recycle!
The revision of the 2005/36/CE European Directive remains the CEP priority. Further, the consultation proposed by the EC near all the professions, and specifically the healthcare ones, produced a Green Paper collecting the summary of the answers given.

In this Green Paper the main matters are summed up -- it will lead to the modernization of the directive about the professional qualifications and, in particular, our profession.

On 7th September 2011, Mr. Jurgen Tiedje, Unit Chief, European Commission of the DG Markt, met all the professions in the European Parliament in Brussels to inform us about the orientations in which the directive will be modified. As the CEP Chairman, I was representing the profession, of which about 41 were present.

After the presentation of this Green Paper, we had the opportunity to ask Mr. Tiedje some questions. Concerning podiatrists who belong to the healthcare field, we have focused on the importance of the European platforms and stated that the existing ones, such as ours, be recognized.

Regarding the professional cards, we have insisted on the importance of the recognition process speed, reminding that there should be an “added value” for the patients’ safety.

As for the education level, we remain linked for the healthcare professions, with a BAC + 3 minimum level for the initial training.

As proposed in the Green Paper, we are very favorable to the obligation of the CPD which will allow the practitioners to maintain a high level of skills to provide the best qualified healthcare to patients. But, contrarily to the view of the Green Paper, we are totally opposed to CPD being considered as the equivalent to an initial training in the recognition procedures of the qualifications (they can only be a complement to the initial training).

The CEP in collaboration with CEPLIS will follow the evolution of the Green Paper so that the specificity of the healthcare professions are respected in a draft article proposed by the end of 2011. We must safeguard the interest of our profession.
ABSTRACT

Objective. Gout is associated with foot pain, impairment and disability. The aim of this study was to assess footwear characteristics and key factors influencing footwear choice in patients with gout. We also wished to evaluate the relationship between footwear characteristics and foot disability.

Methods. Fifty patients with a history of acute gout were recruited from rheumatology clinics during the summer months. Clinical characteristics, global function and foot impairment and disability measures were recorded. Footwear characteristics and the factors associated with choice of footwear were identified using validated assessment tools. Suitability of footwear was assessed using pre-determined criteria for assessing adequacy of footwear, based on a previous study of foot pain.

Results. The patients had moderate to severe foot pain, impairment and disability. Poor footwear characteristics included poor cushioning, lack of support, lack of stability and motion control. Over 50% of shoes were ≥12 months old and demonstrated excessive wear patterns. Patients reported comfort (98%), fit (90%), support (79%) and cost (60%) as important factors in choosing their own footwear. No correlation was found between footwear characteristics (length and width) and foot characteristics (foot pain, impairment and disability). Patients with poor footwear reported higher foot-related impairment and disability.

Conclusion. Use of poor footwear is common in patients with chronic gout and is associated with foot disability and impairment.

Significance and Innovations

- Poor footwear is a major problem in patients with gout
- Foot pain, impairment and disability may contribute to the problem.
- Patients reported comfort, fit, support and cost as important factors in choosing their own footwear.
- Future research should be focused on assessing the role of competitively priced footwear with adequate cushioning, motion control and sufficient width at the forefoot.
INTRODUCTION

Gout is the most prevalent inflammatory arthropathy in men, caused by formation of monosodium urate crystals in joints and other tissues (1). Gout typically presents as recurrent self-limiting flares of acute joint inflammation, and in the presence of persistent hyperuricaemia, chronic tophaceous disease may also develop (2). Gout displays a striking predilection to affect the feet, particularly the first metatarsophalangeal joint (1st MTPJ), midfoot and ankle (3–6). We have recently reported that patients with chronic gout have changes in gait parameters focused on the midfoot and the hallux, consistent with a pain avoidance strategy (7). It is likely that these gait changes contribute to altered loading patterns and impaired foot function in chronic gout.

Footwear has been developed and modified to provide protection from the environment, conform to fashion, assist function, accommodate foot deformities and treat musculoskeletal injury (8). Various footwear characteristics have been linked to the development of musculoskeletal disorders such as osteoarthritis of the foot and knee, low back pain, foot ulceration, hallux valgus and hammer toes (8). Poorly fitting shoes have also been linked to foot pain in rheumatoid arthritis (9, 10). In addition to shoe features, previous studies have reported that the individual fit of a shoe is important; loose-fitting shoes can also cause excessive foot slippage within the shoe during walking, altered contact area between the foot and shoe, impairing foot stability and walking parameters (11–13).

To date, the choice of footwear and factors impacting on the choice of footwear have not been reported in patients with chronic gout. The aim of this study was to assess footwear characteristics and key factors influencing footwear choice in patients with gout. We also wished to examine the relationships between footwear and foot characteristics (pain, disability and impairment).

PATIENTS AND METHODS

This was a cross-sectional observational study of 50 adult patients with a history of gout attacks recruited from rheumatology outpatient clinics at Auckland and Counties Manukau District Health Boards, Auckland, New Zealand. All patients had a physician diagnosis of gout and a history of acute gout according to ACR classification criteria (14). Ethical approval was obtained by Northern X Ethics Committee, Auckland, New Zealand (NTX/10/EXP/231) and local institutional approval was also obtained. Participants were excluded if they were experiencing an acute gout flare at the time of assessment or had lower limb amputation. Patients with diabetes or neurological disease associated with gout were not excluded from the study. A single podiatrist (MF) assessed all patients at a single study visit.

The following data were collected: age, gender, ethnicity, body mass index (BMI), disease duration, current pharmacological management and history of cardiovascular disease and diabetes. Foot type was assessed using the Foot Posture Index which is a validated method for quantifying standing foot type with scores above +4 suggest a flat-foot type (15).

Disease impact was measured using the Leeds Foot Impact Scale (16). This self-administered questionnaire comprises two subscales for impairment/footwear (LFISIF) and activity limitation/participation restriction (LFISAP). The former contains 21 items related to foot pain and joint stiffness as well as footwear related impairments and the latter contains 30 items related to activity limitation and participation restriction. Turner (17) reports that a LFISIF >7 point and LFISAP >10 point as a high to severe level of foot impairment and disability.

Foot pain was assessed using the Foot Function Index domain (17). The FFI is a self-administered questionnaire consisting of 23 items grouped in three domains: foot pain (nine items), disability (nine items) and functional limitation (five items). All items are rated using 100mm visual analogue scales, and higher scores indicate greater pain, disability and limitation of activity and thus poorer foot health (18).

An objective assessment of footwear was conducted by the examiner to ascertain the type, structural components and fit of the participant’s footwear at the time of the study visit (8). Patients did not receive any instructions about their footwear prior to the study visit. Six aspects of footwear are evaluated and include: (i) fit (length, width and depth); (ii) general (age of shoe, footwear style, weight and length); (iii) general structure (heel height, fixation, forefoot height, forefoot sole flexion point and last); (iv) motion control properties (density, fixation, heel counter stiffness, midfoot sole sagittal and frontal stability); (v) cushioning (presence lateral, medial and heel sole hardness); (vi) wear patterns (upper, midsole, tread and outsole wear pattern).
Based upon previous studies of patients with foot pain and rheumatoid arthritis, we classified current footwear into poor, average and good footwear (10,20). The poor footwear group consisted of footwear that lacked support and sound structure, including sandals, flip-flops, slippers, mules and moccasins. The average footwear group included shoes such as hard- or rubber-soled shoes and work boots. The good footwear group consisted of athletic shoes, walking shoes, therapeutic footwear and Oxford-type shoes. Foot dimensions (foot length and width) were measured using a Brannock measuring device (Liverpool, New York, USA). The device allows the weight-bearing measurement of foot length and width. Each patient was also asked by the examiner to identify the most important feature on a validated check-list that included: comfort, style, fit, sole, costs weight and colour (21).

All analyses were performed using SPSS V17.0. Gender, ethnicity, clinical characteristics such as current pharmacological management, history of hypertension, cardiovascular disease, diabetes, renal impairment and general footwear scores are described as n (percentages). All other demographic characteristics are described as the mean (SD). The association of changes with foot characteristics (pain, disability and impairment) with footwear characteristics (shoe length and width) were evaluated using Spearman’s correlation coefficients. We examined significant differences between shoe category (good, poor and average) and foot characteristics (pain, disability and impairment) using one-way ANOVA. We undertook secondary analysis using independent t-tests to evaluate significant differences in all footwear characteristics between participants with diabetes and those without diabetes. All tests were two tailed and P < 0.05 was considered significant.

RESULTS

Clinical and foot characteristics

The clinical and foot characteristics are summarised in Table 1. Patients were predominantly middle-aged males with longstanding disease. Obesity and cardiovascular disease were common comorbidities. The majority of patients (n=27, 58%) had a low-foot profile (flatfoot). Patients had high to severe (LFISIF >7 points (n=27, 52%), LFISAP >10 points, n=30, 60%) levels of foot impairment and disability (Table 1). The Foot Function Index, pain domain illustrated a moderate level of pain.

Footwear assessment

Table 2 summarises the footwear types observed. Overall, 28 (56%) of patients wore good footwear that included walking, athletic and Oxford-type shoes, with 42% of patients wearing shoes that were defined as ‘poor’. No participants wore high-heeled shoes.

Table 3 describes footwear characteristics. Footwear characteristics demonstrated that shoes were frequently either too long or too short. A similar finding was also found for shoe width, although shoe depth was deemed good in over 62% of patients. We found that 23% (n=12) of shoes had no fixation. Over 60% (n=30) of shoes demonstrated no cushioning and only 36% (n=18) of shoes with heel/forefoot cushioning. Minimal motion control properties was found in the current study with only 26% (n=13) wore shoes that had adequate heel counter stiffness, 50% (n=25) of shoes with midfoot sole sagittal stability and a further 42% (n=21) with midfoot sole frontal stability. We observed that 64% (n=32) of patients wore shoes with a heel height ranging between 2.6-5.0cm; of those 13 (41%) wore athletic shoes, 9 (28%) wore Oxford-type shoes, 7 (22%) wore open shoes, 2 (6%) wore bespoke footwear and 1 (3%) wore boots. Forefoot sole flexion point demonstrated 54% (n=27) of shoes before the level of the 1st MPTJ. Over half of patients wore shoes that were aged over 12 months old.

Table 4 describes the factors patients perceived as important; most commonly identified factors were comfort (98%), fit (90%), support (79%), cost (60%) and weight (63%). Patients reported style (36%) and colour (33%) as being less important.

Factors influencing changes in foot characteristics and footwear

Shoe width and depth did not correlate with foot pain, impairment and disability (data not shown). However, patients with poor footwear reported higher foot-related impairment and activities, particularly in the scores of the LSISAP (p = 0.01) and the Foot Function Index, impairment domain (p = 0.02) (Table 5). Secondary analysis demonstrated no significant differences in any of the footwear characteristics between participants with diabetes (n=7) and those without diabetes (n=43) (p > 0.05).
DISCUSSION

The aim of this study was to identify current footwear styles, footwear characteristics and factors that influence footwear choice experienced by patients with chronic gout. Overall, we found severe impairment and limited activity scores, consistent with significant foot disability and impairment associated with gout. A previous study has reported similar findings of foot pain, impairment and disability relating to chronic gout (7).

Over 40% of patients in the current study wore sandals, moccasins and flip-flops. A previous study (22) reported that gait changes were observed in an asymptomatic population with wearing flip-flops and suggested that the shoe construction may contribute to lower limb leg pain and are counter-productive to alleviating pain. The wearing of open-type footwear should be interpreted with caution in the current study. It is important to understand that open-type footwear, such as flip-flops and sandals are commonly worn in New Zealand. However, wearing open-type footwear may reflect the issue of finding appropriate footwear, in particular relating to finding footwear that has adequate foot width and length.

Analysis of patient footwear illustrated signs of detrimental changes. Minimal motion control was found in the current study and since the midfoot is required to form a rigid lever during propulsion, footwear instability may contribute to foot problems in patients with chronic gout. The current study found over 50% of shoes with a flexion point distal to the level of the first metatarsophalangeal joint (1st MPJ). This may limit gait efficiency due to altered kinematics which results from inhibition of normal 1st MPJ function (8). We can postulate that a flexion point proximal may jeopardise the shoe’s stability and may exacerbate the problem of efficient toe-off observed in patients with chronic gout (7).

Heel height greater than 2.5cm has been associated with hallux valgus, plantar callus, postural instability in older adults [8]. In our study over 40% of those with high heel height wore athletic shoes. Athletic shoes vary significantly with midsole construction that may use elements of gel, foamed polyurethane or air chambers that serve to aid cushioning [20]. The elevated heel height of athletic shoes may go some way to explain the high heel height observed in this study.

The lack of cushioning found in shoes demonstrates the inadequate amount of structural support for the foot and lower limb. Wear patterns on the footwear provided some indication that they were partially worn and there were considerable amounts of medial compression signs. The poor midfoot sole stability and poor heel counter stiffness found suggests that the current footwear does not stabilise the foot during walking. The definition of poor shoes (sandals, slippers and flip-flops) used in this study implies a shoe design with poor fit, poor foot posture, and a lack of shock absorption characteristics. The lack of shock attenuation has the potential to increase loads on plantar tissues, potentially leading to foot pain. Combined with the presence of a flatfoot type, patients with gout wear footwear that gives no support or cushioning and is prone to be unstable. Hence, footwear that has inadequate stability, poor cushioning and limited stability may exacerbate foot pain in patients with gout.

In the current study the participants reported that fit and comfort were important factors in choosing footwear, suggesting that patients with gout may prioritise these factors due to their condition. More than half of patients reported cost as a factor contributing to their footwear choice. The wearing of poor shoes may be due to financial restrictions when purchasing footwear. Furthermore, gout is a painful and distressing condition that can have a major impact on economically active adults, who may be forced to give up work either temporarily or permanently due to their condition (23,24). These data highlight the barriers related to costs that patients with gout may encounter when purchasing footwear.

We found no relationship between foot length and width with foot pain, disability and impairment. Previous studies have found similar findings in older adults with arthritis (20) and rheumatoid arthritis (10). However, we found significant differences between shoe fit category and foot characteristics with higher scores associated with foot impairment and disability in the poor shoe category. Poor footwear may exacerbate the problem. Lindsay (25) reported that patients with gout may impede the patients’ lower limb function, particularly with recreational activities.

In the current study we found high mean BMIs indicative of obesity. The findings in the patients with gout are consistent with a previous gout study (7). The sustained repetition of such loading in these activities make significant demands on the feet in normal-weight individuals, and these demands are likely to
be magnified in those with gout, obesity and poor footwear. It is possible that the increased demand related to obesity, coupled with the structural changes associated with chronic gout and poor cushioning and control contributes to foot disability in patients with gout.

This study has several limitations. The study was conducted in the summer and in an urban environment, and the results may not be generalisable to other seasons or geographic locations. The footwear questionnaire contains both objective and subjective data and not all footwear meet the criteria [8]. For example, open-type footwear such as mules, flip-flops and sandals are difficult to assess and do not have all the footwear features to evaluate. Furthermore, the category for the subjective measure of heel height is based on an arbitrary range (i.e. 0-2.5cm; 2.6-5.0cm and >5.0cm). Therefore, future research is needed to evaluate a more objective measure to evaluate heel height. The current study was cross-sectional and future work using prospective studies is needed to evaluate causative relationships before any definitive conclusions can be made regarding the role of poor footwear in contributing to foot pain, impairment and disability in patients with chronic gout. We did not exclude patients with diabetes from this study. Diabetes is frequently associated with gout [26] and this combination may contribute to more severe foot problems. These patients were not excluded as we wished to ensure that patients with a wide spectrum of disease severity and co-morbidities were included, consistent with gout that is managed in clinical practice. Importantly, sub-analysis of patients with and without diabetes did not show major changes between the groups. Not all patients in this study had microscopically proven gout. The rates of microscopically proven gout are consistent with our previous studies of patients with chronic gout [27,28]. Although it is possible that misclassification may have occurred, all patients included in the study had a physician diagnosis of gout and also fulfilled the ACR diagnostic classification for acute gout.

In summary, patients with chronic gout suffer from foot pain, disability and impairment. This study has demonstrated that fit, comfort and costs were perceived by patients to be important factors in choosing footwear although patients current footwear were objectively poor. Overall, the current footwear demonstrated a lack of cushioning, control and stability as well as excessive wear. The majority of shoes worn by patients were also over 12-months old. For patients with gout, this might explain the problems of purchasing adequate footwear due to foot pain, impairment and disability. Based upon the current findings we suggest that footwear should be considered in the management plan of patients with gout. Future research should be focused on assessing the role of competitively priced footwear with adequate cushioning, motion control and sufficient width at the forefoot.

See tables next page.

REFERENCES

27. Dalbeth N, Kumar S, Stamp L, Gow P. Dose adjustment of allopurinol according to creatinine clearance does not provide adequate control of hyperuricemia in patients with gout. J Rheumatol 2006; 33:1646-1650.
### TABLE 1: CLINICAL AND FOOT CHARACTERISTICS

<table>
<thead>
<tr>
<th>Age, years, mean (SD)</th>
<th>63.1 (13.2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male sex, n (%)</td>
<td>42 (84%)</td>
</tr>
<tr>
<td>Ethnicity, n (%)</td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>26 (52%)</td>
</tr>
<tr>
<td>Pacific Island</td>
<td>13 (26%)</td>
</tr>
<tr>
<td>Maori</td>
<td>8 (16%)</td>
</tr>
<tr>
<td>Asian</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Indian</td>
<td>2 (4%)</td>
</tr>
<tr>
<td>Disease duration, years, mean (SD)</td>
<td>17.9 (14.4)</td>
</tr>
<tr>
<td>Cardiovascular disease, n (%)</td>
<td>20 (40%)</td>
</tr>
<tr>
<td>Diabetes, n (%)</td>
<td>7 (14%)</td>
</tr>
<tr>
<td>Diuretic use, n (%)</td>
<td>10 (20%)</td>
</tr>
<tr>
<td>Allopurinol use, n (%)</td>
<td>28 (56%)</td>
</tr>
<tr>
<td>Body mass index, kg/m2, mean (SD)</td>
<td>31.9 (7.8)</td>
</tr>
<tr>
<td>Tophi present, n (%)</td>
<td>8 (16%)</td>
</tr>
<tr>
<td>Serum urate, mmol/L, mean (SD)</td>
<td>0.43 (0.14)</td>
</tr>
<tr>
<td>Crystal-confirmed diagnosis, n (%)</td>
<td>18 (36%)</td>
</tr>
</tbody>
</table>

### Foot Posture Index, mean (SD) | 4.1 (2.9) |

### Leeds Foot Impact Scale (impairment), mean (SD) | 8.3 (5.3) |

### Leeds Foot Impact Scale (activities), mean (SD) | 13.3 (10.7) |

### Foot Function Index (pain), mean (SD) | 34.0 (28.3) |

### Foot Function Index (disability), mean (SD) | 33.4 (29.1) |

### Foot Function Index (activities), mean (SD) | 18.1 (24.7) |

### TABLE 2: FOOTWEAR TYPE

<table>
<thead>
<tr>
<th>Footwear suitability</th>
<th>Total</th>
<th>Footwear type</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>28 (56%)</td>
<td>Oxford Shoe</td>
<td>9 (18%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Walking Shoe</td>
<td>4 (8%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Athletic Shoe</td>
<td>13 (26%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Therapeutic Footwear</td>
<td>2 (4%)</td>
</tr>
<tr>
<td>Average</td>
<td>1 (2%)</td>
<td>Boot</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Poor</td>
<td>21 (42%)</td>
<td>Sandal</td>
<td>6 (12%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flip-flop</td>
<td>7 (14%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Slipper</td>
<td>4 (8%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Backless Slipper</td>
<td>3 (6%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moccasin</td>
<td>1 (2%)</td>
</tr>
</tbody>
</table>

### TABLE 3: FOOTWEAR CONSTRUCTION CHARACTERISTICS

<table>
<thead>
<tr>
<th>Footwear Variable</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Heel Counter Stiffness</td>
<td></td>
</tr>
<tr>
<td>Not available</td>
<td>13 (26%)</td>
</tr>
<tr>
<td>Minimal</td>
<td>21 (42%)</td>
</tr>
<tr>
<td>Moderate</td>
<td>3 (6%)</td>
</tr>
<tr>
<td>Rigid</td>
<td>13 (26%)</td>
</tr>
</tbody>
</table>

| 4. Density |
| Single     | 48 (96%) |
| Dual       | 2 (4%)   |

| 5. Fixation |
| None       | 12 (23%) |
| Laces      | 21 (44%) |
| Straps/Buckles | 17 (33%) |

### Presence of Cushioning |
| None | 30 (60%) |
| Heel | 2 (4%)   |
| Heel/forefoot | 18 (36%) |

### Forefoot Sole Flexion Point |
| At level of first MPJ | 23 (46%) |
| Before first MPJ | 27 (54%) |

### Wear Patterns |
| Upper Wear |
| Media tilt | 21 (42%) |
| Neutral | 27 (54%) |

### Midsole Wear |
| Medical compression signs | 10 (20%) |
| Neutral | 27 (74%) |
| Lateral compression signs | 3 (6%) |

### Tread Pattern |
| Not worn | 14 (28%) |
| Partly worn | 34 (68%) |
| Fully worn | 2 (4%) |

### Outer wear pattern |
| None | 14 (28%) |
| Normal | 23 (46%) |
| Lateral | 4 (8%) |
| Medial | 9 (18%) |
TABLE 4: FACTORS RELATING TO FOOTWEAR CHOICE*

<table>
<thead>
<tr>
<th>Factors</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfort</td>
<td>47 (98%)</td>
</tr>
<tr>
<td>Fit</td>
<td>43 (90%)</td>
</tr>
<tr>
<td>Support</td>
<td>43 (90%)</td>
</tr>
<tr>
<td>Weight</td>
<td>30 (63%)</td>
</tr>
<tr>
<td>Cost</td>
<td>29 (60%)</td>
</tr>
<tr>
<td>Sole</td>
<td>22 (46%)</td>
</tr>
<tr>
<td>Style</td>
<td>17 (36%)</td>
</tr>
<tr>
<td>Colour</td>
<td>16 (33%)</td>
</tr>
</tbody>
</table>

*More than one response was possible using questionnaire.

TABLE 5: DIFFERENCE BETWEEN SHOE FIT CATEGORY AND FOOT CHARACTERISTICS

<table>
<thead>
<tr>
<th>foot function index</th>
<th>Poor Shoe Category mean (SD)</th>
<th>Good Shoe Category mean (SD)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leeds Foot Impact Scale (impairment)</td>
<td>9.9 (6.5)</td>
<td>6.5 (4.5)</td>
<td>0.05</td>
</tr>
<tr>
<td>Leeds Foot Impact Scale (activities)</td>
<td>17.2 (11.3)</td>
<td>8.2 (8.7)</td>
<td>0.01</td>
</tr>
<tr>
<td>Foot Function Index (pain)</td>
<td>43.5 (33.7)</td>
<td>27.4 (22.4)</td>
<td>0.07</td>
</tr>
<tr>
<td>Foot Function Index (impairment)</td>
<td>45.9 (29.2)</td>
<td>24.2 (26.4)</td>
<td>0.02</td>
</tr>
<tr>
<td>Foot Function Index (limitation)</td>
<td>24.3 (25.3)</td>
<td>24.1 (26.4)</td>
<td>0.20</td>
</tr>
</tbody>
</table>

FIP corporate sponsor Tekscan, a leading manufacturer of tactile pressure and force measurement systems and sensors, recently sponsored two Gait and Foot Function Analysis seminars -- in Montreal, Canada and in Chicago, USA.

The interactive seminars educated all attendees on how plantar pressure mapping technology can be used for in-depth analysis of foot function and gait in both clinical and research settings. Audience volunteers participated in live data collection and analysis with the MatScan and F-Scan systems, followed by a group discussion of the findings.

Speakers present included Norman Murphy, PhD, who described in detail how to analyze pressure mapping data; and Steven Hale, C.O., a member of the Canadian Board for Certification of Prosthetists and Orthotists, OAO, CAPO and ISPO Canada who presented clinical cases; and Bruce Williams, DPM, (from Merrillville, Illinois) who also presented clinical cases.

With open discussions, presentations, software operation sessions and demonstrations, the seminar was a great success for Tekscan and all who attended.

FIP Attendance at South American Podiatry Conference

FIP President Janet McInnes and Vice-President Dr. Joseph Caporusso attended the South American Diabetic Foot Conference in Lima, Peru on December 9-12, 2011. Representatives from Argentina, Brazil, Chile, Equador and Peru were in attendance. Also present was FIP Corporate Partner Gregg Schumacher from Spenco Medical. Spenco Medical was a major sponsor of the event.

From left to right: Mario, a delegate from Ecuador; Juan Tegeda, Director, Productos Herbitas S.L.; Gregg Schumacher, Spenco Medical; Janet McInnes, FIP President; Elena Palomino Regalado, Peru; Dr. Joseph Caporusso, FIP Vice-President; Jessica Regaldo, Peru and Aldo Palomino, Peru
**CPMA/Canada**

The Canadian Podiatric Medical Association has had a busy year with a new executive board in place. One of the top priorities for the board has been increasing awareness and communication about the podiatry profession in Canada. This has also included meeting with several insurance companies to ensure they understand the value that podiatrists provide and the importance of including them as healthcare providers.

The CPMA has also created a student member chapter to enable students of the podiatric medicine program at the University of Quebec at Trois Rivieres to get involved with our national association. We now have an effective liaison with them through their student association president. The CPMA is also working with the program administrators regarding accreditation and national board examinations.

**CAP/Cyprus**

*by Anna Kostrikki, President, Cyprus Association of Podiatrists*

The Association of Podiatrists in Cyprus held its annual CPD venue and general meeting on November 4th and 5th in Limassol. The two-day course included lectures on rheumatology and dermatology, delivered by Judith Brown (University of Durham, School of Medicine) who proved to be an excellent tutor employing interactive methods of teaching, keeping our interest and concentration high throughout the course. Podiatric surgeon Brian Brown added a very educative touch to the course, with a presentation on podiatric surgery and non-invasive procedures. The course concluded with a lecture on hyperbaric oxygen and its potential in podiatry by a local doctor, Dr. Georgiou.

A trade exhibition was also organized during the course, where participants had time to mingle with representatives of companies and get familiar with their products. The trade exhibition provided significant financial support that helped us keep low participant costs for the course. With almost all members attending and five new members joining the association on that event, we can definitely call it a success.

The venue finished with the association's annual general meeting. The executive board presented the activities both locally and abroad over the year past. FIP news and CELPIS matters were discussed and a future plan of action was outlined. Finally, elections were successfully conducted for an empty position on the executive board.

At all in all, the two-day course proved to be academically very educational and at the same time provided participants with the best opportunity to socialize and bond. We are looking forward to organizing our next one!

**VDP/Germany**

*by Volker Pfersich*

At this special time of year, it’s a pleasure to send greetings of friendship and goodwill, which are so deeply appreciated. Merry Christmas to you all over the world and best wishes for health, happiness and prosperity in the New Year, with thanks for the faithful cooperation.

**FIF/Iceland**

*by Margret Jonsdottir*

This year it is 20 years since Icelandic podiatrists received state authorization as a medical profession in Iceland. From that time the profession has improved and continuous education has been practised. Thanks to our membership in the FIP, we have been fortunate enough as to welcome teachers from European schools to our country.

Through the years, the association has been fighting for establishing education in podiatry in Iceland but unfortunately the Ministry of Education gave the permission to a private school that is not suited for education in podiatry the way we want to see it. However, we have not given up struggling and have accomplished to involve a school that specialises in health care professions in the education at the private school and to have a new improved curriculum issued. We have learned that we have to take it step by step, little by little.

At our last AGM in October, Solrun Siguroddsdottir, our chairman for past four years left the post and a new chairman was elected. Her name is Hrafnhildur Hjalmarsdottir. Furthermore, a new delegate for FIP was elected. Her name is Magna Gylfadottir.

I have been the delegate for FIP from the beginning or for 20 years and it was about time to leave the post. I want to use this opportunity to thank my colleagues, fellow board members at FIP and not least all the good lifelong friends I have from my time there. It has been a very enjoyable and a learning time. I hope to meet you again at the World congress in Rome 2013.

FIF sends best wishes for happiness and peace at Christmas and may the New Year bring prosperity and new opportunities to our colleagues around the world.

**SJJL/Finland**

*by Arja Kiviaho-Trippana, President of the Finnish Podiatry Association and Minna Stolt, Board member of the Finnish Podiatry Association*

Greetings from Finland!

The podiatry education in Finland has been in higher level education since 1996, so we have been celebrating our 15 years of podiatry education in Finland. During the years, two podiatry schools have been closed due to lack of resources. However, in autumn 2011 we were happy to re-start the podiatry education in Mikkeli University of Applied Sciences at Savonlinna’s campus. Altogether, 20 podiatry students started their 3.5 year podiatry education. Lecturer, MNSc, Arja Kiviaho-Trippana is the leader of the podiatry education at Savonlinna and she is also the President of the Finnish Podiatry Association.

Our other podiatry school, Metropolia Helsinki University of Applied Sciences, has been teaching podiatry students during the whole 15 years of podiatry history in Finland. This autumn, 21 new podiatry students here have started their journey to the interesting world of podiatry.

**FNP/France**

During the General Meeting Assembly when all the regional trade-unions FNP members met, it was decided to update the national agreement about the reimbursement of the podiatric healthcare given
health department in Norway had a meeting with the national organizations. At the end of September, we are currently focusing on getting degree education in Norway. We work on achieving a higher degree to a Master level knowing that forbidden to practice.

FNP is also going to start negotiations with the Ministry of Health to upgrade the Podiatrist Degree to a Master level knowing that it is only recognized to the Bachelor one for the moment. I take this opportunity to wish to our colleagues of the world on the name of the FNP Board our Best Wishes for the New Year.

Louis Olié, FNP President

**AMSP/Morocco**

*by Sanaa Debarg, President of the AMSP*

On the 28 and the 29 of October, our association participated in the International Day of Diabetes, which was organized in Agadir with the Moroccan Federation of Diabetologists.

We are also preparing the next national seminar, which will take place on March 31, 2012 in Rabat. It is going to be a new occasion to present our specialty to doctors in this town.

**NFF/Norway**

*by Mona Boysen, NFF President*

We in NFF are continuing our work on achieving a higher degree education in Norway. We are currently focusing on getting support from patient organizations and other professional organizations.

At the end of September, we had a meeting with the national health department in Norway that hopefully will lead us one step closer to financial support from the government. In mid-October we arranged a meeting with advocates from other health professions. We invited Dr. Brian M Ellis from Glasgow Caledonian University to the meeting to address the importance of higher-level education in podiatry and help us visualize the future of podiatry in Norway. We are grateful that so many countries in Europe have an education and a scope of practice that can work as role models for us, and we greatly appreciate the support we are getting from FIP on the matter.

For a year we have been focusing on rheumatism, through developing relations with the patient organization, publishing a leaflet about podiatry for people with the disease and increasing the knowledge about the disease among our members. Our national congress in September marked the beginning of a year where we will focus on psoriasis.

The Norwegian health system is soon to go through major changes. January 1, 2012 marks the beginning of a reform called the cooperation reform that will give local communities more responsibility for primary and preventive health care. We are seeing this as a great opportunity for increasing the number of podiatrists in public health care, and will be paying special attention to this in the months to come.

**Sweden**

*by Stella Tommos, chiropodist, member of Sveriges Fotterapeuter and unbiased observer*

Anesthetic Emla cream improves sensitivity

Damaged nerve impulses can be activated by anaesthetizing close skin areas.

This is shown in a study where skin on the lower arm was anaesthetized with Emla cream and sensitivity on the sole of the foot was increased.

This discovery was made by a scientist at the University of Lund, Sweden, when the Emla cream was tested on the lower arm of people who had damaged nerves in their hands. Sensitivity had clearly improved. Next step was to try and see if the sensitivity of the feet could be made better in a similar way.

Thirty-seven people with Diabetes Mellitus type I and II participated. They had decreased sensitivity in their feet, which increases the risk of foot ulcers. During an hour and a half Emla or a placebo cream was tested on the right leg. The sensitivity was measured with a Monofilament on the sole of the foot before and twice during the treatment.

In the group with placebo cream none of the test persons noticed any change in sensitivity, but more than 50% with the Emla treatment noticed a higher level of sensitivity than before.

Lars Dahlin, Professor and Head of department at the Hand Surgical Clinic at The University of Lund, one of the scientists involved in the study, says that when the lower arm was anaesthetized other areas of the skin was stimulated. Professor Dahlin believes the same phenomena will occur when the lower leg is anaesthetized; the foot will get a more sensitive touch. Professor Dahlin and his colleagues wish to find out if there is a long term effect on healthy people. Repeated treatments on the same arm have given long term effects and scientists hope the method could give fewer wounds in the diabetic foot.

From Diab Med 2010 jul; 27(7):823-9

Presented by Stella Tommos, chiropodist, member of Sveriges Fotterapeuter and unbiased observer

SSP /French Speaking Switzerland

*by Jennifer Maré, FIP SSP Delegate*

Next SSP Congress: Our next Congress will take place in Morges – from 40 kms from Geneva, on Friday 11th may of 2012. The FIP members have the same tariff as the SSP ones for attending this Congress. You will find very soon the programme on our website : www.podologues.ch

Website: You can from now enter, on line, your names in the CPD courses organized by SSP as well in those organized by the Ecole de Podologues de Geneve.

Promotion of the profession: Swiss Fair from 16th to 25th September of 2011 in Lausanne: It is one of the most important Swiss Fair. This year, Healthcare was dedicated to the entire Hall reserved to the different organizations linked to the Healthcare and the Welfare. The SSP was present for 9 days on a booth. It was a successfully event. SSP presented a lecture for the public “Podologues, who are we ?”

French Speaking Day of Diabetes, 12th november 2011, Palexpo Geneva. As every year, SSP was attending this public open day on a booth for informing people. There were many questions about footwear for the diabetes.

Next Events: Fair of the Jobs in Capa‘Cit in La Chaux de Fonds. This event is organised to show the different jobs to the young people (aged from 12 to 16 years old) from the Neuchatel area, from 3 to 8 september 2012. SSP will be attending the event on a booth to inform and promote our profession.

I take the opportunity of this Magazine for presenting to the name of SSP, our Best Wishes for the end of the year and a successful Year of 2012.
The 2012 conference of the Society of Chiropodists and Podiatrists of the United Kingdom took place in Harrogate, England from November 24-26. This year’s theme was ‘keeping you on your feet’. Although the conference had a clinical focus, this year’s theme helped direct attendees into thinking about how they personally and professionally stay up-to-date and prepare for the times ahead.

This year’s conference programme was quite diverse, which provide something for everyone. Keynote speakers for the opening session, which was centered around the Paralympics, included Dr. Nick Webborn, Consultant in Sports Medicine who is currently the Chief Medical Officer for Paralympics Great Britain and also Mark Loeffler, Consultant Orthopaedic Surgeon and Baroness Tanni Grey-Thompson, Paralympic gold medalist.

Over the three days, a wide variety of lectures and plenary sessions were conducted around core updates. These included sports medicine, surgery, dermatology, medicines, podopaediatrics, biomechanics, rheumatology, arthritis, homeopathy and diabetes.
There were also many hands-on workshops, which allowed delegates to put theory into practice. These sessions included topics such as footwear, basic life support, ultrasound and casting.

The conference also included a number of lectures for private practitioners, concentrating on business issues. As well, there was the opportunity for delegates to participate in a number of debates, including one on the big issues affecting the Society, with leading members of the Society.

In addition to lectures, the conference included an extensive trade exhibition, where delegates obtained product samples, watched demonstrations and learned about new products and services.

After a long day of learning, delegates took in a number of social events in the evenings; Thursday night was the first joint Faculty College of Podiatrists’ annual dinner, with the deans from each faculty hosting the event; and on Friday night, the now infamous conference party, with the theme ‘Hollywood glamour’, took place.

All in all, it was a very successful conference that truly provided something for everyone!
With November designated as International Diabetes Awareness Month, it served as the perfect opportunity for the FIP Diabetes Mellitus Foot Commission to jump-start its awareness initiatives.

Now considered a worldwide epidemic, diabetes is affecting millions of lives daily. According to the World Health Organization, 346 million people are currently living with diabetes and, unfortunately, it is estimated that the number of diagnosed diabetics will double from 2005 to 2030. Diabetes increases the likelihood of heart disease, stroke, kidney disease, blindness and amputation.

In fact, 80% of non-traumatic amputations happen as a result of complications with diabetes, and there is a 50% chance that the other leg will be amputated within 3-5 years of the first amputation. While the statistics seem overwhelming, it is important for podiatrists to take a stand and join in the global campaign to improve the lives of diabetes patients internationally.

The Diabetes Mellitus Foot Commission’s 2011 campaign ‘Podiatrists Fighting Amputations Worldwide’ states that care by a podiatrist can lower the risk of hospitalization by 24% in diabetics, and that establishing a comprehensive podiatrist-directed foot care program can reduce the possibility of amputation by 85%.

Podiatrists can play a crucial role in the lives of diabetic patients across the globe, and by getting involved in the diabetic community, they can contribute to the well being of millions of people that need and deserve help.

Copies of the foot commission’s 2011 campaign materials are available by clicking on the green diabetes globe on the bottom right of the front page of the FIP website.
2012 Dates

Jan 5-8 AAPPM Million Dollar Practice Management Workshop Ft. Lauderdale, Florida www.aappm.com


Feb 2-4 19th Annual Ski Conference Park City, Utah www.podiatryinstitute.com

Feb 9-11 25th Annual Lake Tahoe Ski Seminar South Lake Tahoe, Nevada www.internationalfootankle.org

Feb 19-26 Winter Seminar at Sea East Caribbean Cruise www.internationalfootankle.org


Mar 15-17 DFCOn Podiatry Conference Los Angeles, California www.dfcon.com

Mar 29-Apr 2 Super Bones Conference Paradise Island, Bahamas www.superbonesconference.com


Mar 1-4 ACFAS Scientific Conference San Antonio, Texas www.acfas.org

Apr 4-6 Surgical Pearls by the Sea Newport, Rhode Island www.podiatryinstitute.com

May 5-11 Podiatry Goes Afoot in Scotland Glenshee, Scotland www.gtef.org

May 17-20 AAPPM Spring Practice Management Workshop Scottsdale, Arizona www.aappm.com


Jun 28 – Jul 1 Best of TPMA & Podiatry Institute Houston, Texas www.podiatryinstitute.com

Jun 29-Jul 6 Summer Seminar at Sea Alaska Cruise www.internationalfootankle.org

Jul 12-15 AOSSM Annual Meeting Baltimore, Maryland www.sportsmed.org

Jul 19-22 AAPPM Summer Boot Camp Pittsburgh, Pennsylvania www.aappm.com

Jul 26-29 Footprints in the Sand Hilton Head Island, South Carolina www.podiatryinstitute.com


Sep 27-30 Reconstructive Surgery of the Foot & Ankle San Diego, California www.podiatryinstitute.com

Oct 6 CPMA Annual General Meeting Montreal, Quebec www.podiatrycanada.org

Oct 11-13 SOCAP Annual Conference Glasgow, Scotland www.feetforlife.org

Oct 14, 2012 FIP Annual General Meeting Glasgow, Scotland

Nov 1-4 Hallux Valgus & Related Forefoot Deformities Sanibel Island, Florida www.podiatryinstitute.com

Nov 8-11 AAPPM Fall Practice Management Workshop Ft. Lauderdale, Florida www.aappm.com

2013 Dates

Feb 22-14 ACFAS Scientific Conference Las Vegas, Nevada www.acfas.org

Jul 11-14 AOSSM Annual Meeting Chicago, Illinois www.sportsmed.org

Jul 21-25 APMA Annual Scientific Conference Las Vegas, Nevada www.apma.org

Oct 17-19 FIP 2013 World Congress of Podiatry Rome, Italy www.fipnet.org


2014 Dates


Jul 24-27 APMA Annual Scientific Conference Honolulu, Hawaii www.apma.org

2015 Dates

Jul 23-26 APMA Annual Scientific Conference Orlando, Florida www.apma.org

2016 Dates

Keep it Professional and Mind Your Digital Manners

From nation to nation, certain aspects of everyday life are vastly different. We eat different foods, practice different customs and often speak different languages. But there are some things, like respect, civility and good manners that are internationally shared. Around the world children are taught the importance of having good manners, such as saying please and thank you and are told to respect their elders. Yet, as adults living in the digital age, we often forget that mobile manners are just as important and should be used on a daily basis too.

Increase your digital manners by using the following list of do’s and don’ts provided by Ignite Magazine.

✔ Shut off your phone and other connective devices before entering a meeting. In fact, request that all meeting members do the same so the meeting can run free of interruption.

✔ Practice self-control during business calls. Avoid texting or surfing the internet so that you can give your full attention to the task or issue at hand.

✔ Count to 10 before emailing or texting a business associate. Think carefully about how you word things before clicking send.

✗ Choose technology over a human. If you are speaking with someone in person, don’t turn your attention to a connective device. The person should always come first.

✗ Use a “silly” ringtone on your business phone. Keep it professional and choose a professional ringtone.

✗ Text during a face-to-face meeting. Always give your full attention to the speaker and refrain from diverting your attention to an outside conversation.
Ergonomics, the scientific discipline concerned with interactions among humans and other elements of a system, can often result in a health or safety problem. Because podiatrists and other medical professionals often tend to spend a great deal of their time sitting or standing to examine patients, things like poor posture, improper chairs and simple repetition of actions on a day-to-day basis can eventually take a toll on the body. Also, in a medical environment, it is important to follow proper procedure when handling medical sharps.

To keep your body safe and comfortable in the workplace, there are certain prevention strategies that can be utilized to avoid possible musculoskeletal injuries like shoulder strain, low-back pain, elbow tendonitis or carpal tunnel syndrome, and prevention strategies to avoid cuts and needle stick injuries.

A simple thing like having a proper adjustable office chair will make a big difference in avoiding injury. After sitting down, the first thing you should keep in mind is foot support. Keep your feet flat on the floor or use a foot rest, and then adjust your chair accordingly. When tending to a patient, always adjust the height of the patient's feet to a comfortable level, to avoid stooping over as you work. While at your computer, keep your wrists at a neutral position to avoid strain and make sure that the computer screen is in your direct line of vision.

To avoid cuts and needle stick injury, safe work procedures must always be practiced when using and disposing of medical sharps. Ensure that all workers are properly trained on how to use and dispose of medical sharps. Be sure to provide sharp containers with clearly defined fill lines close to where sharps are used, and make sure that these containers are strong enough to withstand puncture. Lastly, never recap waste needles.

Be safe in the workplace, and take the steps necessary to do so. Our bodies need time to recharge after working hard, so take breaks when you can and be sure to balance your lifestyle with rest, exercise and nutrition, in and out of the office.

A profile of each FIP member country is available on the FIP website (www.fipnet.org)

After you log in to the member section, click on Member Countries and the profiles will appear on the left side of the screen.

Some of these profiles were completed quite some time ago, whereas others are quite new. We need your help to make sure that the FIP continues to stay current with information on the website.

Please take a few moments to check the profile for your country and provide us with any needed changes or updates. Send your comments to Heidi Corcoran at corcoranhs@gmail.com

Did you know ... ?

The 2012 World Foot Health Awareness Month materials have been posted on the FIP website and are available for all FIP members to use for their own campaigns during May 2012. These materials are available by clicking on the gold WFHAM globe at the bottom right of the front page of the website.

New material has also been developed to help increase awareness about diabetes and the importance of good foot health. These materials are available by clicking on the green diabetes globe on the bottom right of the front page of the website.
The International Federation of Podiatrists / Federation Internationale des Podologues is very proud to list its corporate partners.