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To Whom It May Concern:

Along with two other members of our occupational physician consulting team, I have reviewed the draft of the Clinical Practice Guideline for Foot and Ankle Diagnosis and Treatment proposed for revision by the Washington Department of Labor and Industries (L&I). Specifically, we wish to comment on proposed guidelines for plantar fasciitis (PF). We question the proposed change based on the medical citations provided as evidence.

The 2015 guideline states:

"Plantar fasciitis may be a work-related condition when caused by a specific trauma to the heel (i.e. jumping from a high object). Plantar fasciitis is unlikely to be allowable as an occupational disease when caused by specific walking surfaces (cement floors) [and] long periods of standing."

The proposed 2017 guideline states:

"External risk factors may also contribute to the development of plantar fasciitis. Examples include long periods of standing or walking on certain surfaces (e.g. cement floors) (Riddle 2003, Irving 2006, Waclawski 2015)."

In reviewing the cited studies, we have noted certain limitations and evidence of bias that suggest associations between plantar fasciitis and prolonged standing and standing on hard surfaces are tenuous, at best.

For example, Waclawski's review includes only four quality studies involving less than 1,500 individuals, and it has study design flaws (three case-control studies and one cross-sectional study). While the studies suggested evidence of a small causal association between plantar fasciitis and prolonged weight-bearing tasks, the evidence was not consistent across the included studies. The authors found that "weak study designs (case-control and cross-sectional studies) and poor methodological quality limit the conclusions that can be made and that the overall risk of study bias was unclear to high." Due to selection bias inherent in these types of studies, we believe it is appropriate to question whether the findings are truly representative of the at-risk worker population.

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A weak association between PF and prolonged standing is noted in the Irving study cited by L&I and included in the Waclawski review. None of the studies included in the Irving review defined "prolonged standing," nor did they provide any information regarding the nature of the surface on which subjects most commonly stood. The authors conclude that "future research needs to use a valid and reliable assessment tool that focuses on time standing per day and the type of surface on which an individual is most commonly standing," and that "current levels of evidence do not allow for the identification of risk factors for chronic plantar heel pain (CPHP)."

We found a similar study found in Riddle's evaluation of 150 cases in which 50 clinic patients with PF matched to 100 controls were found to be 3.6 times more likely to report being "on their feet for the majority of the day." Again, this association, while statistically significant, lacks a clear definition of the duration of exposure.

In Gill, 1996, a case-control study involving 811 participants, the authors found statistically significant elevated odds ratios (1.45 and 1.58) for the presence of PF among those reporting that they spend a "majority of time on their feet" and "for walking on a hard floor most of the time," respectively. However, the study lacks clarification regarding duration of time spent, which limits the applicability of these findings.

We also reviewed two further studies found in the bibliographies of the articles cited by L&I in formulating its updated guidance for PF:

- Lapidus and Guidotti, 1965, a cross-sectional study involving 171 individuals with a painful heel condition in which 88 percent of the study group reported working in an occupation that involved continual standing or walking.
- Taunton, a cross-sectional study of 267 runners from a sports medicine clinic who were being treated for heel pain, 5 percent of whom reported working in an occupation requiring prolonged standing.

In the Lapidus and Guidotti study, applicability of findings are limited due to the cross-sectional nature of the design, non-specificity of the diagnosis and lack of definition for the time involved in standing or walking. In the Taunton study, the findings lack applicability to the population of warehouse workers, who as most of the referenced studies mention, are likely to be less athletically active than the typical runner treating for foot pain.

In conclusion, while L&I's cited studies suggest an association between the presence of plantar fasciitis and prolonged standing and standing/walking on hard surfaces, we do not feel that the medical evidence presently available rises to the level that merits a change in the medical guidance for practitioners. We advocate that an update is warranted when new medical research becomes available unhindered by the study design flaws and biases found in the referenced literature.

Thank you.

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