

Provider Outlook

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CHARCOT ARTHROPATHY AND THE DIABETIC INJURED WORKER

By: Terry J. Felts, DPM

With the increasing prevalence of diabetes in the American population, concomitantly there has been an increase in injured workers that are diabetic. Furthermore, there are some studies that indicate that there is increased likelihood of diabetic and/or obese claimants being injured. Combine that with the fact that full-time employees spend the majority of their waking hours at work, it is statistically more likely that problems will be discovered at work.

Evaluating diabetics can be difficult. Due to the lack of pain response, the history can be obscured and often unreliable. With associated neuropathy, diabetics often don't identify wounds or musculoskeletal problems in a timely fashion. In addition, they often have trouble grasping the concept that they can actually be injured without feeling pain, and thus often search for or rationalize a possible cause(s). Furthermore, in over half the cases of diabetic Charcot arthropathy there is no associated injury. Current understanding of the pathophysiology of Charcot neuroarthropathy, like many diabetic complications, is that it has a metabolic and physiologic basis versus a "traumatic" one.

So how does an IME examiner differentiate between a diabetic complication that was simply discovered at work versus an actual industrial disease or injury?

Obtain pre-injury records: Oftentimes, the developing pattern and risk factors will be evident in the records. Has the worker been treated for similar conditions in the past? How was it reported initially?

Does the reported mechanism typically cause injury? Does the fracture or sprain pattern fit the reported mechanism? Normal bones don't break while just walking or stepping onto a truck. Similar policies are used for determining relatedness for fasciitis. Was there an actual injury (fall, crush)? Was the disease mechanism/work activity separate and identifiable from daily activity or particularly arduous?

View all imaging directly: Reports are often not descriptive enough to adequately assess the fracture pattern. Does the fracture type and location fit the reported mechanism? Does the reported mechanism match the severity of the radiographic findings? For example, a stress fracture in the foot is typically one fracture line in a metatarsal, the lesser metatarsal necks, or the fifth metatarsal base depending on foot type – it is not at a joint or in multiple bones. The fracture patterns and healing are distinctly different.

View the entire series of images, not just the most recent: Resorptive and destructive processes are more likely to be metabolic (Charcot arthropathy,

renal osteodystrophy, parathyroid disorders, nutritional deficiencies, and others). Charcot also progresses rapidly in most cases.

Rely more on objective findings than subjective reports:

It is not uncommon for neuropathic patients to create their own narrative about what could have or must have happened. For example, "I must have broken it when I kicked the box." Additional imaging such as bone scans and MRI may also help elucidate systemic process versus traumatic ones.

Does the course of disease or injury fit the norm?

Though diabetics can take longer to heal, they don't take longer for the injury or disease to progress.

In fact, their course often progresses faster due to immunosuppression, vascular disease, and lack of early treatment due to delayed discovery. For example, a puncture wound infection usually develops in the first two days to two weeks; developing an infection two months later does not fit the normal course, particularly in a diabetic.

This systematic approach can also be used to evaluate diabetic wounds in the workplace. Was there an actual laceration or puncture? Was it witnessed or documented? Does it appear to be a laceration or puncture or is it a

standard neurotrophic ulcer? Is there associated foot deformity that correlates with the ulcer location?

Similarly, this method can be used to determine if a stress fracture is industrially related or the natural progression of pre-existing biomechanics: Stress fractures can be matched to foot type – patients with a long second metatarsal will fracture the second metatarsal; patients with cavus, adductus or varus deformities will fracture the fifth metatarsal; and so on. Often, there will be skin changes (thickening, callus formation, hot spots) showing a long-standing pressure problem. Again, determine if there was a specific injury or if the "separate and identifiable or particularly arduous" rule applies.

References

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