specific treatments, it is accepted by all with a specialist interest in this field that the mainstay of emergency management is the immediate institution of effective offloading, preferably in a total contact cast. Offloading results in protection of the bones and joints of the foot, as well as amelioration of the underlying inflammatory process.

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**References**

1. Tan AL, Greenstein A, Jarrett SJ, McGonagle D: Acute neuropathic joint disease: a medical emergency? *Diabetes Care* 28: 2962–2964, 2005
2. Jude EB, Selby PL, Burgess J, Lillystone P, Mawer B, Page SR, Donohoe M, Foster AV, Edmonds ME, Boulton AJ: Pamidronate in diabetic Charcot arthropathy: a randomised placebo controlled trial. *Diabetologia* 44:2032–2037, 2001
3. Pitocco D, Ruotolo V, Caputo S, Mancini L, Collina CM, Manto A, Caradonna P, Ghirlanda G: Six-month treatment with alendronate in acute Charcot neuroarthropathy: a randomized controlled trial. *Diabetes Care* 28:1214–1215, 2005
4. Jeffcoate W: Vascular calcification and osteolysis in diabetic neuropathy-is RANK-L the missing link (Review)? *Diabetologia* 47:1488–1492, 2004
5. Jeffcoate WJ, Game F, Cavanagh PR: The role of proinflammatory cytokines in the cause of neuropathic osteoarthropathy (acute Charcot foot) in diabetes. *Lancet* 366:2058–2061, 2005

## Acute Neuropathic Joint Disease: A Medical Emergency?

Response to Jeffcoate et al.

We thank Jeffcoate et al. (1) for their comments on our article (2). To summarize, they agree that neuropathic joint disease (NJD) is indeed a medical emergency, but they disagree that bisphosphonates are of proven efficacy. One of the major problems for clinicians at the moment is the failure to recognize early NJD based on several considerations, including other possible diagnosis at presentation, the presence of pain, normal radiographs, and patients presenting to nonendocrinological specialists. Therefore, at the time of initiation of therapy, damage may already be well established and, furthermore, joint offloading with prolonged casting has several drawbacks (3).

It was not the intention of our article to convey the idea that the very early initiation of bisphosphonate therapy before radiographic damage would definitely halt disease. We agree with Jeffcoate et al. that further work needs to be done in this regard. However, given the data from trials in NJD, the safety profile and costs of bisphosphonate therapy, and ease of administration, it would seem reasonable to prescribe these.

It is interesting to note that bisphosphonates may have some structural modification properties in the more common garden variety of osteoarthritis (4) and also some evidence of symptom control (4,5). However, based on the magnetic resonance imaging (MRI) observations that the earliest stages of NJD is strikingly associated with bone edema, which is also a predictor of progressive osteoarthritis joint deterioration in other sites (6), besides the ankle and foot, then it would seem prudent that attempts to inhibit osteoclast function may be of use.

To summarize, we feel that the MRI features of early NJD will allow for early intervention, including those suggested by the authors, at a stage before irreversible joint damage to see whether ultimately progressive joint damage can be prevented. We feel that the MRI observations in early disease have broad implications for raising awareness of the potential for early NJD diagnosis and for monitoring potential therapies.

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**References**

1. Jeffcoate WJ, Game FL, Armstrong DG, Cavanagh PR: Acute neuropathic joint disease: a medical emergency? (Letter). *Diabetes Care* 29:951–952, 2006
2. Tan AL, Greenstein A, Jarrett SJ, McGonagle D: Acute neuropathic joint disease: a medical emergency? *Diabetes Care* 28: 2962–2964, 2005
3. Eldor R, Raz I, Ben Yehuda A, Boulton AJ: New and experimental approaches to treatment of diabetic foot ulcers: a comprehensive review of emerging treatment strategies. *Diabet Med* 21:1161–1173, 2004
4. Carbone LD, Nevitt MC, Wildy K, Barrow KD, Harris F, Felson D, Peterfy C, Visser M, Harris TB, Wang BW, Kritchevsky SB: The relationship of antiresorptive drug use to structural findings and symptoms of knee osteoarthritis. *Arthritis Rheum* 50: 3516–3525, 2004
5. Spector TD, Conaghan PG, Buckland-Wright JC, Garnero P, Cline GA, Beary JF, Valent DJ, Meyer JM: Effect of risedronate on joint structure and symptoms of knee osteoarthritis: results of the BRISK randomized, controlled trial [ISRCTN01928173]. *Arthritis Res Ther* 7:R625–R633, 2005
6. Felson DT, McLaughlin S, Goggins J, LaValley MP, Gale ME, Totterman S, Li W, Hill C, Gale D: Bone marrow edema and its relation to progression of knee osteoarthritis. *Ann Intern Med* 139:330–336, 2003

## Resistance to Insulin Therapy Among Patients and Providers: Results of the Cross-National Diabetes Attitudes, Wishes, and Needs (DAWN) Study

Response to Peyrot et al.

The recent article by Peyrot et al. (1) concerning the attitudes of both patients and providers with respect to insulin therapy raises some potentially important issues about barriers to an important treatment in diabetes. However, their statement that "U.S. physicians were significantly more disposed to delay insulin therapy than physicians in all other countries . . . " (1) appears to contradict

differences in cited prescribing patterns between type 2 diabetic patients in America, Australia, and Europe. For example, results from the National Health and Nutrition Examination Survey 1999–2000 cohort (2,3) and a large western U.S. study (4) are consistent in finding that ~34% of type 2 diabetic patients on medication are using insulin. However, a more recent study (5) in the Canadian primary care setting reported only a 14% use of insulin, while two independent Australian studies (6,7) and our own results show an insulin prevalence of 16–18%. Studies in Denmark (8) and France (9) establish an insulin prescription rate of 24 and 17%, respectively. It therefore appears that physicians in U.S. are more likely to initiate insulin therapy for type 2 diabetic patients than their colleagues in other Western countries. The discrepancy between physicians' attitudes, as reported by Peyrot et al. (1), and actual practice may represent a lack of generalizability of their findings or that the such "attitudes" are not the principal determinants of prescribing behavior.

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**References**

1. Peyrot M, Rubin RR, Lauritzen T, Skovlund SE, Snoek FJ, Matthews DR, Landgraf R, Kleinebreil L, the International Dawn Advisory Panel: Resistance to insulin therapy among patients and providers: results of the cross-national Diabetes Attitudes, Wishes, and Needs (DAWN) study. *Diabetes Care* 28:2673–2269, 2005
2. Koro CE, Bowlin SJ, Bourgeois N, Fedder DO: Glycemic control from 1988 to 2000 among U.S. adults diagnosed with type 2 diabetes: a preliminary report. *Diabetes Care* 27:17–20, 2004
3. Saydah SH, Fradkin J, Cowie CC: Poor control of risk factors for vascular disease among adults with previously diagnosed diabetes. *JAMA* 291:335–422, 2004
4. Harmel AP, Ryan D, Thompson R: Glycohemoglobin assessment program: glycated hemoglobin and epidemiologic variables in patients with type 2 diabetes. *Endocr Pract* 8:184–190, 2002
5. Harris SB, Ekoe JM, Zdanowicz Y, Webster-Bogaert S: Glycemic control and morbidity in the Canadian primary care setting (results of the diabetes in Canada evaluation study). *Diabetes Res Clin Pract* 70:90–97, 2005
6. Clifford RM, Davis WA, Cull CA, Bruce DG, Batty KT, Davis TM: Greater use of insulin by southern European compared with Anglo-Celt patients with type 2 diabetes: the Fremantle Diabetes Study. *Eur J Endocrinol* 151:579–586, 2004
7. Kemp TM, Barr EL, Zimmet PZ, Cameron AJ, Welborn TA, Colagiuri S, Phillips P, Shaw JE: Glucose, lipid, and blood pressure control in Australian adults with type 2 diabetes: the 1999–2000 AusDiab. *Diabetes Care* 28:1490–1492, 2005
8. Kristensen JK, Bro F, Sandbaek A, Dahler-Eriksen K, Lassen JF, Lauritzen T: HbAlc in an unselected population of 4438 people with type 2 diabetes in a Danish county. *Scand J Prim Health Care* 19:241–246, 2001
9. Detournay B, Raccah D, Cadilhac M, Eschwege E: Epidemiology and costs of diabetes treated with insulin in France. *Diabetes Metab* 31:3–18, 2005

# Resistance to Insulin Therapy Among Patients and Providers: Results of the Cross-National Diabetes Attitudes, Wishes, and Needs (DAWN) Study

## Response to Phillipov and Phillips

Phillipov and Phillips (1) suggest that our finding (2) that U.S. physicians were significantly more disposed to delay insulin therapy than were physicians in all other countries surveyed contradicted reports from other studies of the proportion of patients with type 2 diabetes taking insulin in the U.S., Australia, and some European countries. Phillipov and Phillips conclude that either our findings cannot be generalized or that attitudes are not the key determinant of prescribing behavior.

We thank Phillipov and Phillips for providing additional information regarding international differences in insulin-prescribing attitudes and behaviors. We agree that attitudes alone do not determine physician prescribing behavior. Also important is the level of perceived need for insulin. The relevance of the attitude identified in our study depends explicitly on the level of perceived need for insulin treatment (delay of insulin "until it is absolutely essential"). If the need is perceived as greater in the U.S. than in other countries, U.S. physicians might be more likely to prescribe insulin even if are they have a higher threshold for making that choice. The level of perceived need might itself be a function of attitudes or it could be a result of actual differences in need, e.g., higher BMI, worse glycemic control, patient unwillingness to change lifestyles, etc.

We believe that finding out how all of these factors combine to influence physicians' insulin-prescribing behaviors would be a major contribution to the field. We hope that others will continue the study of this issue.

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**References**

1. Phillipov G, Phillips PJ: Resistance to insulin therapy among patients and providers: results of the cross-national Diabetes Attitudes, Wishes, and Needs (DAWN) study (Letter). *Diabetes Care* 29:952–953, 2006
2. Peyrot M, Rubin RR, Lauritzen T, Skovlund SE, Snoek FJ, Matthews DR, Landgraf R, Kleinebreil L, the International DAWN Advisory Panel: Resistance to insulin therapy among patients and providers: results of the cross-national Diabetes Attitudes, Wishes, and Needs (DAWN) study. *Diabetes Care* 28:2673–2269, 2005