A REVIEW OF FUNCTIONAL STATUS MEASURES FOR WORKERS WITH UPPER EXTREMITY DISORDERS

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OBJECTIVES: This review identifies instruments for measuring functional status among workers with mild-to-moderate disorders of the upper extremity. Functional status measures correlate pain and discomfort to performance, with direct, practical relevance to employers and workers. While many functional status measures exist for patients with severe or degenerative illness, few measures were designed for relatively healthy active workers. In fact, the impact of mild-to-moderate disorders on the workforce is largely unknown. The recently released OSHA Ergonomics Program Standard has given this issue a new sense of urgency. The intent is to give investigators a tool for choosing appropriate functional status measures in a specific research or clinical context.

METHODS: To identify self-reported functional status instruments for upper extremity disorders among workers, a Medline literature search was conducted for English-language publications between the years 1966 and 2000. Keywords included: carpal tunnel syndrome, functional status, health surveys, musculoskeletal, occupational health, outcome measures, questionnaire, neck, upper extremity, and worker. In selecting functional status instruments for review, three criteria were used: 1) Relevance to neck and upper extremity conditions (indicated by question content); 2) Assessment among workers; and 3) Relevance to mild-to-moderate disorders (indicated by level of severity). Parameters of interest were validity, reliability, and responsiveness to change.

RESULTS: Among 13 functional status instruments reviewed, six measures were tested among workers, including three measures relevant for mild-to-moderate disorders: the Nordic Musculoskeletal Questionnaire, Upper Extremity Questionnaire, and Neck and Upper Limb Instrument.

CONCLUSIONS: The identification of three functional status measures should encourage their use in studies, to improve communication among investigators. Further research is needed to address neglected aspects of measurement—specifically, for mild-to-moderate upper extremity disorders among workers—and to standardize valid and reliable instruments.

COST-EFFECTIVENESS OF ACETYLCISTEINE AND DIMETHYLSULPHOXIDE (DMSO) 50% FOR THE TREATMENT OF PATIENTS WITH REFLEX SYMPATHIC DYSTROPHY

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OBJECTIVE: The aim of this study was to determine the cost-effectiveness of Acetylcysteine and DMSO in the treatment of patients with reflex sympathetic dystrophy (RSD). METHODS: The study was a prospective, double-dummy, double blind, controlled trial. Patients were followed for one year. The primary outcome measure was the Impairment-level Sum Score (ISS). Cost data were prospectively collected using cost-diaries. Utilities were determined using the EuroQol. Both cost-effectiveness and cost-utility analyses were performed. Differences in mean direct, indirect and total costs between groups were estimated with corresponding 95% Confidence Intervals (CI). Also cost-effectiveness and cost-utility ratios with corresponding 95% CI were calculated using bootstrapping techniques.

RESULTS: There was a statistically significant difference in effect (ISS). DMSO generated more reduction than Acetylcysteine (diff: 1.82 CI: −0.79 to 4.43). This significant difference appeared also in the subgroup of patients with warm RSD. The cost-effectiveness and cost-utility ratios showed that DMSO is dominant over Acetylcysteine. CONCLUSION: In general, DMSO is the preferred method of treatment for patients with RSD. There are some indications that Acetylcysteine may be more cost-effective for cold RSD, but this was found in a small subgroup only and should be confirmed in a larger trial.
neck pain. METHODS: Patients were recruited by 42 general practitioners if they had been suffering from neck pain for at least two weeks. The 183 patients were randomly allocated to manual therapy (spinal mobilization, n = 60), physical therapy (exercise therapy and massage, n = 59), or GP care (counseling, education and medication, n = 64). Clinical outcomes included perceived recovery, pain intensity, functional disability and quality of life (EuroQol). Direct and indirect costs were measured by means of cost diaries completed by patients during the intervention period and the 52-week follow up. Differences in mean costs between groups were evaluated by applying non-parametric bootstrapping techniques. RESULTS: The total costs of the manual therapy (Euro 447) was approximately one-third of the costs of the physical therapy (Euro 1,297) and GP care (Euro 1,379). These differences were found to be statistically significant when bootstrapping was applied. The cost-effectiveness ratios and the cost-utility ratios showed that manual therapy was dominant (less costly and more effective), compared to physical therapy and GP care. The recovery rates based on perceived recovery after 12 months were 72% for manual therapy, 63% for physical therapy and 56% for GP care. With regard to pain intensity and functional disability, manual therapy was also found to be dominant over time, compared to physical therapy and GP care, for these clinical outcomes, although the differences were small. CONCLUSIONS: This study showed that manual therapy (spinal mobilization) is more effective and less costly than physical therapy and GP care.

STUDYING PREDICTORS OF FRACTURES AMONG OMNICARE NURSING HOME RESIDENTS
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Upon admission to a skilled nursing home facility, information is recorded on a Minimum Data Set (MDS), a 400 item instrument used as the basis of 1) reimbursement for Medicare eligible nursing home stays and 2) care planning, survey and certification for all nursing home stays. OBJECTIVE: To predict and evaluate variables related to hip fractures in the nursing home setting. METHODS: Electronic MDS data was available from 200 homes for variable evaluation times. The first available Assessment Reference Date (A3A), was the baseline for a regression of time to first fracture. Excluded were 1) patients with a fracture having an A3A date within the first 10 days of baseline visit, and 2) patients with <60 days of follow-up, from first to last A3A visit. Analysis included a Kaplan-Meier curve summarizing time to fracture, and a Cox Proportional Hazards regression model. RESULTS: The initial data set included 23,045 patients. 11,465 met the inclusion criteria, and 336 of these had fractures. Most important variables, based on the coefficient size, associated with increasing risk, were unsteady gait, deterioration in ADL function, a hospital stay in the last 90 days, use of full bed rails, and Alzheimer’s disease. The risk was also higher among females and whites. The need for full physical help while standing had a lower risk when compared to need for less support, but this is likely due to a lowered potential for falling, and increased vigilance an the part of staff. “Deteriorated” ADL function had almost twice the risk when compared to “improved” ADL. CONCLUSION: Unsteady gait, deterioration in ADL, use of bed rails, presence of Alzheimer’s disease, and hospital admissions were associated with an increased risk of hip fracture. A larger sample of fractures would be more likely to be successful in studying additional relationships.

VECTEBRAL FRACTURES AMONG GLUCOCORTICOID PATIENTS SIGNIFICANTLY INCREASE MEDICAL CARE COSTS
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BACKGROUND: Previous studies have demonstrated that high levels of glucocorticoid (GC) exposure are associated with increased fracture risk. However, none has reported potential cost impacts. OBJECTIVE: To estimate the marginal costs from vertebral fractures among GC patients. METHODS: Subjects 18–64 years old with different GC exposure levels, with and without fractures, were selected (n = 50,191). GC exposure was categorized into three levels: high (3+ claims of continuous use or >9.5 prednisone-equivalent mg/day), low (other GC use), and no GC use. Fractures, comorbid conditions, and costs were determined 15 months before and up to 3.5 years after index date. Regression models were used to estimate the marginal effects of vertebral fractures on pharmacy costs, medical costs and total costs. The models controlled for age, gender, pre-index date costs, GC exposure/fracture combinations, and pre-index and new post-index date comorbidity conditions. RESULTS: Vertebral fractures led to significant per-member per-month (PMPM) cost increases in each GC exposure group. Furthermore, the additional increase in marginal cost from vertebral fracture on total PMPM costs among high GC patients versus low GC patients was 83% ($170; p < 0.001). Differential increases in pharmacy and medical PMPM costs between high and low GC patients were 151% ($56; p < 0.01) and 68% ($115; p = 0.014), respectively. CONCLUSIONS: Vertebral fractures were associated with increased PMPM costs, holding constant patients’ underlying conditions. High GC patients had greater PMPM increases from vertebral fractures com-