

**Title:** Health Tracking of Musculoskeletal Disorders Among Iowa Farmers

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**Final Report Abstract:**

Farm work in Iowa, as in other parts of the Midwestern U.S., requires physically demanding job tasks. Although the occupation of farming is unique in many respects, the physical job demands are similar to those of other occupational groups that have a high prevalence of musculoskeletal disorders (MSDs). For example, similar to construction workers, farmers lift heavy materials, operate large equipment (tractors, grain trucks, and skid steers), and use powered and manual hand tools to repair and service equipment. These tasks expose individuals to physical risk factors known to be associated with MSDs. Thus, it should not be surprising that farmers would suffer from the burden of MSDs to the same or greater extent as those working in the construction industry. Yet, there is a paucity of research addressing the prevalence and prevention of MSDs among U.S. farmers.

Over a two-year period of time, we investigated the prevalence of and risk factors for carpal tunnel syndrome (CTS), and other musculoskeletal disorders (MSDs) among participants (agricultural and non-agricultural workers) in the prospective Keokuk County Rural Health Study (KCRHS; see research core of the Great Plains Center for Agricultural Health proposal for detailed description of the KCRHS). Specific Aims of the study were 1) to determine the prevalence of carpal tunnel syndrome (CTS) and associated risk factors among agricultural workers, non-agricultural workers, and non-working individuals in Keokuk County, IA, and 2) to investigate MSDs and associated risk factors among this same population. This epidemiologic study involved the tracking of CTS using hand symptom diagrams and nerve conduction studies. Other data collected concurrently from participant interviews was analyzed to investigate factors (occupational and non-occupational) associated with the risk of CTS cases. We also analyzed existing data from the 1640 adult interviews conducted during Round 1 (1994-1998) of the KCRHS to investigate the prevalence of other MSDs (low back, shoulder, lower extremity) and associated risk factors.

Symptoms related to MSDs were common among agricultural workers, non-agricultural workers, and non-working individuals. In this rural population, the anatomical regions with the majority of musculoskeletal symptoms were the hand/wrist, low back, and knee. Agricultural workers complained of musculoskeletal symptoms most commonly in the hand/wrist region. Although hand/wrist pain was common among agricultural workers, CTS did not have a higher prevalence among these individuals than non-agricultural workers. The knowledge gained from these investigations will provide the basis for future intervention research to reduce occupationally related MSDs among farmers and other agricultural workers.