

Assessment of Muscular Exposure to the Upper Extremity among Dairy Parlor Workers

Over the past two decades the US dairy has moved to a more industrialized, mass production model. With the goal of increased milk production at lower costs, dairy capacity will continue to grow leading to increases in task specialization for workers. These new mega-herd dairy operations will likely increase occupational risk factors for workers. Higher repetition, reduced rest time, awkward postures, and increased close-proximity interactions with the cow all increase the risk for cumulative and acute traumatic musculoskeletal injuries.

To date, no research efforts have characterized or compared workplace risk factor as they relate to worker injury in large-herd milking parlors. Our long-term goal is to reduce the incidence of musculoskeletal injuries among dairy workers. The purpose of this pilot project proposal is to collect preliminary data that will enable the comparison of upper extremity muscle activity while performing different milking tasks. Evaluating and comparing upper extremity muscular demands while performing different milking tasks is necessary for the eventual design of safer and less physically burdensome milking parlors.

The proposed pilot study will expand this investigation of large-herd operations by measuring and comparing upper extremity muscle demands during different milking tasks. The specific aims of this pilot project are to: 1) Quantify the upper extremity exposure to force among workers during udder and cluster attachment tasks while parlor milking; 2) Compare upper extremity exposure to force among parlor workers during the tasks of udder wiping and milking cluster attachment within type of milking parlor (rotary and parallel); and 3) Compare upper extremity exposure to force among parlor workers during the tasks of udder wiping and milking cluster attachment and across type of milking parlor (rotary and parallel).