

Texas A&M University

The Texas A&M University Center in Ergonomics has been assisting industry to improve its efficiency, competitiveness, productivity, and worker performance by preventing and controlling work-related cumulative trauma disorders

*A National Science
Foundation
Industry/University
Cooperative
Research Center
since 1995*

Center Mission and Goals

The mission of the Center in Ergonomics focuses on the prevention of work-related musculoskeletal disorders (MSDs), which are the most frequent and costly illnesses in the workplace.

Goals of the Center are three-fold: to determine the root causes of MSDs; to identify effective interventions to combat these illnesses; and to identify emerging technologies and issues related to MSDs.

The Center seeks:

- To contribute to the technology and information base necessary to evaluate and redesign existing workplace environments and work methods that affect MSDs, while providing leadership for the effective design of future work systems
- To provide an opportunity for industry to develop, select, and evaluate MSD research topics in response to both safety and health issues, as well as ergonomics guidelines and standards that are being developed and proposed.

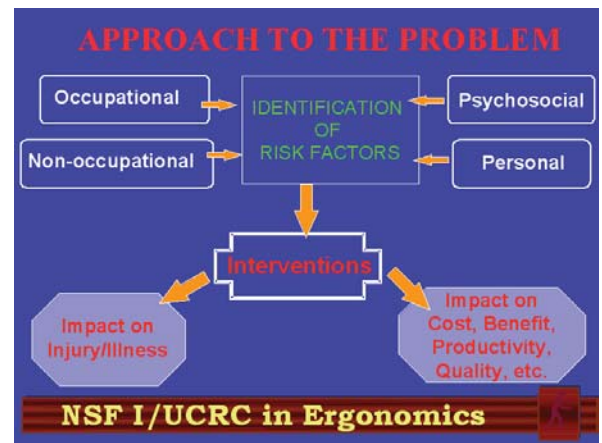
Every industrial sector can benefit from MSD research because MSDs can seriously affect competitiveness by decreasing productivity and increasing costs. Significant concerns exist in general manufacturing, office environments, heavy industry, transportation and logistics, data processing, and the semiconductor, food, defense, and aerospace industries.

Research Program

The purpose of ergonomics is to improve worker performance and safety by fitting the work to the person. Ergonomics researchers study general principles that govern the interaction of humans with machines, materials, and working environments.

MSDs make up one specialty in the field of ergonomics. Carpal tunnel syndrome, a progressive and disabling disease of the hand-wrist, is the best-known upper limb MSD. The most frequent and costly MSD illness, however, is low back pain.

The Center's 10-year focus is to reliably identify physical work activities that increase the risk for workers to develop MSDs while considering non-physical and non-occupational factors that may also be important.



Abrupt increases in injury/illness rates, health care costs, workers' compensation costs, and regulatory activity have dictated the Center's near-term research agenda and its key MSD research areas, which include:

- Validation and refinement of the *Strain Index* – a job analysis method to predict MSDs of the distal upper extremity
- Development and validation of a *Shoulder Index* – a job analysis method to predict MSDs of the shoulder
- Development and validation of a *Back Index* – a job analysis method to predict MSDs of the low back
- Development and validation of theories to apply these risk assessment tools to jobs that involve multiple tasks

The Center's Industrial Advisory Board meets twice annually to evaluate on-going research and set research priorities. Center funding also is complemented by support from a NIOSH training grant to support ergonomics education.

Facilities

In addition to interdisciplinary resources available on the campus of Texas A&M University, the Center's facilities include 20,000 square feet of laboratory space. The Center is fully equipped to support research on work environment simulations, work physiology, manual materials handling, continuous lifting studies, workplace design and evaluation, psychomotor and perceptual investigations, adjustment and reconfiguration for optimal ergonomic design of computer workstations, and kinetic and kinematic data acquisition.

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