



**PHS CONCEPTS, INC.**

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## **BIOMECHANICS CAPABILITIES STATEMENT**

A productive, efficient, and safe workforce is the cornerstone of any successful business. The specialists at PHSC are trained in a variety of Human Factors techniques that can help your business benefit the most from your employees. Whether it's creating a better workspace, preventing injuries, or helping people return to work PHSC has a solution for you.

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## WORKSTATION/TASK EVALUATION

PHSC specializes in evaluating and designing all aspects of the work environment. Many Occupational Therapists or typical workplace Ergonomist will make minor modifications to a workstation based on standard industry practices. We know that anyone can order an ergonomic keyboard or put up posters showing proper lifting technique, but Human Factors can have a much more distinct impact on your business. The engineers at PHSC utilize data driven methods to analyze your workers' anthropometry, biomechanics, and cognitive workload, and then design the safest and most productive workspaces. Because human factors extend beyond the individual worker, we also analyze work procedures, group dynamics, and information flow to develop the most rewarding tasks and efficient organizations. For more specific information check out our other ergonomics services such as, Anthropometric evaluation, Motion Capture studies, and Macroergonomics.

## WORK-RELATED INJURY PREVENTION

Cumulative trauma injuries, also referred to as Work-related Musculoskeletal Disorders (WMSD), Repetitive Strain Injuries (RSI), or Overuse Disorders (OD) are caused by repeated actions or exposures to stress while performing work tasks. Some well-known examples of these types of injuries are Carpal Tunnel Syndrome and Tennis Elbow, and these types of injuries can be caused by almost any work task performed repetitively. Some common workplace stressors that can contribute to WMSDs are vibration, temperature, localized contact, and repeated or sustained exertions.

WMSD's cost companies millions of dollars per year in medical costs, Worker Compensation claims, and lost-time expenses. However, PHSC has a group of Human Factors experts and a suite of solutions that can keep your workers safe and healthy, no matter how risky the job. We use data driven techniques to analyze your work space and workers to determine the best and most cost effective intervention for your business. For more detail on some of our techniques check out our other ergonomics services such as, Workstation Evaluation, Participatory Ergonomics Programs, and Workforce Physical Fitness.



For more information on WMSDs and conditions that contribute visit the OSHA Ergonomics website:

[osha.gov/SLTC/ergonomics/contributing\\_conditions.html](https://www.osha.gov/SLTC/ergonomics/contributing_conditions.html)

## ANTHROPOMETRIC EVALUATION (DESIGN COMPLIANCE)

Anthropometry is the study of human body dimensions. This information is used for the design of many products we use, such as clothing, office chairs, and vehicle cockpits. Because people come in all shapes and sizes, it is vitally important that your product or design is comfortable for the widest range of the user population. PHSC has anthropometry experts that have collected data for government databases, and have developed techniques that NASA uses for checking the design of space craft cockpits and space suits.

To perform anthropometric evaluations we pull information from a variety of industry anthropometric databases, or we can take measurements to create a custom database. Once the size range of the intended users are known, we can provide feedback such as: compliance with specifications, adjustment ranges, sizing breaks, population based design recommendations, and fit charts.

Take a look at some of our related services: Digital Human Modeling, Workstation/Task evaluation, and Motion Capture studies.

- Motion capture studies
- Digital Human Modeling
- Material Handling studies and training
- Workforce physical fitness
- Participatory Ergonomics programs
- Macroergonomics

