



# Reaching for Best Practice Ergonomics: Development and Implementation of an Interactive Educational Program

Hannah Clark<sup>1</sup>, Dr. Tonia Taylor<sup>1</sup> and Sondra Redmont<sup>2</sup>  
University of Mississippi Medical Center<sup>1</sup> and UMMC's Office of Wellbeing<sup>2</sup>



## OVERVIEW OF CAPSTONE SITE

**Overview of Capstone Site:** The University of Mississippi Medical Centers Office of Wellbeing is located in Jackson, MS administrator of the office of wellbeing, Sondra Redmont director of the OWB, Dr. Josh Mann.

In this setting the population served was the universities faculty, staff and students. The Office of wellbeing has a mission to foster a culture of health among employees. Mission: foster a culture of health among employees  
Vision: To reach a culture that values health and wellness at its center, create an environment, both physically and culturally, that promotes a healthy lifestyle, improve overall health of employees and students, promote and increase preventative health services, and finally convey how important health and wellness is so learners can extend that belief across the state.

## LITERATURE SUMMARY

A musculoskeletal disorder is an injury or disorder of the muscles, tendons, or joints and sometimes these injuries are significantly influenced by the work environment. In 2019 alone there were 2.8 million WR musculoskeletal injuries. CDC, 2019

Szeto et al. found that an ergonomics and exercise program reduced injury in nurses up to one year after the program was implemented.

Stretching increases blood flow, improves flexibility/muscle lengthening, increases joint range of motion, helps maintain full range of motion at the joints helping muscles to work effectively and it helps reduces the risk of repetitive strain injury and overall injury (Allwood et al.)

The biomechanical frame of reference goals are to prevent deterioration and maintain existing movements for occupational performance which is exactly what this ergonomics project aimed to do as well.

## NEEDS ASSESSMENT

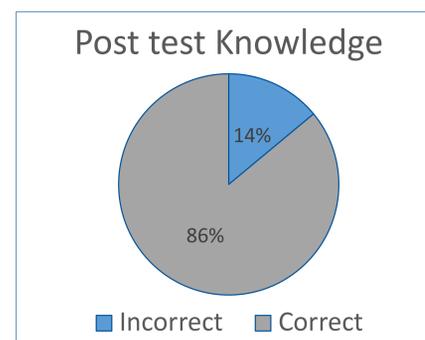
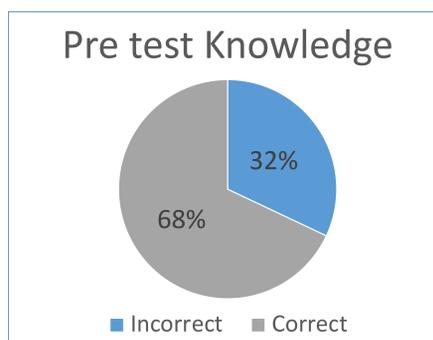
The phase one needs assessment was conducted in June of 2020. It involved a short open ended question interview between me and my supervisor. It included broad questions like "Are there needs you have recognized, and which one requires the most attention?" to some more specific questions based off the literature review and research such as "Through research I saw several programs already in place- wellness ambassador/champion - what does it look like, any improvements needed?" In the needs assessment it was discovered UMMC OWB uses CDC Health Worksite scorecard. This tool is used by employers to assess their health promotion interventions and programs to find gaps. One gap found from the 2020 CDC health worksite scorecard was a lack of interactive education on musculoskeletal disorders and prevention training to managers and employees.

## PROJECT GOALS / OBJECTIVES

- Teach basic and best practice ergonomics for in-office work and when working from your home office.
- Educate how best practice ergonomics can help with prevention of WR-MSDs
- Discuss options for generalizing ergonomic knowledge to any work area (e.g., mobile workspace)
- Teach the importance of ergonomic breaks throughout the day.

## PROJECT DEVELOPMENT and IMPLEMENTATION

Three PowerPoints were presented by myself and ergonomics expert and OTD professor, Dr. Penny Rogers live over three consecutive Thursdays in April of 2021. The main topics of each were : Basic ergonomics for both on-campus and home office workspaces. How to evaluate your work and home offices. and Tips to incorporate ergonomic breaks while at your desk. Each presentation was recorded and posted on the online platform, canvas, for any participant that could not watch live.



From the quality improvement surveys. I discovered the need for additional resources on ergonomic stretch breaks. I created two videos, one being 5:30 minutes and the other -6 minutes long that can be accessed at any time by the participants and others who could benefit from an ergonomic stretch break.



## PLAN FOR PROJECT EVALUATION

A Pre and Post assessment was developed in order to test the knowledge of the participants prior to taking the class as well as after. It contained four ergonomic related questions to assess this knowledge. The pretest also included some basic demographic questions to assess the population taking the class. The post test included the same four questions asked on the pretest along with quality improvement questions on the speakers' knowledge and convenience of online use. The choice to use the same questions for the pre and post test allowed the ability to obtain any information on knowledge gained by the participants. The demographic questions were included to obtain who the participants were and if all locations of the facility and shifts participated. Quality improvement questions presented good feedback to the presenters and their ability to disseminate the information as well as any technical issues involved with the project. A three-question open response survey was sent out post session one and two. This allowed for open and honest feedback to make quality improvements for the class each session. This was chosen to allow for evaluation and quality improvement throughout the project. Open ended questions allowed for a variety of information to be obtained from the participants as well.

## PROJECT SUMMARY AND FUTURE RECOMMENDATIONS

The quality improvement surveys offered good insights as to the impacts of the capstone project. The UMMC faculty that participated in the pre and post tests had an 86% correct rate of all questions to a 98% correct rate on the post test. Another great finding was many stated they were able to participate in the class because we included a recorded version on canvas. Some direct quotes from the surveys can be found in Table 1.

Participant	Responses to question "The best part of the class was"
Participant 1	I really liked the exercises and stretches
Participant 2	All of the information was very helpful
Participant 3	All the handouts showing break exercises

Table 1