

Ergonomic Pipette “Tips”

Whenever the word ergonomics is mentioned most people immediately think of computer or office ergonomics. But what about other work areas? Ergonomic issues can be found in any work setting. This article will focus specifically on the laboratory task of pipetting.

People performing pipetting duties for long periods of their work day often experience hand fatigue, discomfort, and pain without addressing the root of the problem. Many people don't understand that their work is not supposed to hurt them. If you are having the symptoms listed above for longer than three weeks you should know that there are interventions that can provide relief. You don't need to suffer in silence.

First of all, evaluate your discomfort in relation to your work. Think about what you are doing, how much you are doing, and what changes you can institute. Be aware of how you work with your pipette, how it fits your hand, and how much force is required for each phase of the tasks. Pay attention to your posture by answering the following questions:

- Are you looking downward from the neck or bent over at the waist?
- Are you working with hands at or above shoulder height?
- Are your elbows out to the sides of your torso? (Think chicken wing)
- Is your wrist bent or curled as you work?
- Is your thumb hyper-extended on the plunger?

All of these awkward postures along with repetition and force can cause fatigue, discomfort, and ultimately pain if not addressed in a timely manner. Let's face it, when you hurt you are not able to perform your best work.

Many times these issues can be addressed with simple awareness. You have the power to be your own advocate to improve your ergonomic situation.

- Pre-plan your tasks with mini-breaks or task variety mixed in where possible
- Warm up hands with mild stretches before pipetting tasks
- Be aware of your posture and force when pipetting
- Make sure your pipettes are in good working condition—calibration and maintenance services are available
- Use multi-channel, programmable, or repeater pipettors when performing high volume tasks
- Limit pipette task time to 20 minutes with 2 to 3 minutes of rest between rotations

Training sessions may be set up for your lab to make sure that everyone understands how to perform these tasks efficiently without discomfort. If equipment upgrades are needed you should be aware that EH&S has an Ergonomic Resource Fund available to assist with purchases of effective ergonomic tools.

For a complete list of the ergonomic interventions and resources available at UC San Diego consult the Ergonomics Program pages at BLINK <https://blink.ucsd.edu/safety/occupational/ergonomics/>. For ergonomic information on specific job classifications including laboratory workers please click on the following link: <https://blink.ucsd.edu/safety/occupational/ergonomics/awareness.html>.