



# Laboratory Ergonomics Tips

Task	Body positions/ postures	Work Practices/ Processes	Proper equipment
Seating	<ul style="list-style-type: none"> <li>• Feet should rest flat on the floor or a footrest</li> <li>• Chair should provide adequate low back and thigh support</li> <li>• Front edge of chair should not press up against back of knees.</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid sitting at the edge of the seat, sit all the way back into the seat to provide back support</li> <li>• Get out of chair at least every half hour to help relieve stress on back</li> <li>• Before starting work, make sure chair is properly adjusted.</li> </ul>	<ul style="list-style-type: none"> <li>• Use a footrest if feet do not reach the floor</li> <li>• If back support is not adequate or if the seat pan is too long, try a rolled up towel or a back support cushion to provide support.</li> <li>• Remove or adjust armrests that hinder work activities</li> </ul>
Pipetting	<ul style="list-style-type: none"> <li>• Maintain straight wrists</li> <li>• Keep elbows close to body</li> </ul>	<ul style="list-style-type: none"> <li>• Keep waste bins, beakers, etc., as close as possible</li> <li>• Take frequent microbreaks away from pipetting (at least every 15-30 minutes)</li> <li>• Share workload between right and left hands</li> <li>• Rotate pipetting tasks with other employees as feasible</li> <li>• Occasionally alternate activities to avoid continuous pipetting for long periods</li> </ul>	<ul style="list-style-type: none"> <li>• Use shorter pipettors and pipette tips</li> <li>• Choose pipettors that require minimal hand and finger effort</li> <li>• For highly repetitive jobs, utilize automated processes or multi-channel pipettors where feasible.</li> <li>• See seating</li> </ul>
Test Tube Handling	<ul style="list-style-type: none"> <li>• Maintain straight wrists</li> <li>• Work w/ elbows close to body</li> <li>• Avoid reaching upward or stooping low</li> </ul>	<ul style="list-style-type: none"> <li>• Arrange tubes to minimize reaching/ twisting</li> <li>• Share workload between right and left hands</li> <li>• Take adequate breaks away from handling activity (even short several second "micro-breaks" help</li> <li>• Use both hands to open tubes</li> </ul>	<ul style="list-style-type: none"> <li>• Use upside-down containers to raise tube racks when needed</li> <li>• Use vortexer mixer rack instead of holding tubes by hand</li> <li>• Use cap removers to help minimize pinch gripping</li> <li>• To avoid forearms resting on sharp edges, pad edges or use a cushion to pad forearm.</li> </ul>
Microscope Use	<ul style="list-style-type: none"> <li>• Maintain straight wrists</li> <li>• Avoid tilted head/ neck postures</li> </ul>	<ul style="list-style-type: none"> <li>• Take frequent microbreaks to rest eyes (momentarily close eyes or focus on far away objects to vary focal length)</li> <li>• Keep scopes clean and in good condition</li> <li>• Spread microscope work throughout the day or rotate microscope work among several employees as feasible</li> </ul>	<ul style="list-style-type: none"> <li>• Raise and stand microscope at a slight tilt to allow a more upright head/ neck posture</li> <li>• To avoid forearms resting on sharp edges, pad edges or use a cushion to pad forearm.</li> <li>• See seating (above)</li> </ul>
Hand Tool Use	<ul style="list-style-type: none"> <li>• Maintain straight wrists</li> <li>• Avoid pinch gripping tools when possible</li> </ul>	<ul style="list-style-type: none"> <li>• Take occasional microbreaks away from tool use (at least every 15-30 minutes)</li> <li>• Share workload between right and left hands</li> </ul>	<ul style="list-style-type: none"> <li>• Choose the right tool for the job</li> <li>• Ensure tools are in proper working order</li> <li>• Increase size of tool handles where possible to minimize gripping effort</li> </ul>
General Work Tips	<ul style="list-style-type: none"> <li>• Minimize use of awkward body postures</li> </ul>	<ul style="list-style-type: none"> <li>• For any continuous/ repetitive task, take frequent microbreaks away from the primary activity</li> <li>• Arrange work scheduling to allow occasional alternating of tasks</li> <li>• Rotate tasks intermittently between left and right hands to avoid overuse of any one side</li> <li>• For highly continuous/ repetitive tasks, consider a rotation of employees to help safely distribute workload</li> </ul>	<ul style="list-style-type: none"> <li>• When purchasing equipment, models that adjust in size are preferable</li> <li>• Use the proper equipment for the task</li> <li>• Know how to properly use the equipment</li> <li>• Where feasible, use automated processes to reduce/ eliminate high repetition or forces</li> </ul>



# STANFORD UNIVERSITY LABORATORY ERGONOMICS

## *When To Get Help*

- Report any injury or recurring discomfort to your supervisor
- File forms with Risk Management (SU-17, DWC-1, Cal-OSHA 5020)
- Contact EH&S to for additional follow-up (5-3209)

## *Responsibilities*

- **Employees**
  - Attend training
  - Use recommended work practices and equipment
  - Report discomfort or pain to your supervisor
  - Inform supervisor of and comply with medical treatment recommendations
- **Supervisors**
  - Evaluate employees' compliance with safe work practices (with EH&S assistance)
  - Provide necessary support in helping make ergonomic improvements in the lab
  - Report employee injuries to Risk Management (3-7400) and EH&S (5-3209)
  - Accommodate employee work restrictions by doctor
- **EH&S**
  - Develop, implement, and evaluate the Ergonomics Program
  - Provide Laboratory Ergonomics training and technical assistance with task evaluations
  - Analyze and report trends in ergonomic injuries

## *Resources*

- **Your supervisor**
- **EH&S (5-3209)**
- **Risk Management (3-7400)**
  - SU-17, DWC-1, Cal/OSHA 5020 Forms
- **Occupational Health Care Provider (PAMF 853-2970)**
  - Medical evaluation
  - Treatment, if necessary
- **HIP (3-9649)**
  - Exercise programs (e.g. Healthy Back/ Strong Abs)
  - STAP funds available for some classes



*Stanford University EH&S, Industrial Hygiene/ Safety Program (5-3209)*