

# Laboratory Ergonomics Tips

<b>Task</b>	<b>Body positions/ postures</b>	<b>Work Practices/ Processes</b>	<b>Proper equipment</b>
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 for 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 for both the worker and the type of task</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</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 microbreaks every 20-30 minutes to stretch</li> <li>• Share workload between right and left hands (load splitting)</li> <li>• Rotate pipetting tasks with other employees if possible</li> <li>• Alternate activities to avoid continuous pipetting</li> </ul>	<ul style="list-style-type: none"> <li>• Use shorter pipettes and pipette tips when possible</li> <li>• Choose pipettes that require minimal hand and finger effort</li> <li>• For highly repetitive jobs, utilize automated processes or multi-channel pipettes where feasible.</li> <li>• See Seating section</li> </ul>
Test Tube Handling	<ul style="list-style-type: none"> <li>• Maintain straight wrists</li> <li>• Work with 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 (load splitting)</li> <li>• Take microbreaks every 20-30 minutes to stretch</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 a test tube rack instead of holding tubes by hand</li> <li>• Use cap removers to minimize pinch gripping</li> <li>• Pad sharp/hard edges of workbench to minimize contact stress on elbow and forearm</li> </ul>
Microscope Use	<ul style="list-style-type: none"> <li>• Maintain straight wrists</li> <li>• Avoid static 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 if possible</li> </ul>	<ul style="list-style-type: none"> <li>• Raise tilt microscope to allow a more neutral head/neck posture</li> <li>• Pad sharp/hard edges of workbench to minimize contact stress on elbow and forearm</li> <li>• See Seating section</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 microbreaks every 20-30 minutes to stretch</li> <li>• Share workload between right and left hands (load splitting)</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 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 worker rotation to help safely distribute workload</li> </ul>	<ul style="list-style-type: none"> <li>• Use equipment models that adjust in size</li> <li>• Use the proper equipment for the task</li> <li>• Know how to properly use the equipment</li> <li>• When possible, use automated processes to reduce/ eliminate high repetition or forces</li> </ul>