



Laboratory Ergonomics Tips

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



STANFORD UNIVERSITY LABORATORY ERGONOMICS

<http://ergostanford.stanford.edu>

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 for additional follow-up (6-4392)

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 (6-4392)**
- **Risk Management (3-7400)**
 - SU-17, DWC-1, Cal/OSHA 5020 Forms
- **Occupational Health Care Provider (Sequoia Occupational Health, 364-1565)**
 - 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, Occupational Health/ Safety Program

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