

LABORATORY ERGONOMICS CHECKLIST

Name of Lab:


Employee/Lab Coach:

Lab Supervisor/Manager:



Date:



If you have any questions, please call the Ergonomics Division at 668-ERGO (3746)

Laboratory Ergonomics Checklist


Laboratory Benches			
Question	Response	Recommendations if Response is No:	Comments
<p>If employees stand, are short anti-fatigue matting supplied?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>Order anti-fatigue insoles or short anti-fatigue matting for areas with prolonged standing. Refer to recommended products website. (Note: Long anti-fatigue matting is not necessary for standing tasks and may pose a trip hazard).</p>	<p>Consult with Supervisor/Manager on ordering.</p>
<p>Are work areas free of contact stressors, such as bench tops with sharp edges?</p> 	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>Apply padding to the edge of sharp work surfaces to reduce contact stress on arms and elbows. Refer to padding website</p>	<p>Consult with Supervisor/Manager on ordering</p>







<p>Is the height of the bench appropriate so that the employees are either:</p> <ul style="list-style-type: none"> • Sitting with feet flat on the ground or • Standing with upright postures 	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> 	<ul style="list-style-type: none"> • For seated tasks, adjust the chair height so feet are on the ground. • Contact the Ergonomics Division if stool height chairs are used or if the employees are standing at 37” high benches. • Refer to the following link for working height guidelines 	<p>Contact the Ergonomics division for additional assistance.</p>
<p>Is there adequate leg and foot room at all seated work areas?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>To create foot room, remove drawers and/or move equipment from underneath.</p>	<p>Consult with Supervisor/Manager on removing drawers.</p>
<p>Is bench work performed separate from computer work?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Contact the Ergonomics division</p>	

Laboratory Chairs			
Question	Response	Recommendations if Response is No:	Comments
<p>Can all laboratory chairs be adjusted to accommodate employees so they can sit:</p> <ul style="list-style-type: none"> • With feet on ground • With hips/knees at same height • Leaning back on the chair 	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> 	<ul style="list-style-type: none"> • If chairs are adjustable, adjust them according to the employee. • If chairs are not adjustable, consult with supervisor/manager on new chairs/stools. • If stool height chairs are used, contact the Ergonomics Division. 	<p>Contact the Ergonomics Division for information on new chairs/stools.</p>
<p>If stool height chairs are used, are employees able to safely get on/off the stools?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Contact the Ergonomics Division</p>	
<p>Can employees comfortably rest their feet on the floor?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Contact the Ergonomics Division if employees sit on stool height chairs.</p>	

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<p>Do employees know how to adjust the chairs?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<ul style="list-style-type: none"> • Read chair manuals • Refer to the chair vendor's web site for instructions • Try the various levers and buttons • Consider a chair in-service, provided by the vendor, who should be contacted by the department. 	<p>Consult with Supervisor/Manager on arranging vendor in-service.</p>
<p>Are chairs free of armrests or can arms be removed to allow for freedom of movement?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Remove armrests from chairs. Contact maintenance or the chair vendor.</p>	
<p>Are the chair casters appropriate for the flooring? Rubber or locking casters should be used for hard floors, and vinyl casters for carpeted surfaces.</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>		<p>Consult with Supervisor/Manager on contacting chair vendor to order appropriate casters.</p>


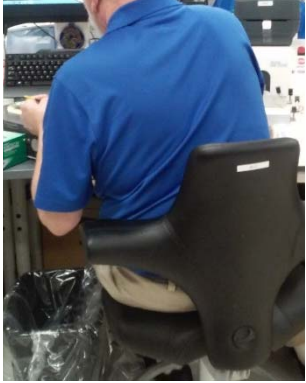




Microscopes <input type="checkbox"/> N/A			
Refer to https://www.safety.duke.edu/ergonomics/laboratory-ergonomics/microscopy			
Question	Response	Recommendations if Response is No:	Comments
<p>Do employees work with:</p> <ul style="list-style-type: none"> • Neutral shoulder postures (without rounded shoulders or in a hunched position) • Upright neck (without excessive neck bending) • Upright back  	<input type="checkbox"/> Yes <input type="checkbox"/> No	<ul style="list-style-type: none"> • Move microscope to edge of desk • Sit as close to microscope as possible • Lean back on back rest. • If available on chair, tilt chair forward slightly to lean back on chair for back support • Raise microscope so eye piece is at eye level- use microscope support 	<p>Consult with Supervisor/Manager on purchasing microscope support.</p>
<p>Is the work area free of contact stresses between sharp edges and the forearms?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>See recommended products list for recommendations on edge padding and/or arms supports.</p>	<p>Consult with Supervisor/Manager on ordering edge padding.</p>



Is the microscope pulled out to the edge of the workbench?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Move microscope closer to edge of workbench.	
Have employees been trained how to properly sit at a microscope workstation?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Coach employees on better work practices with microscope use.	
Are microscope work breaks provided?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Provide frequent short breaks (every 20 minutes) to stretch and move around.	Consult with Supervisor/Manager on stretch breaks.
Pipetting <input type="checkbox"/> N/A Refer to https://www.safety.duke.edu/ergonomics/laboratory-ergonomics/general-laboratory-and-workbench-tips			
Question	Response	Recommendations if Response is No:	Comments
Is manual pipette use minimized?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Minimize manual pipetting. Consider options from recommended products list such as electronic or latch mode pipettes .	Consult with Supervisor/Manager on ordering.
Are electronic or latch mode pipettes provided?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If pipetting for more than 5-10 minutes at a time, consider electronic pipettes.	Consult with Supervisor/Manager on ordering.

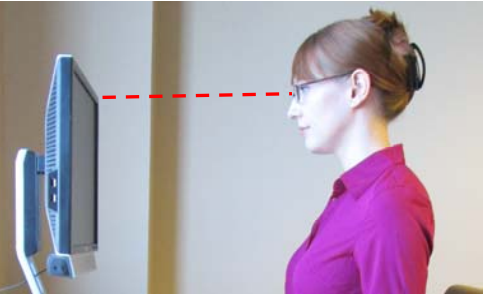

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<p>Is the pipette designed to minimize contact with the hand on sharp edges?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>See recommended products list for electronic and latch mode pipettes without sharp edges.</p>	<p>Consult with Supervisor/Manager on ordering.</p>
<p>Have employees been trained how to properly operate the pipette (e.g., pickup tips, eject tips, program electronic pipettor, etc.).</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Coach employees on pipette use.</p>	<p style="background-color: #cccccc;"> </p>
<p>Is pipetting frequency minimized (less than 2 hrs per day)?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Limit periods of continuous pipetting to 20 minutes or less. Vary activities and rotate pipetting tasks among several people.</p>	<p>Consult with Supervisor/Manager</p>
<p>Are frequent breaks provided?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Take frequent short breaks (e.g., 2 minutes for every 20 minutes of pipetting).</p>	<p>Consult with Supervisor/Manager</p>
<p>Is the pipettor electric or multi-channeled to allow for computer-activated multiple dispensing instead of finger-activated dispensing?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Consider purchasing new Pipettes. See recommended products list.</p>	<p>Consult with Supervisor/Manager on ordering.</p>

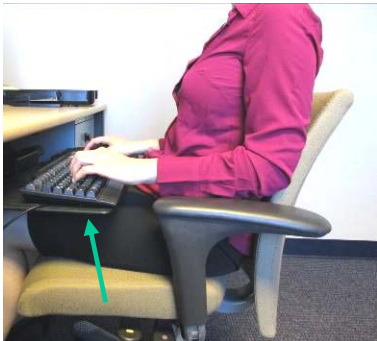




Fine Motor Skills <input type="checkbox"/> N/A Refer to https://www.safety.duke.edu/ergonomics/laboratory-ergonomics/micro-manipulation-and-fine-motor-skills			
Question	Response	Recommendations if Response is No:	Comments
Are vials with the fewest amounts of threads allowable used?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Use plastic vials with fewer threads to reduce twisting motions during capping and uncapping of lids.	
Is dissection or micromanipulation tasks with forceps performed less than 5 hours per week?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Split micromanipulation tasks between lab workers and take breaks often to stretch and change postures.	Consult with Supervisor/Manager
Are frequent micro breaks provided?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Provide frequent micro breaks (20 seconds each).	Consult with Supervisor/Manager
Microtomes/Cryostats <input type="checkbox"/> N/A Refer to https://www.safety.duke.edu/microtome-work for microtome or https://www.safety.duke.edu/ergonomics/laboratory-ergonomics/cryostat-work for cryostat			
Question	Response	Recommendations if Response is No:	Comments
Is the workstation at a height and distance that allows the arms to be as close to the body as possible?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Adjust the chair or move the equipment closer to minimize reaching.	
Do employees have access to an automatic microtome/cryostat?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Purchase an automatic microtome to replace manual unit.	Consult with Supervisor/Manager

<p>Do employees work with:</p> <ul style="list-style-type: none"> • Straight backs/necks • Arms to side • Minimal twisting, leaning or reaching while operating the microtome, cryostat or while embedding? 	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> 	<p>Coach employees to:</p> <ul style="list-style-type: none"> • Adjust chair to reduce reaching/leaning/looking down • Move closer to bench • Pivot chair instead of twisting • If foot pedal is available for microtome, use when feasible. 	
<p>Do employees have straight necks when looking at monitors?</p> 	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> 	<ul style="list-style-type: none"> • Lower monitor as far as able, and bring as close to front as able. • Pivot chair instead of twisting. • Adjust chair so eyes are closer to top of monitor screen. 	
<p>Are frequent breaks provided?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Provide frequent breaks.</p>	<p>Consult with Supervisor/Manager</p>

Laboratory Hoods and Biosafety Cabinets <input type="checkbox"/> N/A			
Refer to https://www.safety.duke.edu/ergonomics/laboratory-ergonomics/laboratory-hoods-and-biological-safety-cabinets-bscs			
Question	Response	Recommendations if Response is No:	Comments
Are short anti-fatigue mats used if employees stand for prolonged periods?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Order short anti-fatigue matting for standing areas. See recommended products list for examples.	Consult with Supervisor/Manager on ordering.
Are materials inside the hoods/biosafety cabinets as close as possible so as not to require reaching? 	<input type="checkbox"/> Yes <input type="checkbox"/> No 	<ul style="list-style-type: none"> • Move most frequently used items closest to employee to minimize reaching. • Sit/stand close to the hood. • Adjust chair as needed to reduce reaching/leaning forward. 	
Are lighting levels inside the hoods/biosafety cabinets appropriate?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Make sure that lights in hoods/BSCs are working properly. Replace bulbs when necessary.	

<p>Do employees work with neutral neck/back postures?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<ul style="list-style-type: none"> • Move closer to hood. • Lean back on chair for support. • Adjust chair height to reduce reaching/leaning. 	<p style="text-align: center;">■</p>
<p>Are frequent breaks provided for prolonged hood/cabinet use?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<ul style="list-style-type: none"> • Provide frequent micro breaks (20 seconds every 20 minutes). 	<p>Consult with Supervisor/Manager</p>
<p>Computer Workstations <input type="checkbox"/> N/A</p>			
Question	Response	Recommendations if Response is No:	Comments
<p>Are monitors adjusted to eye height? (While sitting at desk with hips/knees at same height, feet flat on ground, place elbow on desk with fingertips pointing towards ceiling. The top of screen should be no higher than fingertips).</p> <div style="display: flex; justify-content: space-around;">   </div>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<ul style="list-style-type: none"> • Adjust monitor so top of screen at eye height or • Adjust chair so eyes are at monitor height (Note: Ensure feet are on floor or on short footrest, thighs parallel to ground, and keyboard at elbow height) or • Replace with adjustable monitors or monitor arms. 	<p>Consult with Supervisor/Manager on using adjustable monitors or monitor arms.</p>

<p>Are monitors positioned directly in front of individuals?</p> 	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> 	<p>Position monitor directly in front of body.</p>	
<p>Are monitors positioned so they do not face or back up to a window?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Move monitors so they are 90 degrees to the window.</p>	
<p>Are keyboards positioned directly in front of body?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Position keyboards directly in front of the body.</p>	

<p>If keyboards/mice are used at least 4 hrs. a shift, are they on height adjustable surfaces?</p> 	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> 	<ul style="list-style-type: none"> • Adjust keyboard/input devices to match elbow height or • Install adjustable keyboard trays (contact the Ergonomics division if there is a travel path behind the employee). <p>If computer is used less than 4 hrs. adjust the chairs so keyboard/mouse is at the same height as the elbows. (Note: Ensure feet are on the floor or on a footrest and thighs parallel to ground)</p>	<p>Consult with bench vendor on installation procedures for keyboard trays.</p>
<p>Are input devices positioned as close to the keyboards as possible?</p> 	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> 	<p>Position input devices closer to the keyboards.</p>	

Are headsets available for employees who frequently use the computer and phone simultaneously?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Purchase headsets- inquire at the Duke Computer store cpustore@duke.edu	Consult with supervisor/manager on ordering.
Is task lighting sufficient for tasks such as reading and writing?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Purchase task lights	Consult with supervisor/manager on ordering.
Are other frequently used items (calculator, reference books) within reach?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Move frequently used items closer	
Are document holders available for employees who frequently reference documents?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Purchase document holders , such as the VuRyte Vision Vu.	Consult with supervisor/manager on ordering.

*Adapted from the NIEHS Laboratory Self-Assessment Checklist

NOTE: Supervisors/Managers are responsible for implementing recommendations for items with “No” responses. Please contact the Duke Ergonomics Division for assistance if necessary at ergonomics@mc.duke.edu, or 688-ERGO (3746).