



Lab Ergonomics Checklist

Lab:	Location:	Date of completion:
Checklist completed by:		
Relevant Findings/Comments:		

Employee education is essential for prevention of injuries in the lab. From the Lab Ergonomics Guide, employees should have a basic understanding of ergonomic principles and be able to recognize ergonomics risk factors and musculoskeletal injury (MSI) symptoms. The design of the job itself (work/rest schedules, job rotation), work tools and the workstation dimension/layout also have a direct impact on the risk of injury. Incorporating ergonomic principles into the design of lab tools and workstations and reviewing work processes to maximize efficiencies can help prevent MSI. Periodic review of the work environment, tools and procedures helps to assure that necessary modifications are made as processes change.

This checklist will help identify ergonomics risk factors associated with lab environments and tasks. Designed for use by lab supervisors and employees, safety committee members, and EHS, the checklist also includes information to help eliminate or reduce identified risks.

How to Use the Checklist

1. See if the following information is available for the lab:
 - a. A list of musculoskeletal injuries; and
 - b. Employee complaints or concerns about performing specific tasks.
2. Contact the lab employees and their supervisor and discuss the purpose for performing the ergonomic survey. Ask the supervisors and workers if there are any issues or concerns that they have regarding lab work tasks.
3. Complete the Lab Ergonomics Checklist for the tasks being completed in the lab. Answer N/A if the question does not apply to the task. Include all meaningful comments for each area.
4. Each “NO” answer indicates a risk of injury or sub-optimal condition. For each “NO” answer, consider changes or modifications to the workstation or task to result in a yes response. When considering changes, obtain input from the workers, supervisors, and other safety specialists if available. Whenever possible, evaluate equipment before making purchases and before modifying the work areas or tasks. This process will help increase product acceptance, test product usability, and durability, and take advantage of worker experience.

Please send the completed checklist and any questions about ergonomics to ergosafe@sfu.ca.

		Yes	No	Change/Modification	Comments
Lab Workstation Design					
Standing & Seated Bench					
1	Is the height of the bench appropriate for the work performed? a. Work can be positioned close to elbow height (~ 36-40") b. Work can be performed with shoulders relaxed			<input type="checkbox"/> Adjustable height benches <input type="checkbox"/> Adjustable lab stool/chair <input type="checkbox"/> Temporary standing platforms <input type="checkbox"/> Move the task to a seated bench with adjustable chair	
2	Are primary work tools and supplies located within arm's reach (4-18") from bench edge?			<input type="checkbox"/> Reposition tools and supplies within 18" distance <input type="checkbox"/> Provide tool organizers, turntable workstations, turntables, storage bins, pipette holders and carousels	
3	Is there knee and foot clearance when completing standing tasks in front of the bench? a. 4" deep knee clearance b. 4" high and 4" deep foot clearance			<input type="checkbox"/> Work at open bench cut outs <input type="checkbox"/> Remove supplies and equipment from bench cut out areas <input type="checkbox"/> Modify bench surface with clamp on cut out extensions to increase knee and foot clearance	
4	Is a foot rail or prop available (6" from floor)			<input type="checkbox"/> Install rails or foot props <input type="checkbox"/> Use footrest <input type="checkbox"/> If bench has undersurface cabinet, open or remove door and place foot on lower shelf	
5	Are there anti-fatigue mats in areas where prolonged standing tasks are completed?			<input type="checkbox"/> Provide anti-fatigue mats <input type="checkbox"/> Use cushioned shoes and in-soles	
6	Does the bench have rounded or padded edges to reduce contact stress?			<input type="checkbox"/> Add edge rests and protectors to eliminate sharp edges <input type="checkbox"/> Use gel pads on surface to protect elbows <input type="checkbox"/> Wear custom padded sleeves under lab coat	
7	Is standing bench available for tasks requiring frequent movement between workstations?			<input type="checkbox"/> Redesign work to reduce movement between stations to optimize workflow	
8	Is seated bench available for tasks requiring precision and close inspection?			<input type="checkbox"/> Provide arm supports for stability if not available	

		Yes	No	Change/Modification	Comments
				<input type="checkbox"/> Provide sit-stand stools <input type="checkbox"/> Provide adjustable work platforms to position work at optimal height	
9	Are bench cut-outs available for seated workers to ensure adequate knee/foot clearance?			<input type="checkbox"/> Redesign benches to provide cut-outs for seated work <input type="checkbox"/> Provide sit-stand chairs to improve knee clearance when working <input type="checkbox"/> Clear out cut-outs if cluttered with supplies or equipment	
Lab Stools/Chairs					
11	Can the lab chairs be adjusted to accommodate all workers? a. Seat height appropriate for work at height of benches? b. Feet supported on floor, ring or footrest?			<input type="checkbox"/> Provide chairs with adjustable height and depth seats and backrests <input type="checkbox"/> Provide chairs with foot rings or provide footrests	
12	Are armrests adjustable or removable if they interfere with work?			<input type="checkbox"/> Adjust armrests to provide support with shoulders in neutral postures <input type="checkbox"/> Remove armrests	
13	Are appropriate footrests or foot rings provided?			<input type="checkbox"/> Provide industrial footrest <input type="checkbox"/> Install foot ring on chair <input type="checkbox"/> Install rail or platform	
14	Do employees know how to adjust chairs to suit their stature?			<input type="checkbox"/> Train employees on how to adjust chair	

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Lab Tasks					
Microscopes					
15	Can employees view the eyepiece with neutral neck, shoulder and back postures? (Neck flexion < 25°, shoulders relaxed, back upright and supported by chair)			<input type="checkbox"/> Reposition microscope <input type="checkbox"/> Adjust height <input type="checkbox"/> Adjust angle <input type="checkbox"/> Reposition worker <input type="checkbox"/> Adjust posture <input type="checkbox"/> Adjust seat height <input type="checkbox"/> Adjust seat angle	
16	Is the microscope positioned within easy reach of the worker? (Generally close to the edge of the workbench)			<input type="checkbox"/> Reposition microscope <input type="checkbox"/> Move closer to front of counter	

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				<input type="checkbox"/> Reposition worker <input type="checkbox"/> Adjust posture <input type="checkbox"/> Sit closer to bench	
17	Can the microscope be positioned to promote neutral head, neck, shoulders and arm postures when used?			<input type="checkbox"/> Reposition microscope <input type="checkbox"/> Use microscope adapters <input type="checkbox"/> Positioning plate <input type="checkbox"/> Ergo adapter <input type="checkbox"/> Scopease <input type="checkbox"/> Optical wedge <input type="checkbox"/> Extended eye tube <input type="checkbox"/> Eyepiece adapter <input type="checkbox"/> Use video system	
18	Are arms supported by worksurface, chair armrests, or pads for prolonged work?			<input type="checkbox"/> Use arm supports <input type="checkbox"/> Use pads <input type="checkbox"/> Adjust armrests <input type="checkbox"/> Adjust worker position	
19	Can the worker use the microscope controls with arms supported and relaxed?			<input type="checkbox"/> Reposition microscope <input type="checkbox"/> Use microscope adapters <input type="checkbox"/> Use arm supports/pads <input type="checkbox"/> Adjust armrests <input type="checkbox"/> Adjust worker position	
20	Are microscope work breaks provided?			<input type="checkbox"/> Institute work rotation <input type="checkbox"/> Institute work breaks <input type="checkbox"/> Reduce eye strain using 20/20/20 rule (every 20 min. look 20 feet away for 20 sec.)	
Pipettes					
21	Is manual pipette use limited to less than 4 hours per day?			<input type="checkbox"/> Institute work rotation <input type="checkbox"/> Institute work breaks <input type="checkbox"/> Consider use of alternative pipettes	
22	If pipette use is more than 4 hours per day, are multi-channel, electronic or latch mode pipettes available?			<input type="checkbox"/> Evaluate use of alternative pipettes <input type="checkbox"/> Electronic <input type="checkbox"/> Latch-mode <input type="checkbox"/> Multi-channel	

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23	Have employees been trained to select appropriate pipettes for pipetting task?			<input type="checkbox"/> Employee training	
24	Are racks, trays, beakers and supplies available and placed within easy reach?			<input type="checkbox"/> Provide racks and trays <input type="checkbox"/> Position supplies within close reach <input type="checkbox"/> Use pipette racks and organizers	
25	Are vials, tubes and receptacles as low profile as possible?			<input type="checkbox"/> Provide short beakers and vials <input type="checkbox"/> Provide short tips and tubes <input type="checkbox"/> Provide short/angled waste receptacles	
26	Do workers pipette with shoulders relaxed, and arms and wrists in neutral postures?			<input type="checkbox"/> Employee posture training <input type="checkbox"/> Adjust work position <input type="checkbox"/> Adjust workstation set-up	
Micromanipulation					
27	If forceps are used for prolonged periods, are locking mechanisms, O-rings or other adapted aides used to reduce prolonged or static pinch forces?			<input type="checkbox"/> Provide adapted tweezers/forceps <input type="checkbox"/> O-rings <input type="checkbox"/> Pads/foam grips <input type="checkbox"/> Self-closing <input type="checkbox"/> Low force tools <input type="checkbox"/> Alternate fingers/hands	
28	Are vials easy to cap and thread?			<input type="checkbox"/> Provide easy opening caps <input type="checkbox"/> Provide vials with minimal number of threads	
29	Are cap openers available?			<input type="checkbox"/> Provide decapping tools	
30	Are clamps and holders available to support test tubes and other materials that must be held for prolonged periods?			<input type="checkbox"/> Provide vial clamps <input type="checkbox"/> Provide racks, holders, shelves, or organizers	
Microtome/Cryostat					
31	Can workers operate the microtome with hands in a pistol grip position? (Wrist aligned with forearm and in handshake position)			<input type="checkbox"/> Re-position worker <input type="checkbox"/> Re-position height, angle or position of microtome <input type="checkbox"/> Employee training in work postures <input type="checkbox"/> Use foot operated controls <input type="checkbox"/> Modify handle position	
32	Do employees have access to a motorized microtome/cryostat for high intensity/volume work?			<input type="checkbox"/> Consider electronic cryostat for high volume workloads	

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Laboratory Hoods and Biosafety Cabinets					
33	Is leg, knee clearance available to promote neutral sitting postures when using the hood or cabinet?			<input type="checkbox"/> Clear knee area under cabinet or hood <input type="checkbox"/> Use sit/stand stool	
34	Can workers work with shoulders relaxed when sitting or standing?			<input type="checkbox"/> Consider height adjustable hood or cabinet <input type="checkbox"/> Use height adjustable stool/chair	
35	Are materials inside the hoods and cabinets as close as possible to the worker to avoid over-reaching?			<input type="checkbox"/> Position receptacles within close reach <input type="checkbox"/> Use turntables, rotating organizers, angled platforms	
36	Are vials, tubes and receptacles as low profile as possible?			<input type="checkbox"/> Provide low profile vials, tubes and receptacles <input type="checkbox"/> Angle receptacles to position within closer reach	

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Miscellaneous					
37	Are bottle dispensers and bottom dispensing carboys available to dispense liquids?			<input type="checkbox"/> Provide bottle dispensers <input type="checkbox"/> Provide bottom dispensing carboys <input type="checkbox"/> Provide bottles with handles	
38	Is there adequate and appropriate storage for supplies? a. Is sufficient space available for supplies? b. Are heavy bottles and boxes stored on low shelves?			<input type="checkbox"/> Provide storage for supplies <input type="checkbox"/> Place heavy items on shelves between knees and chest level	
39	Are jars easy to open or are jar openers available?			<input type="checkbox"/> Provide jar openers	
40	Are temporary platforms available for tasks that require elevating arms above chest level for prolonged periods?			<input type="checkbox"/> Consider standing platforms or elevated work areas (Consider safety issues and reduce fall risks before using)	
41	Are there adequate bins and racks for frequently used items?			<input type="checkbox"/> Provide bins, racks and shelves for frequently used items	
42	Have all lab members reviewed the SFU Lab Ergo Guide?			<input type="checkbox"/> Provide link to guide: https://www.sfu.ca/srs/work-research-safety/general-safety/ergonomics/Lab-Ergonomics.html	