



**EUROPEAN SAFETY WEEK
“LIGHTEN THE LOAD” CAMPAIGN -
PREVENTING MUSCULOSKELETAL DISORDERS**



NATIONAL HEALTH & SAFETY FUNCTION (NHSF), 2022

PREVENTING MUSCULOSKELETAL DISORDERS (MSD'S) IN LABORATORIES

Many activities performed in laboratories such as using pipettes, microscopes and centrifuges can potentially place workers at risk of muscle and joint aches and strains. Recognising and understanding the risk factors that contribute to the development of MSDs and implementing strategies to prevent them can reduce these injuries. The NHSF have developed practical guidance and useful tips on the management of MSDs and post injury rehabilitation which are available [here](#).



**Healthy Workplaces Campaign 2020-22
LIGHTEN THE LOAD**
Prevention and management of work-related musculoskeletal disorders



Risk factors to consider:

Forceful Exertion / Excessive Force

This can include pushing a pipette tip on to a pipette, pressing down to manually cap small tubes, lifting large beakers or heavy containers from floor to counter height all of which can increase the risk of injury.



Static Postures

Static fixed postures create muscle fatigue and can eventually cause a cumulative impact leading to discomfort, pain & injury. These postures can be experienced when using a fume hood and microscope.

Repetitive Tasks/Motions

There are many tasks in the laboratory that are highly repetitive such as pipette use, shaking liquids, removing, / replacing/rotating lids & caps, and pouring into vials/beakers. These repetitive tasks can lead to musculoskeletal injury.



Layout of Work Environment

Ensure your workspace is organised to allow for optimum workflow. This will help prevent unnecessary stretching and/or lifting, over-exertion, slips/trips/falls and accidental spills.

Planning your Manual Handling Activities:

Managers must carry out a [Risk assessment](#) in order to identify and quantify ergonomic risk.



Communicate and consult with employees at all stages of the process will ensure the nature of the work & potential hazardous activities are understood.



Implementation of appropriate changes in work practice and provision of relevant training and/or equipment.



Manual Handling: Follow the Principles of good Manual Handling as per [HSE's Manual Handling and People Handling Policy, 2018](#) and [Manual Handling Training](#).

Plan for a safe lift—TILE (Task, Individual, Load, Environment)

1. Consider where the lift is to take place and where the load is going
2. Test the weight. Is the lift within your capability, do you need help, is a mechanical aid available.
3. Is the load a hazardous substance? Consider PPE requirements such as lab coat, gloves & goggles.
4. Is the load an awkward shape, could the contents be hot/cold?
5. Check for obstructions & slippery floors



Equipment: Manual handling aids can reduce the risk of injury when used correctly and should be used where available. Consider the following:

- The use of an electronic pipette
- Four-wheeled trolleys (with adjustable height or lockable castors, if needed)
- Put heavy equipment such as chest fridges & freezers on (lockable) castors to make cleaning routines easier
- Adjust equipment to suit your needs



Microscope Use & Preventing MSD's

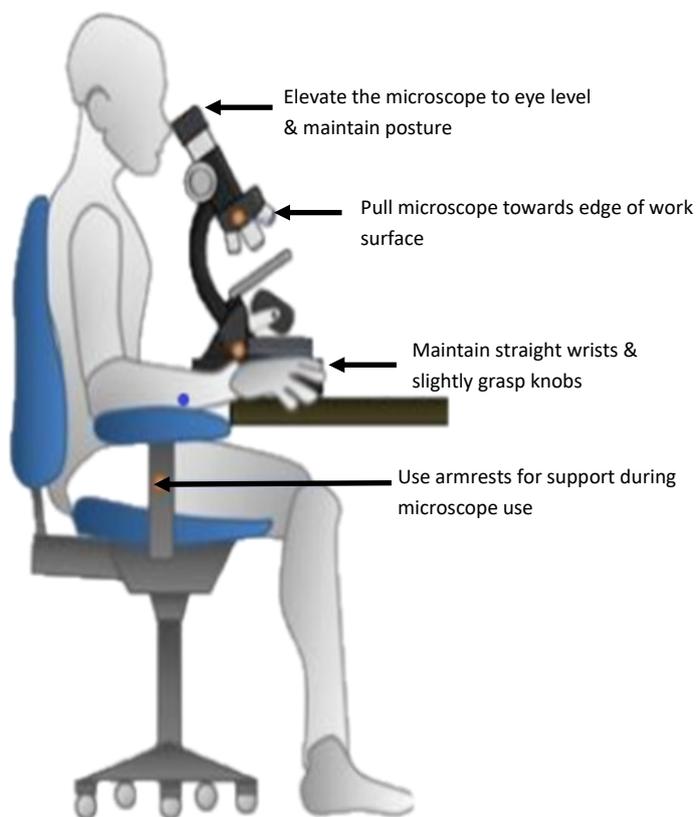
- Adjust your chair, workbench & microscope to maintain an upright head position
- Move the microscope close to the edge of the counter to avoid bending your neck
- Sit close to your work surface
- Remove material and supplies from under the bench work area
- Avoid leaning on hard edges
- Keep elbows close by your sides
- Work with wrists in straight, neutral positions
- Keep scopes repaired and clean
- Spread microscope work throughout the day and between several people, if possible
- Take breaks & alternate tasks
- Every 20 minutes, close your eyes or focus on something in the distance and don't forget to get up to stretch and move!!



TIPS FOR PIPETTING

- Hold the pipette with a relaxed grip, using minimal light pressure
- Avoid twisting your wrist while pipetting
- Alternate hands to pipette
- Practise task rotation
- Raise your seat rather than reaching up to pipette

Reminder— Good Posture During Microscope Use



Be Aware of Your Posture

- Sit against the back of your chair, adjust the height of your chair and use foot rests/rings for leg support
- Always try to work at a bench cut out. Cut outs can help you get close to your work while sitting against the back of your chair
- Adjust the position of your work, the work surface, or the chair to sit in an upright, supported position
- Keep frequently used trays and supplies within close reach
- If standing for long periods, use supportive shoes and cushioned mats
- Keep your shoulders relaxed and your elbows close to your sides when working
- Maintain neutral wrist and arm postures when working
- Avoid repetitive or forceful twisting and turning motions.
- Use gloves that fit properly. Ill-fitting and poorly designed gloves increase pinch and grip forces when working

CONTACT US



To log a request for health & safety information, advice or support please go to: <https://healthservice.hse.ie/staff/benefits-services/health-and-safety/health-and-safety-helpdesk.html>

Alternatively contact the National Health & Safety Helpdesk on 1800 420 420 between 10:30-12:00 and 14:00 – 15.30, Monday to Friday