Local Rules for Confocal Microscopes, Department of Medicine, e6, HLRI sites

NIHR Cambridge BRC Phenotyping Hub

Laser Safety Officer Simon McCallum 0787 2525 130
Laser Safety Advice Lisabeth Yates (Lisabeth.Yates@admin.cam.ac.uk), Health and Safety Division
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Description

These local rules cover the use of lasers embedded in the Leica confocal microscopes (Sp5 and SPE) in the BRC Cambridge NIHR Phenotyping Hub, Level 6, Addenbrooke's hospital.

Also the Zeiss 980 microscope housed in the HLRI.

They cover both normal use and maintenance and implement the University's laser safety policy at a practical level and form part of the University's duties under Section 2(3) of the Health and Safety at Work etc Act 1974.

These machines feature enclosed CW beams wavelength: 402 to 670nm. (Violet to farRed). Each is coupled to a confocal scanner, which moves the beam across the specimen, the laser light diverges rapidly after the specimen intercept and poses little risk.

Integral interlocks prevent users being exposed to any collimated beams either through the eyepieces or from the laser interrogation point

Authorised users

We specify two types of user: Maintenance user and confocal laser user, both require Hub induction and two machine specific training sessions. A list of registered users is kept in a blue folder in our JCBC office

Laser Controlled Area

There is no permanent laser controlled area. Access is limited by electronic card access provided after training
(i) Confocal Laser User

These are people who plan to use the instruments but not maintain them.

(ii) Maintenance User

Maintenance work that requires access to the laser path can only be undertaken by engineers from Zeiss and Leica and/or designated maintenance users: at present just Simon McCallum (LSO). It is occasionally necessary for authorised maintenance users and/or Leica engineers to disassemble these machines to alter the beam path (e.g. replacement of a laser). Laser goggles are available for all beams present but are not mandated. No metal watches or jewellery should be worn during exposed beam procedures.

A short table is available on the departmental internet site that lists the laser wavelengths of each machine along with plausible injuries from direct beam exposure.


Summary of Hazard

There is little hazard in the day-to-day use of the equipment.

Contingency plan

In the event of a suspected laser injury or emergency: Simon McCallum (LSO) 0787 2525 130 and Departmental Safety Officer: John O’Brien must be alerted. Power to the machine should be cut off. All suspected laser injuries should be investigated clinically.

User declaration

I have read and understand the above local rules
Name in print       Simon McCallum reviewed

13th March 2023

Date of next review    13th March 2024