DISABILITY ACCESS IN LABORATORY ENVIRONMENTS EQUIPMENT ACCESS ASSESSMENT

January 2026

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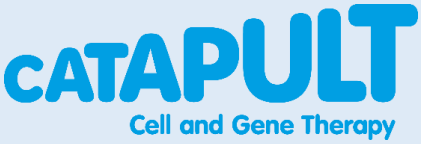

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Purpose of this Access Assessment

This access assessment focuses on assessing equipment in use in laboratory spaces. The equipment is not fixed in place. Please see the structural access assessment for lab structure, fixed furniture and fittings (hoods, benches etc) and chairs.

Associated DALE Documents

- DALE Main Report
- DALE Protocol
- DALE Structural Access Assessment

See edicaucus.ac.uk/dale to view and download.

Disclaimer

This access assessment is provided in good faith and is intended as an aid to good practice in accessibility. This assessment cannot replace sound judgement, professional care, or common sense. They should be read and applied in conjunction with appropriate standards, and all relevant local regulations, codes of practice, and laws.

This assessment constitutes a live document and may be subject to change in the future where the authors consider it appropriate in the light of new information or developments in the field of accessibility.

Comments and Corrections

We welcome comments and corrections on this assessment that will allow us to enhance the next version's quality and relevancy. If you have suggestions for changes, please email Dr Katherine Deane k.deane@uea.ac.uk

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Key location and contact information

1. Specify what piece of equipment is being assessed for access.
2. What is the name of the building and lab in which the equipment is located?
3. What are the operating hours of the building?
4. Is there a need for a card or key to access the building or room?
5. Provide contact details for:
    a. Person in charge of the lab
    b. Contact details for emergencies
    c. Who to contact for help in creating reasonable adjustments
    d. Who to contact for lab safety advice
    e. Who to contact for fire safety advice (PEEPs)
    f. Who to contact for security / out of hours concerns

Comments: _____

Lab Equipment Access

Equipment that sits on the bench or floor

Power switch

Is the equipment's power switch accessible? Is it large, easy to identify and operate. Is it at a suitable height (700-1000mm) and within reach of a wheelchair user (550mm from edge of bench). Is it clear of other controls? Is it easily reached (at the front or towards the front of the side of the equipment)? Is it clear whether the equipment is on or off (e.g. a lit switch, or lit up control panel etc)?

1. **Optimal Accessibility** - Yes, the power switch meets the criteria.
2. **Significant Barriers** – The power switch is towards the back of a side of a piece of equipment, is unclear if powered on, or the switch is small, or is too close to other controls.
3. **Critical Barriers** – The power switch is at the back of a piece of equipment or is at the wrong height or requires too long a reach. Or it has no colour contrast against the fascia. Or its signage is unclear.

Comments: _____

Control panel

Is the control panel accessible? Is it at an appropriate height (700-1000mm) and reach (550mm max). Is it placed so it can be viewed both by someone standing and someone seated? (This can be mitigated by control panels that can swivel to change their viewing angle). Are the colour contrast, lighting, and size of text and symbols sufficient for clear visibility? Can the buttons to adjust settings be easily used, have clear colour contrast, clear identifiers, and sufficient space around them. Do they have audio output? Many of these access challenges can be mitigated by control panels that connect with computers (etc) that have accessible screen technology to change the size, colour, contrast, lighting of the display and may also convert text to speech.

1. **Optimal Accessibility** - Yes, the control panel meets the criteria.
2. **Significant Barriers** – The control panel is at the right height and reach but may have controls that are sub-optimal to view or operate.
3. **Critical Barriers** – The control panel cannot be reached or viewed from a seated position. The buttons are too small to allow for any error in operation. Their identity, colour contrast power switch is at the back of a piece of equipment or is at the

wrong height or requires too long a reach. Or it has no colour contrast against the fascia. Or its signage is unclear.

Comments: _____

Flat screen control panels

Do the flat screens have adjustable lighting levels, good colour contrast, adjustable text size, and (if touch sensitive) adjustable size of buttons.

1. **Optimal Accessibility** - Yes, the flat screen control panel meets the criteria.
2. **Significant Barriers** – The flat screen has some adjustability in how the controls are presented (e.g. size of buttons).
3. **Critical Barriers** – The flat screen is dim, or has small size buttons, or fixed small text size, or poor colour contrast.

Comments: _____

Equipment Doors

Ease of use

Is the door's handle is D-shaped, a contrasting colour, and the door requires little effort to open (<30N)

1. **Optimal Accessibility** - Yes, the door is easy to open (meets the above criteria).
2. **Significant Barriers** – The handle is the right shape but not a contrasting colour.
3. **Critical Barriers** – The door is challenging to open (does not meet the criteria).

Comments: _____

Location of equipment

Floor equipment location

Equipment that is placed on the floor (e.g. fridges) needs to have sufficient space around it for the door to be opened by a wheelchair user, or for samples to be loaded into it. You need around 1500mm radius of free space around the zone of use.

1. **Optimal Accessibility** - Yes, the equipment is placed in a location that is easy to access and use.
2. **Significant Barriers** – The area around the equipment is too tight (1000-1500mm radius)
3. **Critical Barriers** – The equipment cannot be accessed from a wheelchair.

Comments: _____

Placement of equipment on benches.

Equipment on benches should be height adjustable (either the equipment or the bench). There should be a knee nook if you need to reach into the equipment so you can face it front on from a wheelchair. There should be sufficient space for a wheelchair user to approach the equipment.

1. **Optimal Accessibility** - Yes, the equipment is placed well according to the criteria
2. **Significant Barriers** – The area around the equipment is too tight (1000-1500mm radius) and/or not height adjustable.
3. **Critical Barriers** – The equipment cannot be accessed from a wheelchair.

Comments: _____

Loading equipment

Loading equipment covers a range of activities. For example, placing samples into a centrifuge, or using a pipette to load a sample into a port, or placing a flask into an incubator, or a bottle of media into a fridge. This needs to be able to be done from a seated position, with clear visibility of where things are being placed, with a maximum reach of 550mm horizontally, vertically between 380- 1150mm from the floor. Consideration should be made as to whether the sample can be loaded straight on (there is a knee nook) or has to be loaded from the side. The weight of the item being loaded should be as light as possible (3-5kg maximum for a two-handed lift). Obviously, some protocol variations may aid access e.g. space is allocated on a suitable height shelf for a wheelchair user. Please note that all of these criteria may be reduced due to specific impairments.

1. **Optimal Accessibility** - Yes, the equipment is easy to load.
2. **Critical Barriers** – The equipment is hard to load.

Comments: _____

Equipment lighting

Is your equipment adequately illuminated? This is particularly important on the inside of equipment where doors can block the room's lighting.

1. **Optimal Accessibility** - Yes, the equipment has good lighting in all areas of use.
2. **Critical Barriers** – The equipment has dark zones when in use.

Comments: _____

Equipment alarms

Does your equipment have dual alert alarms i.e. audible and visual modes? (This does not include fire alarms which are specified in the structural access assessment). Is the visual signal clear (e.g. a flashing light) and not dependent solely on a colour change (particularly green to red which will not be seen by colour-blind people). Other mitigations include audible alarms that activate a phone app that vibrates (for hearing impaired people), or alarms that send a SMS text message, or a signal to a computer which then sends an alert (email, SMS text message etc).

1. **Optimal Accessibility** – A dual alert alarm or the alarm only provides an audible or visual alert, but mitigations are in place to provide this information through other routes as described above.
2. **Critical Barriers** – The equipment alarm only provides a single sensory mode of alert, and no mitigations are in place.

Comments: _____

Noise Levels

Is the equipment noisy? Noise needs to be less than 45-55 dB for comfortable conversation to be possible. Workplace action is required over 80 dB, with limits around 87 dB (daily exposure) and 140 dB (peak), requiring employer action like hearing protection. Other considerations could be to place the equipment in a sound insulating box, on a vibration mat, or in a separate room which is only visited in person occasionally. Note that some disabled or neurodiverse people, can be particularly sensitive to noise levels or types of noise which may be below the legal limits. (The overall noise level of the lab is assessed in the structural access assessment).

1. **Optimal Accessibility** – Equipment is kept as quiet as possible (<55 dB).
2. **Significant Barriers** – Equipment produces between 55-80 dB of noise even after mitigations.
3. **Critical Barriers** – Equipment requires consideration of the use of hearing protection etc. (>80dB)

Comments: _____

Connectivity and Maintenance

Does the equipment allow connectivity with other equipment to display data and/or allow networked control of the equipment (e.g., alarms)? Ideally this connectivity is open-source.

1. **Optimal Accessibility -** Equipment supports full open-source connectivity
2. **Significant Barriers –** Equipment will only provide connectivity through manufacturer's bespoke systems.
3. **Critical Barrier -** Equipment is isolated.

Comments: _____

Cleaning the equipment

Does the equipment require much strength, dexterity, or coordination to dismantle it for standard cleaning or decontamination protocols?

- **Optimal Accessibility** - The equipment is designed for easy dismantling without excessive effort.
- **Significant Barriers –** The equipment has aspects that make it challenging to clean, e.g. dexterity is required to disconnect sections.
- **Critical Barrier** – The equipment requires significant levels of strength, or dexterity, or coordination to clean.

Handheld equipment

Weight of equipment

The equipment is low weight (0.1-0.4kg for one-handed use, 0.5-1kg for two handed use). NB this may still be too heavy for some impairments.

1. **Optimal Accessibility** - Yes, the equipment is lightweight.
2. **Critical Barriers** – No, the equipment is too heavy.

Comments: _____

Left- and right-handed

The equipment can be used with either hand, or is provided in left- and right-handed versions.

1. **Optimal Accessibility** - Yes, the equipment meets the criteria
2. **Critical Barriers** – No, the equipment is only available in a right-handed version

Comments: _____

Ease of use of control buttons

The control buttons on a handheld piece of equipment should be placed in an ergonomically suitable position with plenty of space around them. They should be simple and easy to activate. It should be easy to identify using contrasting colours and textures. They should not be tiny, flush, or overly sensitive buttons that require a very specific, sustained, or hard pressure to activate. The controls should not require complex motions or have small stiff latches to activate.

1. **Optimal Accessibility** - Yes, the buttons are easy to use
2. **Critical Barriers** – No, the buttons are challenging to use.

Comments: _____

Aiding steady hands

Are aids to enable staff to have a steady hand provided? For example hand and elbow rests, vibration mats etc.

1. **Optimal Accessibility** - Yes, appropriate equipment is provided to aid precision targeting.
2. **Critical Barriers** – No equipment is provided

Comments: _____