

OCDEM, Churchill Hospital, Oxford OX3 7LE

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## Local Safety Rules: Tissue Culture Rooms

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## 1 General

These Local Rules are supplementary to OCDEM SOP S0: Local Safety Rules: Clinical and Laboratory Work Containment Level 2, and OCDEM SOP S1: Laboratory Rules for the safe Handling of Blood, Body Fluids and other Human Tissues; both of which must be adhered to at all times when working in the laboratory.

## 2 Laboratory Rules

- Access to tissue culture rooms must be restricted to authorised persons who have received training for work in that laboratory. Access of unauthorised persons to the working area should be prevented to ensure that the person carrying out the work is free from the risk of disturbance with others.
- All lab coats worn in the main laboratory should be left outside and a clean green or blue lab coat should be worn at all times while in a tissue culture room.
- Equipment (such as pipettes, etc) is provided in the tissue culture rooms and equipment entering and leaving rooms should be kept to a minimum.
- Risk assessments and standard operating procedures for the safe conduct of the work must be written and approved, and strictly adhered to.
- Work should be conducted at a work station which is clearly identified; has sufficient space for working safely; is not cluttered and working practices are not compromised due to lack of space.
- A microbiological safety cabinet or other form of primary containment should be used for any procedure that may give rise to potentially infectious aerosols, for example, tissue homogenisation, vigorous mixing etc.
- Good basic hygiene practices, including regular handwashing, must be practised at all times.
- The use of glassware and sharps should be avoided.
- The bench surface and any equipment used should be decontaminated immediately on completion of a session of work.
- Equipment must be fully decontaminated prior to maintenance work. A signed statement should be issued to this effect before maintenance work is allowed.
- You must adhere to Good Laboratory Practice and Good Aseptic Technique for cell culture at all times.

## 3 Good Aseptic Technique and Containment

Cell and tissue culture systems involve the use of both good aseptic technique and containment. Often these terms are misused and misunderstood. The simplest way of describing them is as follows:

- Good aseptic technique is used to keep the cells or tissue being handled in the "test tube" without any other micro-organisms getting in and contaminating the work.
- Containment is also used to keep the cells or tissues being handled in the "test tube" but the main objective is to ensure that if any did get out of the "test tube" (either by accident or when the work is finished) they are unlikely to present a danger to laboratory workers and they do not get out of the laboratory.

## 4 Disinfection

- Disinfectants should be used in accordance with the OCDEM disinfection policy: OCDEM SOP S4: Disinfection in Containment Level 2 Areas.
- Suitable disinfectants, concentrations and contact times should be specified for work involving human blood and/or other tissues, microorganisms and pathogens.
- The preferred disinfectant is Virkon. For surface disinfection 70% alcohol is permitted but some micro-organisms will require the use of a quaternary ammonium compound and a biguanide or chlorine dioxide (fungal spores can be particularly resistant to disinfectants).
- All surfaces should be disinfected immediately following any spillage, at the end of each working session and before any maintenance or cleaning staff are permitted to work in the tissue culture rooms.

## 5 Waste disposal

- OCDEM SOP S3: Waste Disposal, gives information about the available waste streams within OCDEM.
- All waste generated in the tissue culture rooms must be disposed of in the appropriate bin via the clinical waste stream.
- Serological pipettes and pipette tips must be placed in a yellow burn bin or a Bio bin. These bins should be disposed of regularly and not over-filled.
- Non-sharp waste must be placed in the orange, clinical waste bags.
- Sharps, eg. needles, must be disposed of in sharps bins.
- Any hazard group 2 and waste generated from genetic modification work must be autoclaved or treated with Virkon prior to disposal.

## 6 Emergency procedures

### 6.i Spillages

- Spillages of blood, tissue and pathogens must be cleaned up and disinfected as outlined in OCDEM SOP S4: Disinfection in Containment Level 2 Areas.

### 6.ii Puncture wounds

- Follow instructions in [OHS 1/15 Sharps, Splash & Bite Injury Policy](#) and the flow chart in Appendix 1, a copy of which is posted in laboratories.
- Briefly:
  - Puncture or other wounds should be encouraged to bleed gently under cold, running water, using soap.
  - Wounds must not be sucked, squeezed or scrubbed because this may cause tissue trauma and encourage the spread of infection.
  - Wounds should be covered with a dry dressing.
  - Fill in an accident report form and notify Occupational Health.

### 6.iii Splashes to the eye

- Splashes to the eye should not occur as the wearing of safety spectacles is a mandatory requirement, but in the event of such an occurrence wash the eye thoroughly under running water for at least 10 minutes. Fill in an accident report form and notify Occupational Health.

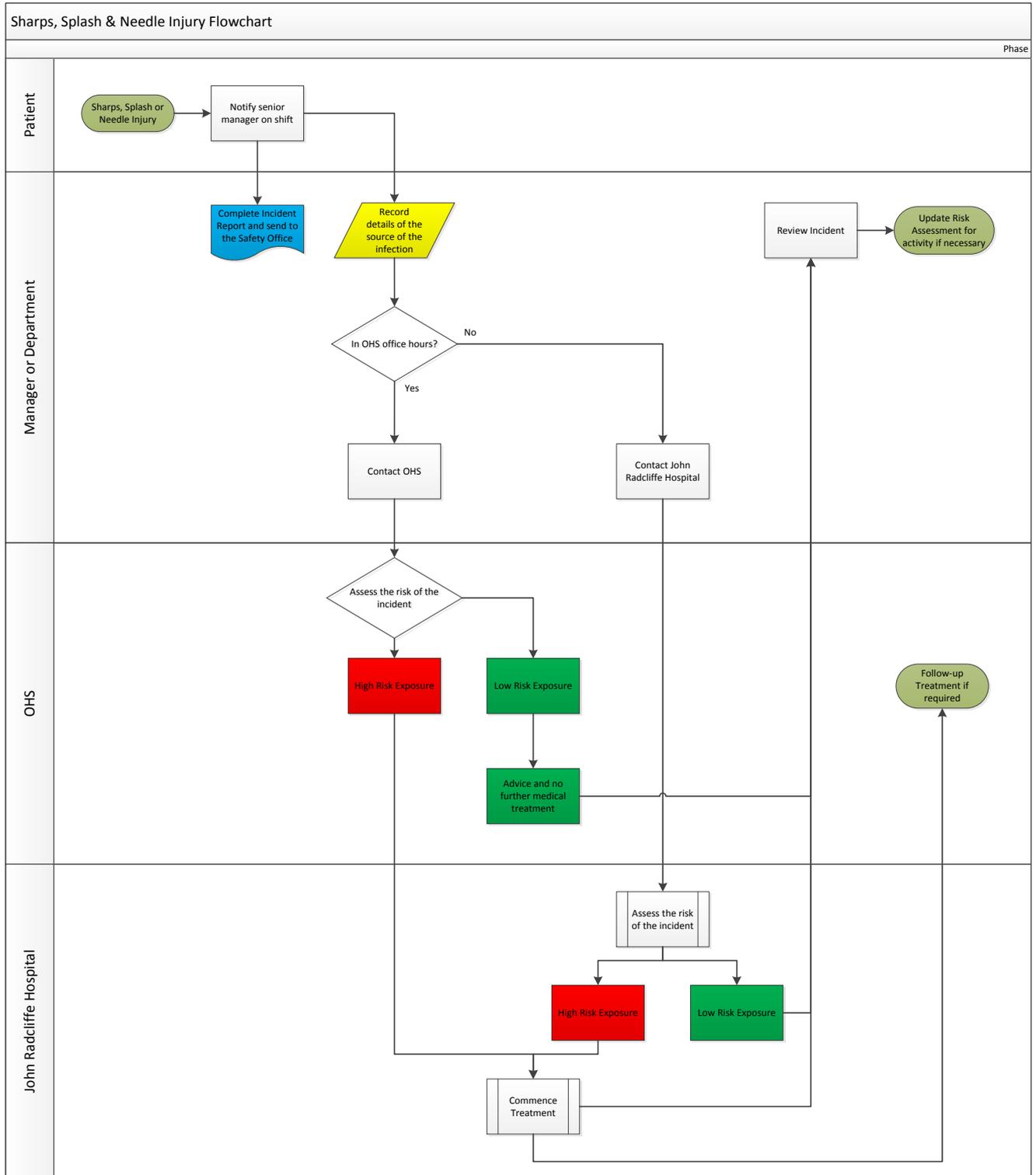
#### **6.iv Fire Alarm**

- If the fire alarm sounds whilst working in the tissue culture rooms make your work 'safe' as quickly as possible; leave the building by the nearest fire exit, as instructed in the OCDEM Fire Policy.

### **7 Cleaning and Housekeeping**

Domestic staff are not permitted access into all of the tissue culture rooms in OCDEM. In those rooms where access for domestic staff is not allowed all cleaning has to be undertaken by the users. Appendix 2 contains guidelines on the cleaning duties and frequency required in tissue culture room F45; other tissue culture rooms would require a similar cleaning regime.

# Appendix 1



## Action to be taken following Sharps, Splash or Bite Injury with exposure to potentially infectious material



Report the incident to the senior person on duty. Ensure you have details of the potentially infectious material source and contact details for the individual(s) affected.

If there is no exposure to infectious material, proceed to Step 3, otherwise:

Contact Occupational Health Services (OHS) immediately on:

**01865 (2) 82676** or **07856 262335**

*(OHS hours are 08:30 to 16:30 Mon-Thurs & 08:30 to 15:30 Fri)*



Complete an accident report and send to the University Safety Office

Always inform the OHS of the incident, if no initial contact is established, by the next working day so that any necessary follow up health surveillance and support can be initiated.

Details of the source of the potentially infected material should be retained, including patient details if available, to facilitate any necessary follow up.

## Appendix 2

### Cleaning of the F45 Tissue Culture Room

*The F45 tissue culture room is not cleaned by the domestic staff and therefore it is the responsibility of the users to ensure the room is suitably cleaned.*

#### 1 Daily Cleaning Duties

##### 1.i Cleaning and maintenance of the microbiological safety cabinets

Before any work is carried out in the microbiological safety cabinets they must be wiped down with 70% IMS. Any spillages must be cleaned up immediately with a 1% Virkon solution. Upon finishing, all equipment should be emptied from the cabinet. **There should be nothing left in the cabinets when they are switched off.** The cabinets should then be wiped down with 70% IMS before they are closed. There is a weekly log for cabinet performance attached to cabinet 1 any problems with the running of the cabinets should be recorded here.

##### 1.ii Disposal of contaminated material

Contaminated plastic ware and other materials should be disinfected in a 2% Virkon solution overnight. The Virkon bucket should be emptied and cleaned the following day and any waste disposed of correctly.

##### 1.iii Waste disposal

When bins with orange bin liners are full the bags should be tied and placed in the waste room by the washing up area. When yellow "limb" bins are  $\frac{3}{4}$  full they must be sealed securely and labelled with the users initials and the date and then placed in the waste room for collection.

#### 2 Weekly lab clean

2.i All users of the tissue culture room are allocated to a cleaning team. Cleaning teams are responsible for organising the weekly lab clean every third week. It is recommended that the room is cleaned at the end of the week at a time when the room is not in use. The cleaning rota is displayed on the door to the tissue culture room F45.

Duties include:

**Tidy away clutter**

**Empty bins**

**Wipe down surfaces with antifungal disinfectant**

**Restock consumables**

**Mop the floor**

**Replace sticky floor mats**

2.ii Additional duties (these are monthly duties which are incorporated into the weekly lab clean):

- **cleaning the waterbath** - empty the water and refill with ELGA water and Sigma waterbath treatment solution
- **laundry** - all green lab coats in use should be placed in laundry bags with a completed form stating the number of lab coats, the user's name and a contact number. A receipt should be pinned to the pin board by the laundry bin in the main lab. The full laundry bags should be placed outside the door to the CRU for collection. New lab coats should be placed on the pegs in the tissue culture room. If there are no new lab coats in the lab you will have to visit the laundry room and collect them.

### **3 Fortnightly Cleaning Duties**

#### **3.i Cleaning and maintenance of the CO<sub>2</sub> incubators**

CO<sub>2</sub> incubators should be cleaned every 2 weeks by the individuals using them. All cell cultures should be placed in a microbiological safety cabinet while the incubator is being cleaned. The incubator should be cleaned with antifungal disinfectant. All removable fittings should be taken out of the incubator and wiped down with antifungal disinfectant. The water container should be emptied and cleaned and refilled with autoclaved water.

**Review History**

<b>Version</b>	<b>Date</b>	<b>Reason for update</b>	<b>Updated/reviewed by:</b>	<b>Date next review due</b>
1	Sep 2010	New SOP	Author: SMH/KP	Sep 2012
1.1	July 2013	New Header added – no other changes	SMH	July 2015
2.0	14 Jul 2015	Head of Department and TOC added – Appendix 1 info from OHS updated	SMH	July 2017