Minutes of the 21st meeting of the Biosafety Committee of the University of Hong Kong. (A sub-committee of the Health, Safety and Wellbeing Committee).

The 21st meeting was held at 10am on 23rd October 2019 in room 412, Professorial Block, Queen Mary Hospital.

Present: Professor K.S-L. Lam Chairman, Dr E.K.M. Hau Safety Office Rep, Dr. Dewi Rowlands LAU, Dr K.O. Lai Biomedical Sciences Medical Faculty Rep, Mr Fai Ng Microbiology Senior Technical Staff Rep, Dr. M.K. Cheung University Health Service Director, Dr. Paul Hunt Secretary, Safety Office (University Biological Safety Officer)

Apologies:

Dr Hani El-Nezami School of Biological Sciences Science Faculty Rep

1. Membership and Terms of Reference

The terms of reference of the Biosafety Committee were considered and it was decided to introduce a quorum for the meeting of a minimum of 5 members plus the chair. It was also decided that as the committee was created to represent the interests of a wide variety of stakeholders, if a committee member was unable to regularly attend meetings there was a risk that the interests of parts of the University were not being fairly represented. As a result it was decided that if a member did not attend three consecutive face to face meetings a new representative of the same stakeholders would be invited to replace them. The secretary was asked to write to committee members to advise them of this change in policy, and to enquire if any existing members no longer wished to serve on the committee. A revised terms of reference for the committee reflecting the new situation will be circulated with the draft minutes.

BSC-21-01
BSC-21-02

Action Dr. Hunt

2. Minutes of the 20th meeting of the Biosafety Committee (May 2019, By circulation)

The draft minutes of 20th meeting of the Biosafety Committee (by circulation) were accepted as an accurate record after the correction of a typo regarding the date of the 19th meeting.

BSC-21-03

3. Matters arising from the minutes of the 20th meeting (action points etc.)

Item 4, Safety Audit Programme

Safety Office is initiating a University wide audit programme using the HASMAP methodology. This will be an extension of the existing departmental safety inspections, and will gather additional formal evidence regarding the operation of safety management systems. Audit outcomes will be reported anonymously to the Committee of Health Safety and Wellbeing, with individual departments receiving a report (with suggestions for improvements) which will include their audit score and relative ranking within the University. At the time of writing two audits have been completed and initial meetings with other departments have taken place or are being arranged.

4. Updated guidance documents

Amendments to the guidance documents on Adenovirus and Adenovirus-derived vectors and on Retrovirus and Retrovirus-derived (lentivirus) vectors were presented for comment.

The Adenovirus document update was to correct contact details and to update some minor background details of the system.

BSC-21-04

The Retrovirus document is a more substantive change in the light of a report of a lab acquired HIV infection in a researcher working in a European laboratory and the frequent of use VSV-G pseudotyping of lentiviral vectors in HKU. The use of VSV-G pseudotyping is thought a likely contributory factor to the lab acquired infection reported in the European laboratory. Changes to the prompts of the associated risk assessment form (RA3) have also been made. It was suggested that the key new section of the retrovirus guidance document was highlighted as a contrasting information box of the type used elsewhere in the document.

BSC-21-05
BSC-21-06

Dr. Hunt will amend the guidance document and write to heads of department to bring the revised guidance to their attention

Action: Dr. Hunt

As three documents have been revised an updated schedule for all biosafety document review was adopted.

BSC-21-07

5. Update on safety training

On-line assessment of safety induction training has been successfully used with research postgraduates in the Faculties of Medicine, Engineering and Science, and Undergraduates in the Faculty of Engineering. An example of the outcomes of the most recent assessment of Faculty of medicine postgraduates was presented to the committee. A number of

students required more than one attempt to achieve 80% pass mark. This demonstrates that they are needing to engage with the training material to successfully complete this.

6. Health Surveillance

A review of health surveillance arrangements for named workers on CULATR approved projects is underway, in conjunction with UHS and the LAU. While it is recognised that health surveillance for laboratory animal allergy will continue to be essential for all workers with contact with animals, health surveillance for potential exposure to other risk factors such as carcinogens and cytotoxic materials is also taking place. It is important that this process is organized efficiently.
Health surveillance is an essential control if workplace conditions are such that exposure to hazards cannot be avoided, and surveillance can potentially identify early signs of ill health. However it is in principle much better practice to take steps to prevent exposure in the first place if this can be achieved. There is concern that in some cases workers are engaged in health surveillance because their work involves a potential hazard, rather than because their work is likely to result in exposure to the hazard if best practice is followed. It is the safety office view that the emphasis should be on preventing exposure rather than assuming exposure is inevitable and undertaking surveillance to mitigate any adverse consequences. This is in part because failure to follow best practice may expose others who share the workplace to the hazard, even though it does not form part of their work program. Surveillance should take place if exposure cannot be avoided or if the individual concerned is at enhanced risk from the hazard in question compared to normal, healthy individuals.
An assessment of whether exposure is preventable by reasonably practicable means is a health and safety assessment based on the techniques being used rather than a medical assessment. It is proposed that safety office will review CULATR proposals (where more than exposure to laboratory animals is involved) to consider whether exposure to hazardous materials can be entirely avoided by reasonably practicable means. In this context advice will be provided as to whether health surveillance (over and above surveillance for exposure to lab animals) is advisable. Exposure to lab animal allergens cannot be entirely prevented by work practices so all animal workers will continue to undergo this form of health surveillance.

The committee supported the proposed change in approach and improved targeting of health surveillance.

7. Changes to safety assessments submitted as part of proposals to CULATR.

The Laboratory Animal Unit is introducing an electronic TickLab system for administering the review of proposals submitted to CULATR. This includes a safety assessment section. It is proposed that those preparing proposals will be asked to declare whether their project involves any specified hazards. This will include a question on whether N95 respirator usage is planned. If so they will be required to submit supporting

documents such as risk assessments or protocols. A list of risk category prompts to be presented by the TickLab system for those preparing CULATR applications was circulated and agreed by the committee.

BSC-21-09

8. Oversight of GOF experiments involving "Enhanced Pathogens of Pandemic Potential (EP3)

One project proposal has been considered and approved under this framework. It was concluded that the project did not involve creation of an enhanced pathogen.

The opinion of an external expert familiar with journal editorial policies was sought on the proposed HKU internal oversight mechanism. American Society of Microbiology (ASM) journals already have their own enhanced oversight mechanism for considering manuscripts submitted to them that potentially involve this kind of research. To date (July 2019) the mechanism has never been activated. The editor of an ASM journal would not feel obliged to respect the decision of a HKU internal review board, and would prefer to exercise their own judgement and if necessary use their existing oversight mechanism. However the external expert was of the view that the evidence considered by the internal HKU mechanism would potentially be helpful to an ASM journal in reaching its own independent decision about a manuscript. HKU was encouraged to continue to use its internal mechanism and provide the supporting evidence it used to reach its decision when submitting manuscripts for consideration. Furthermore, a manuscript involving EP3 research may potentially be submitted to a non-specialist microbiological journal which may not have developed an oversight mechanism of its own. In this context providing details of the HKU internal mechanism alongside the manuscript may also be useful.

9. AOB

The following item was requested to be raised by Dr. Dewi Rowlands, Head of the LAU.

Prophylactic immunization against tetanus for animal workers

In the absence of other factors, tetanus is widely present in the environment. The tetanus bacillus forms spores that can be found in soil and house dust, and in animal and human faeces. The spores remain viable for years in the environment and are resistant to boiling and freezing. The risk only becomes manifest in certain circumstances, such as wounds which penetrate the skin or contamination of existing wounds. There is a positive association with rusty sharps such as nails or blades, either because the rust provides increased surface area for the spores to occupy or because the iron provides a local anaerobic environment that is supportive.

LAU staff are at increased risk of tetanus not because of the animals as a source but because of their increased likelihood of receiving skin penetrating wounds such as bites. Researchers are at less risk if they do not have the same likelihood of sustaining skin penetrating injuries as LAU staff. However, there is a spectrum of risk for the

researchers, as some are engaged in projects that involve multiple invasive procedures eg. creating a tumour model by injection followed by injection of experimental treatments, analyzing the results by necropsy. In other cases much less interaction with the animals is required.

The question arises as to whether the risk of tetanus exposure for animal researchers is sufficient to justify a requirement for prophylactic immunization, bearing in my that rapid post exposure immunisation is also available after a bite or similar injury occurs.

Dr. Hunt will write to Prof. Ivan Hung for his opinion on the risks and benefits of prophylactic versus post exposure vaccination for tetanus for animal researchers.

Action: Dr. Hunt

10. Dates of next meeting.
The 22nd meeting will be held by e-mail circulation in May 2020. Committee members are encouraged to contact the secretary if they have any items they wish to be considered on the agenda.

Dr Paul Hunt
Secretary to the University Biological Safety Committee
9th October 2019