COMMUNICABLE DISEASES AND IMMUNISATION GUIDELINES

For Staff, Visiting Research Scientists, Higher Degree Research Students, Honours Students and Visiting Research Students at Risk of Occupational Exposure to Vaccine-Preventable Diseases.

IBC-CDIG-3

INSTITUTIONAL BIOSAFETY COMMITTEE

The University of South Australia recognises its responsibility to make available appropriate immunisation to employees, Higher Degree Research Students, Honours students, visiting research scientists and visiting research students, who are potentially at risk of occupational exposure to vaccine-preventable diseases. The Institutional Biosafety Committee supports the NHMRC immunisation guidelines, The Australian Immunisation Handbook and the Australian and New Zealand Standards for Microbiological Safety and Containment, AS/NZS 2243.3. For the purposes of these guidelines, communicable diseases include those that are potentially caused by exposure to human or animal blood, tissue, excrement or body fluid products, soil, unaged compost, pathogenic bacteria, prions, parasites or viruses. Development of some communicable diseases is preventable by appropriate immunisation.

The areas in which there is an increased risk include personnel who work with:

- Human blood, tissue, bodily fluids or excrement
- Animal excrement
- Either non-laboratory or laboratory animals
- Pathogenic bacteria, viruses, prions or parasites
- Grounds staff, cleaners, plumbers and security staff where there is a risk of needle-stick injury and/or exposure to any of the above

The University promotes continual assessment of the risk of exposure to communicable diseases; prompt identification of employees, students, contractors and visitors potentially at risk; and provision of relevant information and training.

All employees, Higher Degree Research Students, Honours students, visiting research scientists and visiting research students shall be advised of the risk of occupational exposure to microorganisms to which they may not be immune. Advice must be given during both facility and project induction. In addition, notification must be given to personnel sharing facilities and equipment used for Risk Group 2 microorganisms, genetically modified microorganisms or primary samples which potentially could contain infectious microorganisms.(3) The University recommends that all employees, students and others at risk of exposure or at risk of exposing others to communicable diseases are aware of their immune status.

In addition to the general recommendations, members of certain occupations are strongly advised to follow the Australian Immunisation Handbook Immunisation Schedule. Most vaccines are readily available from general practitioners. Some other immunisations may be ordered at the UniSA Health Medical Clinic, while others, such as *vaccinia virus* vaccination, may require specialist practitioners.

The Australian Immunisation Handbook, (10th Edition), states: "Where workers are at significant occupational risk of acquiring a vaccine-preventable disease, the employer should implement a comprehensive occupational vaccination program, which includes a vaccination policy, current staff vaccination records, provision of information about the relevant vaccine-preventable diseases, and the management of vaccine refusal (e.g. reducing the risk of a healthcare worker transmitting disease to vulnerable persons). Employers should take all reasonable steps to encourage non-immune workers to be vaccinated. There is no absolute contraindication to vaccination in pregnant women (2). Pregnant, breastfeeding and immune-compromised personnel should be given the opportunity to avoid specific high risk procedures." (1, 2)

"Standard precautions should be adopted where there is risk of occupational exposure to blood and body fluids. Preventive measures include the appropriate handling and disposal of sharps, the donning of gloves when handling body fluids, and the use of goggles/face shields when splashes are likely."

"If a non-immune person is exposed to a vaccine-preventable disease, post-exposure prophylaxis should be administered where indicated". (2)

Immunisation Schedule

Table 1 lists the current recommended vaccinations for persons at risk of occupationally acquired vaccine-preventable diseases.

Occupation	Vaccine
Laboratory or Healthcare Workers who work with human material	
Personnel directly involved in patient care or the handling of human tissues, blood or body fluids	Hepatitis B Influenza MMR (if non-immune) Tetanus (dTpa) Varicella (if non-immune)
Personnel who work in remote Indigenous communities or with Indigenous children in NT, Qld, SA and WA, and other specified healthcare workers in some jurisdictions	Hepatitis B Influenza MMR (if non-immune) Tetanus (dTpa) Varicella (if non-immune) Hepatitis A
Personnel who may be at high risk of exposure to drug-resistant cases of tuberculosis (dependent on state or territory guidelines)	Hepatitis B Influenza MMR (if non-immune) Tetanus (dTpa) Varicella (if non-immune) BCG
Personnel in regular contact with untreated human sewage	Hepatitis B Influenza MMR (if non-immune) Tetanus (dTpa) Varicella (if non-immune) Hepatitis A

Persons who work with children	
All persons working with children	Influenza MMR (if non-immune) Tetanus (dTpa) Varicella (if non-immune)
Staff working in early childhood education and care	Influenza MMR (if non-immune) Tetanus (dTpa) Varicella (if non-immune) Hepatitis A Whooping Cough
Persons who work with infectious microorganisms	
Personnel routinely working with these organisms: *Bacillus anthracis* *Vaccinia poxviruses* *Poliomyelitis virus* *Salmonella enterica* subspecies *enterica* serovar Typhi (*S.* Typhi) *Yellow fever virus* *Neisseria meningitidis* *Japanese encephalitis virus* Seasonal *Influenza Virus*[#]	 Anthrax Smallpox Poliomyelitis (IPV) Typhoid Yellow fever Meningococcal vaccine (4vMenCV) Japanese encephalitis Influenza
Persons who work with animals or animal tissues, fluids or excrement	
Personnel working with animals	Tetanus (dT or dTpa) MMR (if non-immune)
Personnel handling bats (both 'flying foxes' and microbats), bat tissues or lyssaviruses (including rabies virus and Australian bat lyssavirus)	Tetanus (dT or dTpa) MMR (if non-immune) Rabies
Personnel handling poultry including chickens and ducks and pigs	Tetanus (dT or dTpa) MMR (if non-immune) Influenza
Personnel handling farm animals cattle, sheep, goats, kangaroos, bandicoots or camels	Tetanus (dT or dTpa) MMR (if non-immune) Q fever
Veterinarians	Tetanus (dT or dTpa) MMR (if non-immune) Influenza Q fever Rabies

[#]University of South Australia provide free influenza vaccine for staff

Table 1: Recommended vaccinations for persons at increased risk of certain occupationally acquired vaccine-preventable diseases

Vaccination of Undergraduate Students Undertaking Clinical Practicum

All undergraduate students attending clinical practicum must be immunised in line with the Vaccination Recommendations of the Immunisation Guidelines for Health Care Workers in South Australia http://i.unisa.edu.au/students/health/cpu/responsibilities/immunisation/

This document should be read in conjunction with, Clinical Placement Unit immunisation information http://i.unisa.edu.au/students/health/cpu/responsibilities/immunisation/ .

Undergraduate students intending to undertake clinical practicum must consult with the Clinical Placement Unit.

Undergraduate students are responsible for costs associated with immunisation.

Vaccination of Staff and Students Travelling Overseas

Staff and students travelling overseas on official University business should complete a Study Tour / Study Overseas Risk Management form, WHS74. If vaccination is indicated medical advice should be sought at least six to eight weeks before departure.

Students should seek advice from their academic supervisor. Undergraduate students are responsible for costs associated with immunisation. The cost of vaccination of Higher Degree Research students travelling overseas is normally covered by student resources funding.

Before Vaccination

Before commencing vaccination, personnel must seek authorisation from their Line Manager.

Line Manager Responsibilities

In summary, Line Managers will:

- Assess the risks, risk minimisation strategies and the need for vaccination.
- Submit an application to the Institutional Biosafety Committee to work with biological hazards and assessment of required vaccinations.
- Establish with personnel, an agreed timeline for completion of vaccination. And follow-up if the agreed timeline has passed without a signed and stamped vaccination form (IBC-8) has not been returned to them.
- Authorise the funding of approved vaccinations and provide personnel with the appropriate forms.
- Keep records of vaccination of persons under their direct supervision.
- Send a copy of signed and stamped vaccination form to Head of Operations in line with Academic Unit, Institute or Centre policy.

Services/Operations Manager Responsibilities - technical, contract and professional staff

Services/Operations Managers are responsible for risk minimisation for the technical, contract and professional staff under their direct supervision. Services/Operations Managers also have an important role in the biosafety of personnel working in laboratories which they manage.

Laboratory Induction

Facility induction of technical, contract, professional and research staff and students, must include informing the inductee of the risks of occupational exposure to pathogens and any recommended available vaccinations.

Laboratory Risk Assessment

If a research project involves organic matter, wild animals or Risk Group 2 micro-organisms, Research Leaders will complete an IBC Biohazard Application form. As part of that application the Research Leader seeks the approval and signature of a Services/Operations Manager, to approve the use of a facility. Section 5 of the application will indicate any recommended vaccinations. If vaccinations are recommended then the Services/Operations Manager should complete an IBC-7 Risk Assessment form to assess the risks and possible vaccination requirements for their staff and contractors. If the IBC recommends vaccinations for research staff and students, then there is a small chance that the same vaccinations will also be recommended for laboratory staff and contractors.

Managers should submit the completed IBC-7 form to the IBC (biosafety@unisa.edu.au) for review. The IBC will review the risk assessment and make recommendations for vaccination.

Administration

If the IBC recommends vaccination, the Chair of the IBC will contact the Services/Operations Manager to discuss the risks and recommendations.

Services/Operations Managers give laboratory support staff requesting or declining vaccination the following forms:

1) IBC-8_Vaccination Form
2) Finance FS32 form (If personnel are using the services of UniSA Health Medical Clinic. The FS32 form will be used by the clinic to invoice the University directly.)

Persons seeking vaccination from their General Practitioner do not need to take a FS32 form to their GP.

Payment for vaccination of Laboratory Support Staff should be covered by the Academic Unit, Institute or Centre.

Services/Operations Managers and staff should agree on a timeframe for which the completed, and GP stamped, IBC-8 form should be returned to the Services/Operations Manager. If a completed IBC-8 form is not received by the Manager within the expected timeframe the Manager should follow-up the staff accordingly.

Once the completed and stamped IBC-8 vaccination form is returned by the facility staff, the Services/Operations Manager should:

- Sign the IBC-8 form to indicate they are aware of vaccination or declination
- Make a record of vaccination or declination.
- Send a copy of signed and stamped vaccination form (declined or completed) to Head of Operations in line with Academic Unit, Institute or Centre policy.

Research Group Leader Responsibilities - Higher Degree Research and Honours students, researchers, and visiting students and scientists

Research Group Leaders are responsible for ensuring the research staff, Higher Degree Research students, Honours students and visiting students and scientists under their direct supervision are offered vaccinatation against the immunisable pathogens and toxins to which personnel will be expose during the research project.

Research Leaders must be mindful of likely vaccination requirements and costs when planning for research projects and apply for funding.

Research Leaders must apply to the IBC for approval to work with wild type Risk Group 2 biological material or microorganisms (potential or actual) on IBC-4 form, or a Genetically Modified Organism on IBC-2 form. As part of that review the IBC may recommend vaccinations.

Administration

If the IBC recommends vaccination, the Chair of the IBC will contact the Research Leader to discuss the risks and recommendations.

Research Leaders should give research personnel requesting or declining vaccination the following forms:

1) IBC-8_Vaccination_Form
2) Finance FS32 form (If personnel are using the services of UniSA Health Medical Clinic. This form will be used by the clinic to invoice the University directly.)

Persons seeking vaccination from their General Practitioner do not need to take a FS32 form to their GP.

Research Leaders and research personnel to be vaccinated should agree on a timeframe for which the completed, and GP stamped, IBC-8 form should be returned to the Research Leader. If a completed IBC-8 form is not received by the Research Leaders within the expected timeframe the Research Leaders should follow-up the personnel accordingly.

Once the completed and stamped IBC-8 vaccination form is returned by the research staff or student, the Research Leader should:

- Sign the IBC-8 form to indicate they are aware of vaccination or declination
- Make a record of vaccination or declination.
- Send a copy of signed and stamped vaccination form (declined or completed) to Head of Operations in line with Academic Unit, Institute or Centre policy.

Declining Vaccination

The University respects the rights of personnel to decline vaccination.

There are a number of reasons why people would be medically advised, or personally decide, to decline vaccination:

- Permanent medical contraindication to vaccination (e.g. HIV positive)
- Temporary medical contraindication to vaccination (e.g. Pregnancy)
- Declining of vaccination for religious reasons

Personnel should discuss the reason for declining vaccination in confidence with a medical practitioner. Personnel are not required to disclose the reason for declining vaccination to Services/Operation Managers, Research Leaders, Safety & Wellbeing Team or the IBC, unless required by law. However, to manage risks, Services/Operation Managers and Research Leaders, need to be informed if personnel are not immunised against pathogens of concern, and implement risk minimisation strategies to protect the unimmunised person.

If vaccination is declined by the staff member, the Services/Operations Managers or Research Leader should still give the declining person an IBC-8 form. If the person is attending UniSA Health Medical Clinic the Line Manager should also give them a Finance FS32 form.

The declining person should:

- Seek confidential counsel with UniSA Health Medical Clinic or their GP regarding the reason or contraindication against vaccination.
- Take an IBC-8 and, if attending the UniSA Health Medical Clinic, a Finance FS32 form, when seeking counsel.
- Ask the medical practitioner to sign and stamp forms.
- Return the completed and doctor stamped forms to their Line Manager.

Line Managers should:

- Sign the IBC-8 form to indicate they are aware of declination.
- Make a record of IBC-8 Vaccination Form and declination.
- Send a copy of signed and stamped vaccination form to Head of Operations in line with Academic Unit, Institute or Centre policy.
- Work with personnel to design a management strategy

The management strategy may include any of the following:

- Prohibiting non-vaccinated person from being involved in that project or working in the facility.
- Permit non-vaccinated person to work on the specific project or facility, under the standard operating procedures.
- Permit non-vaccinated person to work on the specific project or facility with altered or limited work practices.
- Offer the non-vaccinating person counselling.

A person who declined vaccination for a reason that was temporary in nature will be contacted at a later date by Services/Operation Manager or Research Leader to again offer vaccination.

Incomplete Vaccination or Non Seroconversion

Vaccinating doctors will record on the IBC-8 vaccination form if the vaccination schedule is incomplete or seroconversion has not occurred. This form should be returned to the Line Manager of the person undergoing vaccination.

As above, the Line Manager should sign the IBC-8 form to declare that they are aware of vaccination status, record the vaccination status of personnel, and forward a copy of the IBC-8 form to the Operations Manager for the Academic Unit, Institute or Centre.

As with declined vaccinations, Line Managers will need to design a risk management strategy to protect the personnel.

Where to Obtain Vaccination

For convenience it is recommended that vaccination be undertaken at one of the UniSA Health Medical Clinics. Persons not able or willing to access the UniSA Health Medical Clinic vaccination services, may use the vaccination services of a Travel Doctor or General Practitioner.

UniSA Health Medical Clinic or vaccinating GP will:

- discuss the vaccination schedule, or declination of vaccination and medical contraindications
- administer vaccinations
- Record vaccination, incomplete vaccination, declination and any non-seroconversion
- Sign the IBC-8 Vaccination Form
- Return completed form to personnel to allow them to submit the signed form/s to their Line Manager.

Record of Vaccination All efforts should be made to confirm and ensure appropriate documentation of prior receipt of vaccines. (2)

The University respects the privacy of its staff and students and will make every effort to maintain confidentiality of personal details. In accordance with University Privacy Policy A-46.10, “personal information will be used only for the purposes for which it is required. The University regards vaccination information necessary to prevent or lessen a serious and imminent threat to the life or health of the individual concerned, or another person. Staff access to records of personal information will be restricted to those who need the information in order to carry out their duties and responsibilities.” Records collected will be stored on the University secure servers, password protected and only authorised persons, unless required by law.

Records of childhood vaccination from 1 January 1996, and adult vaccination from 30 September 2016, are available to individuals (over the age of 13) from the Department of Health. The Australian Immunisation Register is accessible to individuals through their Medicare online account, Express Plus Medicare mobile app or by calling the AIR enquiries line. Immunisation History Statements are available from AIR. In addition, proof of prior vaccination and successful immunity can also be obtained by blood titre assay, available through the UniSA Health Medical Clinic or GP pathology services. Proof of prior vaccination should be given to the medical officer when being assessed for vaccination.

If receipt of prior vaccination cannot be confirmed, either by documentation or by blood titre markers, it will be generally assumed that the vaccine(s) required have not been given previously. (2)

For most vaccines (except Q fever), there are no adverse events associated with additional doses if given to an already immune person. In the case of diphtheria-, tetanus- and pertussis-containing vaccines and pneumococcal polysaccharide vaccines, frequent additional doses may be associated

with an increase in local adverse events; however, the benefits of protection may outweigh the risk of an adverse reaction. Additional doses of MMR, varicella, inactivated poliomyelitis (IPV) or hepatitis B vaccines are rarely associated with significant adverse events. (2)

Incident Reporting

The University will safeguard the privacy of any staff, student or other person who discloses that they have been infected through occupational exposure. The University will support and protect from discrimination, harassment or vilification any students, staff or others who have an infectious disease.

A key component of an effective incident prevention program is prompt, reliable reporting. Reporting hazards, near misses and injuries provides an opportunity to intervene at the earliest opportunity, to either prevent an incident from occurring or minimise the severity of injury.

Where appropriate the following people should be notified:

- Laboratory Coordinator
- Operations Manager
- Research Supervisor
- University Biosafety Officer and Executive Officer of the IBC
- Head of Academic Unit/Institute/Centre
- Safety and Wellbeing Team.

Employees of other institutions, will also need to report the incident to their employer.

Except for other institutions, the people listed above, will be notified automatically through the submission of two reports:

1. The UniSA online incident reporting form
2. An email notification to biosafety@unisa.edu.au

UniSA Online Incident Reporting Form

It is preferable that reports to be submitted within 48 hours of the incident.

The University's online reporting system, Hazard/Incident Reporting and Investigation System, is used to report hazards and incidents, record investigation findings and corrective action to prevent a recurrence.

Students are not able to lodge an incident report online. Supervisors will submit the incident report online, on their behalf.

Access is available through the Staff Portal, logging into 'myUniSA' using your username and password and clicking on the 'Report a Hazard or Incident' link.

For further information: https://i.unisa.edu.au/staff/ptc/safety-and-wellbeing/hazard-reporting

Reporting an Incident to University Biosafety Officer and Executive Officer of the IBC

The Institutional Biosafety Committee and the University Biosafety Officer must be notified of infections with pathogens, exposure to toxins, needle stick and sharps injuries involving:

- Risk Group 2 or above microorganisms,
- Genetically modified organisms,
- Biological hazardous material or toxins

Line Managers take the primary responsible for reporting incidents to the IBC. Reporting can be done by emailing the details to biosafety@unisa.edu.au

Further Information

Available by contacting the University Biosafety Officer at biosafety@unisa.edu.au

Or

Safety and Wellbeing Team at SafetyWellbeing@unisa.edu.au

References

1. NHMRC Australian Guidelines for Prevention and Control of Infection in Healthcare (2010) https://www.nhmrc.gov.au/about-us/publications/australian-guidelines-prevention-and-control-infection-healthcare-2010

2. The Australian Immunisation Handbook, 10th Edition

3. AS/NZS 2243.3:2010 Part 3 Australian/New Zealand Standard Safety in laboratories Part 3 microbiological safety and containment

APPENDIX A

Research-specific Immunisation

Certain areas of research may bring you into close contact with less common infectious agents. For example, researchers working with bats in Australia or overseas (including observational studies) are more at risk of coming into contact with rabies or other lyssaviruses; those working with sheep or wild mammals are more at risk from Q fever. Researchers working in high-risk situations (including Honours and post-graduate students) should be immunised if a vaccine is available. Staff or students not wishing to be vaccinated for personal or other reasons must sign a Declaration of Understanding, stating that they understand why vaccination is being offered, and the potential health effects of being exposed to body fluids/tissues or infectious organisms. Personnel who do not have appropriate immunisation status may be precluded from working in certain areas or on specific projects.

The three research-specific vaccinations most likely to be required for individual researchers within the University of South Australia are Q fever, rabies and vaccinia, but others may be required as new research projects are developed. Vaccinations, as with all medicines, carry a risk of adverse side effects. Please make sure that you understand all the risks, possible adverse side effects and contra-indications (reasons an individual should not be vaccinated) associated with your vaccination; you are strongly encouraged to discuss the vaccination with your regular G.P. before proceeding. It should be noted that it is rare to develop serious side-effects from any of the vaccinations described here.

Q fever

Q fever is a bacterial illness that may be contracted from infectious ruminants (e.g. cattle, sheep, llamas, kangaroos, bandicoots). The bacteria can be found in milk, urine, faeces, tissues or body fluids of infected animals. Q fever most commonly presents with mild flu-like symptoms but can progress to acute respiratory distress syndrome or hepatitis; chronic infection with Q fever can cause endocarditis (inflammation of the inner lining of the heart). Q fever is rarely fatal and is effectively treated with antibiotics.

Vaccination for Q-fever is with Q-Vax. Vaccination must be preceded by a skin test (Q-Vax Skin test), as vaccination of pre-infected people can cause hypersensitivity reactions. The dose of the Q-Vax vaccine is 0.5 mL, administered by subcutaneous (SC; under the skin) injection. Skin testing and interpretation, as well as vaccination, can only be carried out by authorised Q fever immunisation service providers.

If it is determined that you are at risk of contracting Q fever through your work or research, you will be referred to a specialist provider and provided with more detailed information about the vaccine to be used, including the administration process, contra-indications, possible side-effects and post-vaccination guidelines.

Rabies

Rabies and other lyssavirus infections (there are currently 12 known species of lyssavirus) generally occur following a bite or scratch (that has broken the skin) from an infected animal, but may occur

following direct contact with mucosal surfaces (such as nose, eye or mouth) or saliva. Rabies is nearly always fatal. Bats are a well-known source of lyssaviruses, so any person coming into close contact with bats and/or flying foxes as part of their work or research should be vaccinated before said work commences.

There are two rabies vaccines available in Australia, Mérieux and Rabipur. Both consist of inactivated rabies cell cultures. The dose is 1.0 mL, administered by intramuscular (IM; into the muscle) injection, into the deltoid area. Vaccination requires 3 injections over a period of 21-28 days.

If it is determined that you are at risk of contracting a lyssavirus infection through your work or research, you will be referred to a specialist provider and provided with more detailed information about the vaccine to be used, including the administration process, possible side-effects and post-vaccination guidelines. There are no contra-indications for rabies vaccination as the disease itself is almost invariably fatal.

Vaccinia

Vaccinia is one of a family of Orthopoxviruses capable of causing disease in humans. These diseases include monkeypox, cowpox and smallpox. The vaccinia virus vaccine guards against all these diseases, even though they are caused by different viruses within the Orthopoxvirus family. The vaccinia virus vaccine was used for the world-wide smallpox vaccination programme, so it is more commonly known as the smallpox vaccine. It is important to note:

- *Vaccinia virus* does not cause smallpox (this is caused by the *variola virus*)
- The *vaccinia virus* vaccine cannot give you smallpox
- There has never been, is not now, nor ever will be, any work carried out at the University of South Australia with the smallpox virus

Vaccinia virus vaccine is recommended for laboratory workers who directly handle either cultures or animals contaminated or infected with non-highly attenuated vaccinia virus (i.e. virus that has not been inactivated) or recombinant (genetically modified) *vaccinia viruses* derived from non-highly attenuated vaccinia strains. Vaccination is not recommended for persons who do not directly handle non-highly attenuated virus cultures or materials or who do not work with animals contaminated or infected with these viruses.

There are a number of *vaccinia virus* vaccines available. The one generally used for University of South Australia personnel is the ACAM2000 vaccine. Vaccination is by the percutaneous (scarification) route. A droplet (0.0025 mL) of the vaccine is picked up with a bifurcated needle (two pronged) and the skin scratched/pricked 15 times with the needle. The vaccination can only be carried out by authorised immunisation service providers, and the scarification site (a small blister followed by a scab) requires special wound care for2-3 weeks following the vaccination.

If it is determined that you are at risk of contracting a vaccinia virus infection through your work or research, you will be referred to a specialist provider and provided with more detailed information about the vaccine to be used, including the administration process, possible side-effects, contra-indications and post-vaccination guidelines.