DBMR Safety Guidelines

This document describes the safety organization of the Department for BioMedical Research (DBMR) and summarizes the guidelines effective in the DBMR. It is distributed to all new employees in the DBMR. The detailed documents and forms can be found on the DBMR homepage www.dbmr.unibe.ch.

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Basic safety rules
Special safety regulations
Waste disposal
Cleaning
Anesthetics
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Last revision: August 30, 2017
**EMERGENCY NUMBERS**

<table>
<thead>
<tr>
<th>Service</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police</td>
<td>117</td>
</tr>
<tr>
<td>Ambulance</td>
<td>144</td>
</tr>
<tr>
<td>Toxicology Center (Poisoning)</td>
<td>145</td>
</tr>
<tr>
<td>Fire brigade Insel / Securitas</td>
<td>3333</td>
</tr>
<tr>
<td>Life-threatening emergencies (REA)</td>
<td>9999</td>
</tr>
<tr>
<td>Technical incidents</td>
<td>26666</td>
</tr>
</tbody>
</table>

**In case of exposition to untested human blood or tissues:**

| Staff physician (8:00-16:30) | 22038 |
| Off hours: Emergency Station (physician on duty) | 181 7520 |

**In case of injury:**

| Emergency Station (physician on duty) | 181 7520 |

**For Insel employees only:**

| Staff physician (8:00-16:30) | 22038 |

**Emergency numbers DBMR:**

| Bernhard Grossniklaus | 20997 / 079 208 61 82 |
| Patrick Furer         | 28787 / 078 676 68 81 |
| Willy Hofstetter      | 28786 / 077 411 61 55 |
| Robert Rieben         | 29669 / 079 304 47 51 |

**Information to provide in case of an emergency call:**

WHERE did it happen?
WHAT did happen?
HOW MANY injured/affected persons?
WHICH KIND of injuries?
WAIT for questions

**ESCAPE ROUTES**

Escape routes and emergency exits are labeled with green escape signs. In case of fire, the use of elevators is strictly forbidden. In case of evacuation, all employees of the respective DBMR research division have to meet at a predefined assembly point. For the Kinderklinik, PTK1, Augenklinik, Personalhaus 4 and Erlachstr. 9a, the assembly points are not predefined, but decided on-site by the Fire Brigade.

**ASSEMBLY POINTS**

<table>
<thead>
<tr>
<th>Division</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pathology</td>
<td>Meadow between Psychiatric Clinic and Pavilion 47</td>
</tr>
<tr>
<td>MEM</td>
<td>Entrance Pathology building, Murtenstrasse 31</td>
</tr>
<tr>
<td>Murtenstrasse 40+50</td>
<td>Entrance Blood Donation Center, Murtenstrasse 42</td>
</tr>
</tbody>
</table>

**HEALTH PROTECTION**

- First aid boxes are located on each floor (MEM and Murtenstrasse 50)
- Defibrillators are available in the following DBMR research divisions:

<table>
<thead>
<tr>
<th>Division</th>
<th>Location</th>
<th>Responsible persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEM</td>
<td>Main Entrance, Floor B</td>
<td>M. Siegrist, J. Grosjean</td>
</tr>
<tr>
<td>Murtenstrasse 50</td>
<td>Main Entrance, Floor A</td>
<td>Y. Roschi</td>
</tr>
<tr>
<td>Murtenstrasse 40</td>
<td>Main Entrance, Floor U1</td>
<td>S. Widmer</td>
</tr>
</tbody>
</table>

- In case of exposure to chemicals (splashes), the contact area should be extensively flushed. Water is an appropriate “flushing fluid” for most cases and affected areas should be rinsed for at least 15 minutes. Contact lens wearers must wear closed
chemical safety goggles in a laboratory, therefore the wearing of contact lenses is not recommended.

- All accidents and injuries (including exposition to human blood or unfixed human tissues) occurring during work have to be reported to safe@dbmr.unibe.ch, with copy to S. Rösselet (silvia.roesselet@dbmr.unibe.ch)
- Due to the proximity of the nuclear plant Mühleberg, potassium iodine tablets are available for all members of the DBMR, in case of a release of radioactive iodine. Tablets have been distributed to the group leaders. Additional packages can be obtained from F. Achermann

**MATERNITY PROTECTION**

Pregnant and breast-feeding women have to be protected from exposure to ionizing radiation, to pathogenic microorganisms and to hazardous chemicals. A risk assessment should be performed as soon as possible to prevent damage to the unborn child (higher risk during first trimester!). Contact Silvia Rösselet (silvia.roesselet@dbmr.unibe.ch).

**SAFETY ORGANIZATION DBMR**

<table>
<thead>
<tr>
<th>DBMR</th>
<th>OHE*</th>
<th>Biosafety</th>
<th>Chemical safety</th>
<th>Radiation safety</th>
<th>Anesthetics</th>
<th>QSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsible DBMR</td>
<td>F. Achermann</td>
<td>K. Monastyrskaya</td>
<td>M. Bergmann</td>
<td>F. Achermann</td>
<td>NA</td>
<td>G. Escher</td>
</tr>
<tr>
<td>Deputy I</td>
<td>M. Siegrist</td>
<td>F. Achermann</td>
<td>NA</td>
<td>S. Dolder</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Deputy II</td>
<td>W. Hofstetter</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Contact persons in DBMR divisions**

- Kinderklinik: F. Achermann, G. Escher, NA, F. Achermann, NA, G. Escher
- Pathology, Pav47: M. Siegrist, W. Hofstetter, NA, NA, W. Hofstetter
- MEM: M. Siegrist, K. Monastyrskaya, M. Bergmann, S. Dolder, NA, W. Hofstetter
- Enf9a: P. Vermathen, NA, NA, P. Vermathen
- Sahlihaus 1+2: M. Vogel, M. Vogel, NA, NA, M. Vogel
- Mu40+50, PTK1, AKL: R. Rieben, R. Rieben, NA, NA, R. Rieben
- Central Animal Facilities: NA, NA, NA, NA, NA
- Animal Facilities Mu50: NA, NA, NA, NA, NA

*OHE: Occupational Safety, Health Protection & Environmental Safety

**ID BADGES**

All DBMR members are requested to wear their badge at all times to facilitate the identification of persons unauthorized in the facilities.

**BASIC SAFETY RULES**

1. Work smart. Work safe
2. Respect the rules and follow the instructions of your supervisor
3. Never pipet by mouth or smell a chemical directly
4. Do not eat, drink or store food in the lab
5. Keep the workplaces clean and tidy. Label all samples and chemicals accurately
6. Handle hazardous chemicals exclusively under the fume hood
7. The use of needles and blades should be limited as much as possible and never recap a needle
8. Wear a lab coat or apron and tie-back long hair. Skirts, shorts, and open-toed shoes are not the right clothes in a lab
9. Depending on the individual risks additional personal protection equipment (PPE) must be worn. Ask your supervisor, which PPE is needed for which laboratory activity
10. Take-off your gloves before using telephones, computers, tap water, door latches, elevators and copy machines. Do not reuse disposable gloves. Wash and cream your hands regularly, especially after taking-off the gloves and before leaving the workplace
SPECIAL SAFETY REGULATIONS

**Biosafety**

All activities involving pathogenic or genetically modified organisms must be registered with the Federal authorities. Activities involving group 1 organisms are registered as part of a DBMR global notification, while activities with group 2 organisms have to be notified individually. Activities with group 3 and 4 organisms are not possible in the DBMR facilities. Group leaders are responsible for the registration of their activities with the BSO DBMR, K. Monastyrskaya (28776, katia.monastyrskaya@dbmr.unibe.ch).

Experiments with cells or material of human origin have to be performed in a biosafety cabinet (BSC) type 2 and waste has to be appropriately disposed of. Hepatitis B vaccination is highly recommended when working with material of human origin (Staff physician, Personalhaus 3, Freiburgstr. 44C), every Tuesday 1pm – 3pm). Transduction experiments with lentiviruses and other retroviruses have to be done exclusively in the dedicated BSL2 lab, MEM D811e.

Experiments with clinical samples from hepatitis viruses (HBV, HCV) infected patients have to be conducted exclusively in the dedicated BSL2 lab, MEM D828. Access to both BSL2 labs will be granted only after proper instructions. Specific SOPs are available.

**Radioprotection**

As detailed in the **DBMR internal directive for handling unsealed radioactive sources** the most important rules are:

1. Keep radioactive and non-radioactive work separated as far as possible, preferably by maintaining the C-labs solely for radioactive work
2. If the handled radioactivity per experiment or day exceeds the licensing limit LA specified in the StSV, Annex 3 Column 10, the work has to be carried out in a C-lab. Persons, who are working in a C-lab are occupationally exposed to radiation and have to wear a dosimeter
3. If the handled activity per experiment or day is <LA, the work can be done in a clearly delimited area in a normal lab only with the permission of the RSO DBMR, F. Achermann (francois.achermann@dbmr.unibe.ch)
4. Report to the local RSO whenever you order radioactive compounds
5. The C-labs have always to be locked
6. Work over a spill tray in a ventilated enclosure
7. Distance yourself appropriately from sources of radiation. Doubling the distance from the source reduces the radiation dose by three quarters
8. Use appropriate shielding for the type of radiation
9. Monitor the working area frequently for contamination control. Follow clean-up protocol described in paragraph D.5
10. After completion of work, monitor yourself, wash, and monitor again. Report it to the local RSO, if contamination is found

**WASTE DISPOSAL**

**Biological waste**

Solid biological waste has to be discarded in UN 3291 containers (blue with yellow lid). When full, containers must be tightly closed and the lid handle disinfected with 70% Ethanol before disposal.

Liquid biological waste has to be inactivated, either by heat (autoclave) or chemically (1% Virkon S or 10% bleach, for 24h), before being discarded in the sink.

**Chemical waste**

Organic solvents and liquid chemical waste are collected using appropriately labeled waste containers. Containers are color-coded in MEM and Pathology (removal by University) or
white in Kinderklinik and Murtenstrasse 50 (removal by Inselspital). Take care to correctly declare the content.

*Solid* chemical waste has to be discarded in blue containers (without biohazard sign!) with red lid or in their original packaging. Content must be precisely declared and be protected from breaking and leaking.

*Radioactive waste*

Radioactive waste has to be separated by nuclide and combustibility. Waste management is the exclusive duty of the local RSO.

*Sharps*

Needles, scalpel and microtome blades, glass Pasteur pipettes have to be discarded in puncture-proof sharps containers, which are then disposed of in a UN 3291 blue container with yellow lid.

*Glass*

Glassware (rinsed) and histology slides with fixed/inactivated samples should be collected for glass recycling.

**CLEANING**

Before being brought for washing, glassware should be rinsed to prevent exposure of the cleaning team to toxic chemicals. Stickers and waterproof labels have to be removed. Chipped glassware must not be brought for washing (risk of injury for the cleaning team), but discarded.

**ANESTHETICS**

According to the Swiss Narcotics Act it is mandatory to keep a record of the use of narcotics and psychotropic substances. The quantities used each year by the DBMR research groups have to be reported to safe@dbmr.unibe.ch.

**RISK PREVENTION**

*Instruments*

Laboratory equipment may represent substantial risks if manipulated improperly. It is therefore strongly advised to ask for an instruction before using an instrument for the first time. The list of persons responsible for shared instruments is available under Equipment manager. Instruments listed in the equipment manager system have to be booked before use. Please keep to the reservation time!

*Liquid nitrogen*

Contact with liquid nitrogen (LN\textsubscript{2}) can cause severe frostbite. Wear protecting gloves and goggles or face shield. LN\textsubscript{2} also represents an asphyxiation risk. Nobody should enter an elevator in which LN\textsubscript{2} tanks are transported. Place a warning sign on the tank.

*Gas cylinders*

Gas cylinders have to be secured with a chain to prevent them from falling.

*Emergency spill kits*

Spill kits are available in case of biological or chemical spillage. Biological spill kits are located next to the BSL2 labs MEM D811e and D828, to the histology lab MEM E814 and in the BSL2 room H071 of the Animal facilities. Chemical spill kits are available in each research division on almost every floor. Ask your local safety officers for more details.

*Transport of samples*

To prevent accidents, use a basket or an appropriate box to transport samples. Hazardous samples should be packed in a secondary unbreakable container, with absorbing material for liquids.

Do not hesitate to contact the responsible persons if you have questions!
Bern, 15. May 2018

Process of the Hepatitis B Vaccination

To: all employees working at the DBMR with an employment at the University of Bern.

1. Questionnaire regarding the Hepatitis B-vaccination and entry questionnaire. Please fill in the two forms and send them together with your vaccination record to the personal medical service / “Personalärztlichen Dienst (PAD)” of the Inselspital.
2. With the documents the registration of the patient will be organized by the PAD
3. The DBMR/University employees have not to register themselves at the registration desk
4. The vaccination record will be examined by the doctor
5. The doctor will prescribe the necessary Hepatitis B vaccination dose/serology and prescribes it on the questionnaire document
6. With this procedure the PAD gets the exact information what they have to use for the Hepatitis B vaccination before the employee arrives for the vaccination
7. Employees are called directly by the PAD to make an appointment

Please follow this new process to minimise the administrative work of the personal medical service of the Inselspital.