

ACKNOWLEDGEMENT FORM FOR LABORATORY ACCESS

Institute of Biomechanics, Graz University of Technology
Stremayrgasse 16/II, 8010 Graz

- I have received, carefully read and understood the laboratory regulations
- I have received and carefully read and understood the following amendments:
 - Amendment 1: Procedure after cuts and stab wounds
 - Amendment 2: Cleaning instructions for the automated meat slicer
 - Amendment 3: Cleaning instructions for broken glass
 - Amendment 4: Ontario Nurses' Association Resource Document
- I have completed the laboratory training including
 - General laboratory safety
 - Handling of biological tissues and fluids (incl. labeling, storing, disposal)
 - Potential hazards (e.g., needles, scalpel, glass, devices, etc.)
 - Chemical safety (e.g., disposal of chemicals, safety data sheets, etc.)
 - Hygiene (e.g., instructions for disinfecting equipment, etc.)
 - Emergency procedures (e.g., first aid kit, emergency numbers, etc.)

Date, Name

Signature

LABORATORY REGULATIONS

Institute of Biomechanics, Graz University of Technology
Stremayrgasse 16/II, 8010 Graz

- Access to the laboratory is only permitted for authorized personnel.
- Protective laboratory coats are worn while in the laboratory. This protective clothing should be removed and left in the laboratory before leaving for non-laboratory areas.
- Use of laboratory areas is only permitted during regular working hours (Mo – Thu: 8:00am–7:00pm, Fr: 8:00am–5:00pm) and after consulting the person in charge.
- Eating, drinking, smoking, handling contact lenses, and applying cosmetics are not permitted in the work areas.
- Pregnant women may not enter the Biomechanical laboratory.
- Access is denied for individuals affected by alcohol or drugs. In the laboratory areas alcohol is banned.
- Prof. Holzapfel has to be informed of all matters of safety including all major and minor accidents such as the outbreak of a fire, even if it has already been extinguished. The handling of open fire as well as the introduction of pyrotechnic articles is prohibited.
- Armed access (e.g. handguns etc.) to institute and laboratory areas and overall to the buildings of TU Graz is prohibited.
- Any work is subject to authorization. Devices, machines and equipment may only be launched with permission and briefing by an authorized institute employee.
- Any work with a device and any experiment needs to be performed carefully, to avoid damage (body, clothes, equipment etc.). In case of damage, Prof. Holzapfel has to be informed immediately. We would like to point out that neither the state nor the university assumes liability for damage. Therefore, liability insurance is recommended (note: for students this is included in the ÖH fee).
- Facilities required for the installation or handling of a test rig may only be used or taken from their repository after consulting the laboratory supervisor. This includes objects used for other experiments, especially the institute's metrological infrastructure.
- Changes to computer software can only be performed by Osman Gültekin or Dr. Gerhard Sommer.
- Doors have to be kept closed. Entrance doors to the laboratory area have to be locked at the end of work.
- Locations of first aid kits and fire extinguishers as well as escape routes are clearly marked.

- Only the authorized person is allowed to receive toxic substances from a supplier.
- For work on the biaxial and the triaxial testing device as well as the rheometer, training by an experienced laboratory member has to be completed.
- Safety data sheets for all chemicals are available in the laboratory (in the red folders next to the automatic door).
- Rules for standard laboratory practices are available in the laboratory.
- People have to disinfect their hands after they handle viable material, after removing gloves, and before leaving the laboratory.
- All procedures should be performed carefully to minimize the creation of splashes or aerosols.
- A high degree of precaution must always be taken with any contaminated sharp items, including needles and syringes, slides, pipettes, capillary tubes, and scalpels.
- Safety scalpels have to be used when working with potential infectious tissues. Normal scalpels can only be used if safety scalpels are inappropriate to prepare the samples.
- Scalpel blades may only be replaced by mechanical means (e.g., tweezers).
- Cultures, tissues, specimens of body fluid, or potentially infectious waste must be placed in a container with cover to prevent leakage during collection, handling, processing, storage or transport.
- Laboratory equipment and work surfaces must be decontaminated with an effective disinfectant on a routine basis, after work with infectious materials is finished, and especially after apparent spills, splashes and other contamination by infectious materials.
- Gloves must be worn when working in clearly labeled areas. Wearing two pairs of gloves may be appropriate when working with sharp objects. Gloves must be disposed of when clearly contaminated, and removed when work with infectious materials is completed or when the integrity of the glove is compromised.
- This and related documents on Biosafety and the prevention of accidents in laboratories are provided electronically at: M:\BIOMECH\Institut\Biosafety

Important telephone numbers

Fire department	122	
Police	133	
Ambulance	144	
Center for toxication	406	(or 01 406 4343 0)

First responder / Lab officer	35505	Dr. Gerhard Sommer
Poisonous substances manager	35510	Justyna Niestrawska, M.Sc.
Fire warden	35501	Mag. Bettina Strametz
Laboratory manager	35500	Prof. Gerhard A. Holzapfel

Amendment 1: Procedure after cuts and stab wounds

Urgent measures

- Induce bleeding
- Wash out thoroughly the wound with disinfecting agent
- In case of contamination of the mucosa (eye, mouth), rinse the mucosa with plenty of water and disinfecting agent for mucosa (Betaisodona)
- Call the doctor at LKH Graz-West and describe the circumstances of the accident

Mo–Fr 7:30am to 3:00pm:

HIV outpatient department of LKH Graz-West: **0316 5466 14387**

Outside the above stated periods:

Working doctor of internal department 1, LKH Graz-West: **0316 5466 14390** or isolation ward (Station A4), LKH Graz-West: **0316 5466 4341** or outpatient department, LKH Graz-West: **0316 5466 14387**

Amendment 2: Cleaning instructions for the automated meat slicer

- Before cleaning set the sledge position to “0”, which closes the gap between the knife and the sledge
- During the entire cleaning process it is mandatory to wear cut resistant gloves which are available in the laboratory
- Generally, the meat slicer has to be turned off during cleaning
- When turning on the slicer is absolutely required for cleaning (e.g, to clean the cutting blade), then this must only be done by using the toggle switch (the permanent switch should be generally not be used if possible)

Amendment 3: Cleaning instructions for broken glass

- In the case of broken glass in the laboratory, the cleaning process has to be done without touching the glass by hand unless cut resistant gloves are worn
- Use a hand brush and a shovel to scoop up broken glass pieces
- All broken glass pieces have to be disposed in the available yellow needle boxes

Amendment 4: Ontario Nurses' Association Resource Document

Ontario Nurses' Association Resource Document

Risk of Injury

The highest risk for pathogen transmission is from hollow-bore, blood-filled needles. Specific features make some devices more dangerous:

- Hollow-bore needles
- Needle devices that must be taken apart or manipulated by the health care worker
- Devices that retain an exposed needle after use
- Needles that are attached to tubing

Risk of disease

Sharps injuries can expose workers to a number of bloodborne pathogens that can cause serious or fatal infections. The bloodborne pathogens that pose the greatest health risk are:

- Hepatitis B virus (HBV)
- Hepatitis C virus (HCV)
- Human immunodeficiency virus (HIV)

HBV vaccination has proven highly effective in preventing infection. It is recommended for all health care workers. However, no vaccine exists to prevent HCV or HIV infection. Some risk factors can increase the risk of HIV transmission.

Work Practices

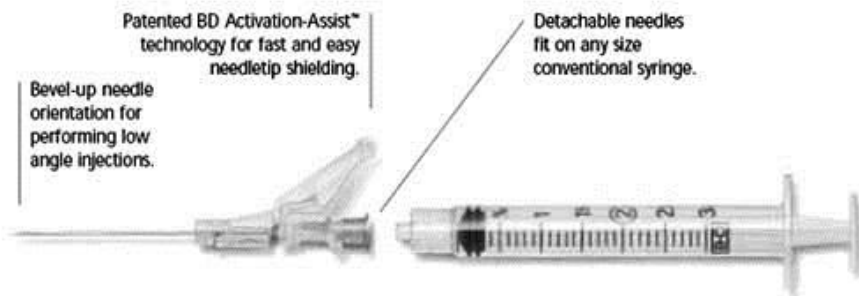
Engineering controls eliminate hazards at the source and are the best and most effective approach to occupational health and safety. Safety engineered and medical sharps must be the primary source of eliminating and reducing sharps related injuries.

Safety engineered medical devices afford the worker superior protection because the safety features/technologies are designed and incorporated into the device.

Safety Engineered Needles

These images are examples of what safety engineered needles look like.

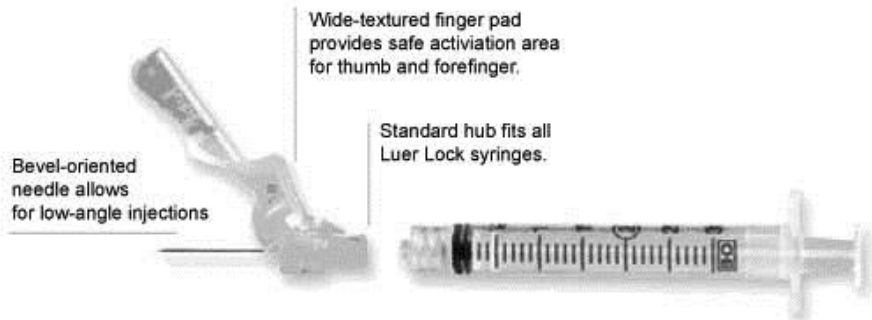
PRIOR TO ACTIVATION



AFTER ACTIVATION



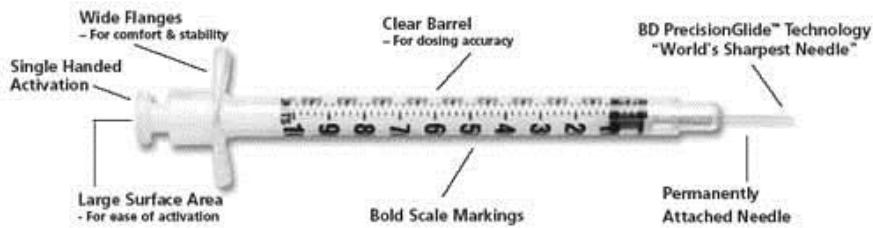
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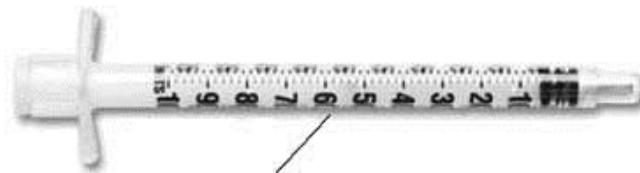
AFTER ACTIVATION



PRIOR TO ACTIVATION



AFTER ACTIVATION



Needle Retracts into the Syringe!
Eliminates exposure to the needle after activation

If you sustain an injury:

- wash the wound with soap and water
- alert your supervisor
- report immediately to employee health or emergency room (ER)
- ensure that you follow up the incident with your family physician
- get post-exposure prophylaxis within two hours of the exposure (if appropriate)
- document the incident i.e. in a sharps injury log
- get follow-up testing and counseling
- file a workers' compensation report
- notify your Joint Health & Safety Committee
- notify your Bargaining Unit/Local/Labour Relations Officer

What You Should Do

- Insist on safety-engineered devices in your workplace. Exercise your legal rights under the *Occupational Health & Safety Act* when necessary.
- Always activate the safety feature of any device you are using. Safety-engineered devices eliminate the unnecessary risk of recapping.
- Plan for the safe handling and disposal of sharps before using them.
- Promptly dispose of used sharps in appropriate sharps disposal containers.
- Tell your supervisor, employer and Joint Health & Safety Committee about any needlestick/sharps hazards.
- Report all needlestick and sharps-related injuries promptly to ensure you receive appropriate care.
- Participate in training related to infection prevention.

- Get a hepatitis B vaccination
- Exercise your legal rights to health & safety protection, including the right to refuse unsafe work where possible.

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