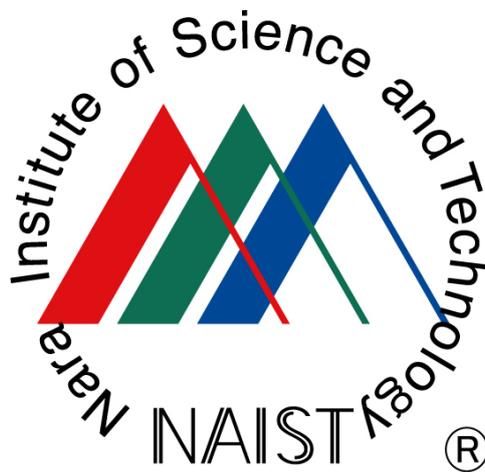


Emergency and Risk Management Manual for Students



**Nara Institute of Science and Technology
Risk Management Committee**

Emergency and Risk Management Manual for Students

NAIST developed the “Risk Management Rules,” “Risk Management Basic Plan,” and “Emergency and Risk Management Manual,” establishing specific measures for predicted emergencies.

This manual is an abstract of the “Emergency and Risk Management Manual,” which is strongly connected to various activities at NAIST including your studies on and off campus, in order to support you in promptly taking appropriate actions in the event of crises including infectious diseases, fires, earthquakes, and accidents, as well as conducting first aid.

NAIST originally published the “NAIST Guidelines for Safety (pocket manual)” for emergency situations and this manual has been edited and enhanced with further details and contents.

As students of NAIST, it is our wish that all of you enjoy your life here while being conscious of risk management, and hope that this manual will be of help to you.

March, 2016

Risk Management Committee
Nara Institute of Science and Technology

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I Emergency phone numbers

Fire Department and Police

| | |
|------------------------|------------|
| Fire Department | 119 |
| Police | 110 |

On-campus

| | |
|--|------------------|
| Disaster Prevention Center (24 hours) | 5048 |
| Central Monitoring Station (24 hours) | 5066 |
| Health Care Center | 5105/5108 |
| International Affairs Division | 6245 |
| Graduate School of Information Science Secretariat Office | 5202 |
| Graduate School of Biological Sciences Secretariat Office | 5404 |
| Graduate School of Materials Science Secretariat Office | 6006 |

When on-campus please use the extension numbers only.

If calling from off-campus, call 0743-72-xxxx. (extension number)

If calling from abroad, call +81-743-72-xxxx. (extension number)

II Emergency medical treatment

Life-threatening Conditions:
Impaired consciousness (no response to conversation, etc.), respiratory arrest, cardiac arrest or massive bleeding, immediately call an ambulance (119).

- **If you encounter someone unconscious, try to determine the cause including any hazardous materials, and call loudly to alert people and to get assistance.**
- **When contacting a doctor or calling an ambulance, inform them of [1] the victim's location (and route), [2] the accident or disease conditions, causes, and severity, [3] the first aid performed on-site, and [4] the name and phone number of the person calling. If given, follow instructions given by the doctor or emergency medical staff.**
- **Give priority to time-sensitive treatment.**
- **Keep the victim still and do not move him/her without reason. Keep the victim warm. (wrap in a blanket, etc.)**
- **If possible, use a stretcher to transfer the victim.**

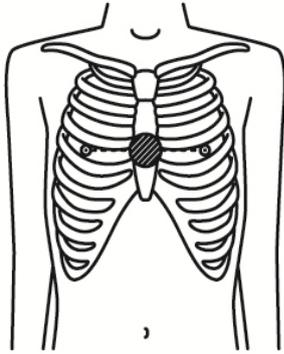


1. CPR (Cardiopulmonary resuscitation)

Repeated application of CPR (cardiopulmonary resuscitation) and AED (automated external defibrillator) can save a victim's life.

- **If a victim does not respond to loud calling while being tapped on the shoulder, call to people nearby and ask them to call 119 (ambulance) and secure an AED.**
- **Tilt the head back, elevate the chin and confirm the airway. Confirm breathing by ‘watching, listening and feeling.’**
- **If the victim is not breathing, perform mouth-to-mouth resuscitation twice (can be skipped).**
- **Immediately after ventilation (or if ventilation is skipped), start applying pressure to the sternum. Continue a combination of 30 chest compressions and 2 ventilations (CPR) until the person responds. Perform chest compressions at a rate of about 100-120 per minute with a compression depth of 5-6 cm.**
- **On arrival of an AED, perform electric shock (defibrillation). Repeat CPR and AED until the person responds.**

External cardiac massage by sternum compression



Point for compressing the sternum

Point of sternum compression

- Center of the chest (center of the line between the nipples)
- Intensely (compress the chest down roughly 5-6 cm)
- Quickly (at a rate of about 100-120 compressions per minute)
- Continuously (30 times without stopping)
- Full release of compression

A flat oblong bone called the sternum is located centrally between the right and left lungs. The lower half of the sternum should be compressed. Place the heel of one hand on the sternum and the heel of the other hand on top of the first so that the hands are overlapped. Interlacing fingers is recommended. Extend elbows to make use of body weight, positioning yourself so that shoulders are directly above the compression point (your palms). Repeat chest compressions with a compression depth of roughly 5-6 cm.

Perform chest compressions at a rate of about 100-120 compressions per minute. For compression, apply pressure using the base of the palm, not the whole palm. It is not advisable to compress the sternum with the entire hand. Between compressions (when releasing pressure), it is important to fully relieve the pressure, allowing the chest return

to its original height. However, give attention to the compressing position, keeping your hands on the same point.



Procedures for compressing the sternum

2) Procedures for using an AED

The AED gives instructions with voice prompts and flashing lights. Please follow these instructions. When using an AED, it is important to continue CPR for as long as possible, excluding the time during ECG analysis and electric shock by the AED.

a. Bring the AED/ Set the AED next to the victim.

b. Turn on the AED.

There are two types of AEDs: those with a power button, and those where the power automatically turns on when the cover is opened (no power button).

After turning the AED on, follow the voice prompt instructions and flashing lights for operation.

c. Attach the electrode pads.

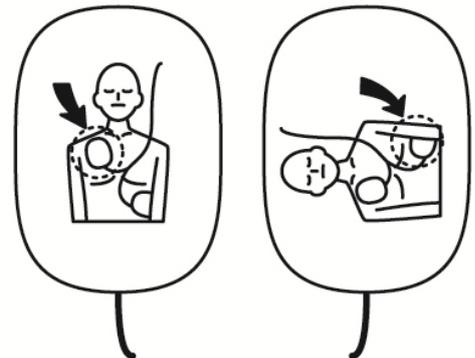
Remove clothing from the victim and expose the victim's chest. If it is difficult to undo the buttons/hooks or remove

clothing, cut off the clothing. Take the electrode pads out of the AED case.

Directly place one electrode pad on the upper right part of the victim's chest (beneath the clavicle and to the right of the sternum) and the other one on the lower left part of the chest (5-8 cm downward from the axilla, diagonally below the nipple). Refer to the illustration on the electrode pads and bag.



Remove the clothing on the chest and attach the electrode pads.



Application point illustration on electrode pads

d. ECG analysis

When the electrode pads are securely applied to the skin, the AED automatically starts ECG analysis with the voice prompt “Do not touch the patient.” Tell persons nearby to keep away from the victim and ensure that nobody touches the victim. Some types of AED require you to press the “Analyze” button to start ECG analysis. Follow the AED

voice prompts.

e. Administering electric shock and resuming CPR

[1] If the AED instructs to administer electric shock

The AED automatically analyzes the ECG. If electric shock is required, the AED will give the voice prompt “Shock is required” and automatically start to charge. Tell **everyone assisting to stay clear of the victim**, and ensure that you are clear of the victim as well.

When it has finished charging, the AED will give the voice prompt “Press the shock button,” accompanied by a continuous sound and a flashing shock button. Press the shock button on the AED to deliver the shock. The AED will then deliver strong electric shock to the victim and causing the body to flinch straight for a moment.



Press the shock button.

Immediately following the shock, resume CPR with chest

compressions. The AED will give the voice prompt “Immediately begin CPR.” Follow the AED instructions.

[2] If the AED instructs that no shock is required

If the “no shock advised” instruction is given by the AED, immediately resume CPR starting with chest compressions.

f. Repetition of CPR and AED application

After performing CPR (in 5 cycles of 30 chest compressions and 2 breaths) for 2 minutes, the AED will automatically analyze the ECG. Remove hands from the victim following the AED’s instruction. Tell people nearby to stay clear of the victim and ensure that they do so.

Continue CPR and AED at 2 minute intervals.

g. How long should CPR be continued?

Continue CPR and AED until the victim moves (aversely responds to the CPR) or emergency medical assistance (or a rescue specialist) arrives.

Even if the victim moves (aversely) and CPR is interrupted, do not remove the AED electrode pads from the victim’s chest and keep the power on to prepare the AED for another possible cardiac arrest.

2. Burns

Immediately cool burns in water, do not rupture the bulla (blister), and apply gauze to the affected areas.

- **Immediately and fully cool the burn with water (10-15 minutes). Do not apply strong water pressure when using tap water. If tap water is not available, or when transferring the victim to a hospital, cool the affected areas with a cool towel soaked in clean water.**
- **If the victim is wearing clothing, liberally pour water over the clothing surrounding the burn. After cooling the burn areas, remove the clothes around the burn being careful not to disturb the burn itself. If this is difficult, cut away the clothing with scissors.**
- **Do not rupture the bulla (blister) or peel away the skin. Apply sterile gauze or a clean cloth to the affected areas and wrap it in a bandage to prevent infection.**
- **For extensive burns, cool the affected areas by pouring water over the clothing. Continue cooling the affected areas but keep the victim's whole body warm with a clean sheet or blanket, and then transfer the victim to a hospital.**
- **In the case of extensive burns that extend beyond the arms or burns to the face or respiratory tract, immediately call an ambulance.**

3. Chemical injuries

Immediately rinse the affected areas with plenty of water.

- **If skin or the body is directly exposed to chemicals, fully rinse the affected areas with water (10-15 minutes or more). If the whole body is exposed to chemicals, use an emergency shower.**
- **Immediately remove the exposed clothing and shoes.**
- **If eyes are exposed to chemicals, rinse the eyes, opening and closing them with water in a basin. To prevent corneal damage never rub the eyes.**
- **Do not try neutralization.**
- **If the victim has ingested toxic chemicals by mistake, induce vomiting by inserting your fingers into the victim's throat.**



1) Precautions for chemical burns

- a. Check the pupils for whitening to determine eye injury or trauma.
- b. Check for chest pain and coughing to determine any airway injury due to accidental chemical inhalation.
- c. Check for abdominal pain or vomiting to determine any gastrointestinal injury due to accidental chemical ingestion.
- d. When chemicals are absorbed into the body, they must be treated as toxic.

2) Some toxic chemicals that can be absorbed through the skin and their symptoms

- hydrofluoric acid (liver dysfunction, renal dysfunction and hypocalcemia)
- chromate, tannic acid and phosphorus (hepatic necrosis and renal dysfunction)
- formalin (kidney dysfunction)
- phenol and organic solvents (impaired consciousness)

3) Major chemicals that cause chemical injuries

| | |
|--------------------------------------|--|
| 1. Acids | acetic acid, hydrochloric acid, sulfuric acid and nitric acid |
| 2. Alkalis | sodium hydroxide, potassium hydroxide, calcium hydroxide and ammonia |
| 3. Aromatic compounds | phenol, benzene, toluene and xylene |
| 4. Aliphatic compounds | methane, ethane, propane, formaldehyde, isocyanate and paraquat |
| 5. Metals and metal compounds | sodium, calcium, magnesium, zinc, mercury, calcium oxide, zinc chloride, sodium hypochlorite, sodium carbonate and titanium tetrachloride |
| 6. Nonmetals and non-metal compounds | fluorine, chlorine, bromine, phosphorus, hydrofluoric acid, phosphoric acid, perchloric acid, hydrogen sulfide, sulfur chloride and carbon tetrachloride |

4. Injuries (wounds)

In the case of a cut (incision wound), prick (stab wound) or glass-induced wound, **remove as much of the foreign substance (glass pieces, mud/sand, plant material, grease, etc.) from the wound and surrounding areas as possible. Do not remove any foreign substances lodged that may possibly enlarge the injury or increase bleeding;** instead, seek treatment at a medical institution. Even a small wound treated poorly may develop sepsis or tetanus due to bacterial infection, resulting in a life-threatening condition. Therefore, careful attention should be paid to wounds. Cleansing a wound is absolutely essential.

If any tissue (bone, soft tissue, organs, etc.) protrudes outside the wound, do not push the tissue back inside the wound.

For injuries involving foot/arm severing, stop the bleeding while bandaging the severed body part. Immediately seek medical treatment. Bring the body part wrapped in wet gauze, sealed in a plastic bag and kept on ice. Recent reattachment technology has improved and treatment results are very good.



5. Bleeding

Stop bleeding calmly with firm compression.

Cuts are often associated with bleeding, and can be quite shocking. Most bleeding due to small cuts can be stopped by compression with a clean gauze or towel. Identify the bleeding area calmly and **compress** that area **firmly**. Even a large amount of bleeding can be stopped by firmly compressing gauze over the bleeding area. Replacing the gauze makes bleeding difficult to stop because it hinders blood clotting. Profuse bleeding indicates arterial hemorrhaging; for this, perform compression thoroughly.

If stopping compression causes the bleeding to start again and it does not stop naturally, transfer the victim to a medical institution while maintaining compression.



- Stop all bleeding that can be compressed using hands.
- Cover the wound with sterile gauze and directly compress the bleeding point.
- If you cannot compress the entire bleeding area, compress intensely using sterile gauze as a pad.
- Do not stop compression to check bleeding or replace gauze. Compression may take a while to stop bleeding.



- Elevating the arm also helps reduce bleeding in the forearm, hand or fingers.



- For bleeding from the head or scalp, if possible wear clean gloves and press both sides of the wound together to stop bleeding and close the wound.

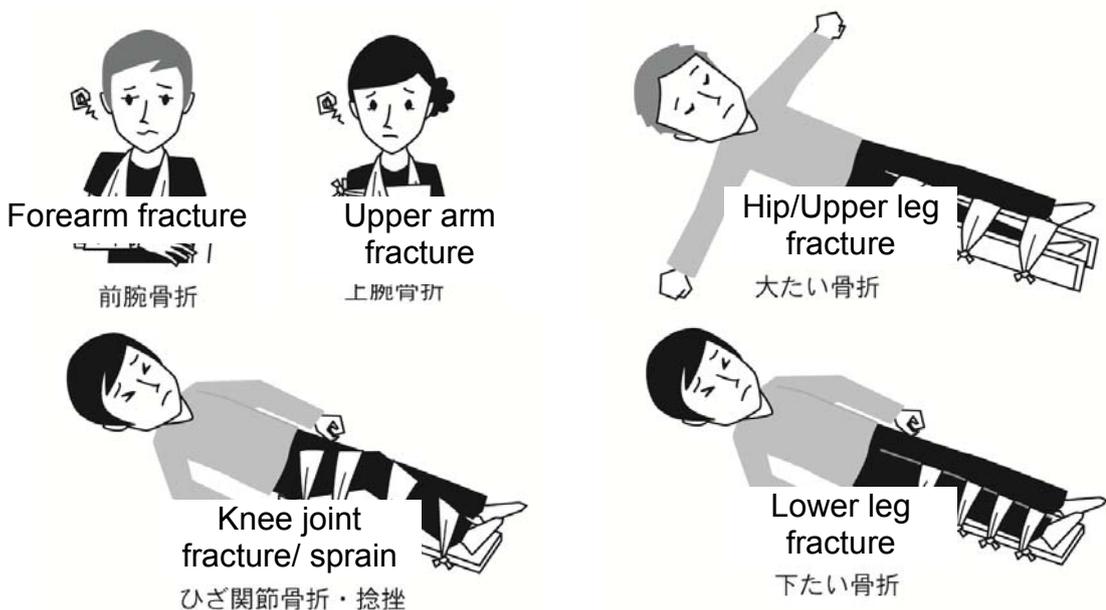
6. Fractures and dislocations

If a bone fracture is suspected, do not move the victim, keep him/her at rest, and immobilize the fracture with a splint.

If cases of severe pain, abnormal range of motion, or visible deformation, the bone may be fractured. Hairline, stress fractures, etc. can only be diagnosed correctly through X-ray examination. Therefore, if a fracture is suspected, **immobilize** the suspected fracture, both above and below the joint, with a splint to **prevent movement**, and transfer the victim to a medical institution.

Take the following precautions:

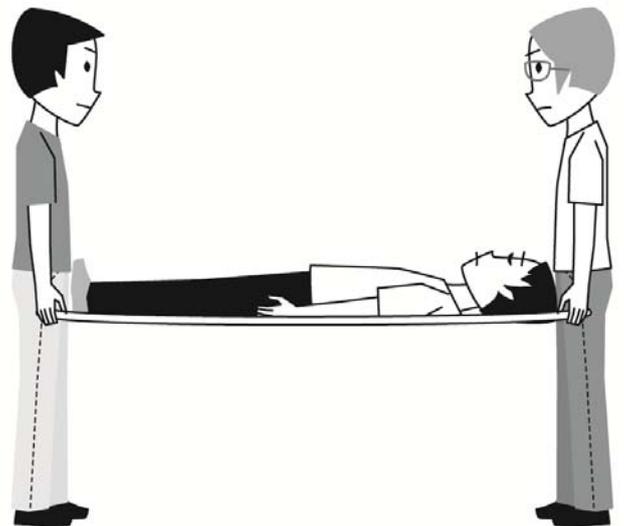
- [1] Protect the fracture with a cloth or towel to avoid putting pressure on the wound.
- [2] Prevent hyperextension of the joint involved (do not extend the joint too far).
- [3] Do not inhibit blood flow with tight bandages, etc.



When a **spine injury** (backbone) is suspected, it is necessary to treat the victim carefully to prevent further injury to the spinal cord or nerves (or **serious aftereffects** such as paralysis). The basic method for transferring the victim is to move him/her like a straight bar. Therefore, at least four persons are needed; if short-handed, do not move the victim. In transferring the victim, always use a stretcher (if not available, use something strong and flat such as a board).



A: Do not transfer the victim this way.



B: In transferring the victim, always use a stretcher



C: Recovery position for keeping the victim in the lateral position.

III In case of infectious diseases

If you experience symptoms of an infectious disease, immediately visit a medical institution.

If diagnosed with an infectious disease, inform your laboratory and the relevant secretariat office, and follow the doctor's instructions.



1. Infectious disease contraction

If you are diagnosed with one of the following infectious diseases (“school infectious diseases”), you are prohibited from attending NAIST, as specified by Article 19 of the School Health and Safety Act.

(The period of suspension depends on the disease. Please follow the doctor’s instructions.)

<Classification of school infectious diseases>

| | |
|--------------|--|
| Category I | Ebola hemorrhagic fever, Crimean-Congo hemorrhagic fever, smallpox, South American hemorrhagic fever, plague, Marburg disease, Lassa fever, acute anterior poliomyelitis, diphtheria, severe acute respiratory syndrome (SARS), avian influenza (H5N1), novel influenza, designated infectious diseases, and new infectious diseases |
| Category II | influenza, pertussis, rubeola (measles), epidemic parotitis (mumps), rubella (three-day measles), varicella (chickenpox), pharyngeal conjunctivitis (pharyngoconjunctival fever), and tuberculosis |
| Category III | cholera, bacillary dysentery, enterohemorrhagic Escherichia coli infection (O157), typhoid fever, paratyphoid fever, epidemic keratoconjunctivitis, and acute hemorrhagic conjunctivitis |

2. Infectious disease outbreak

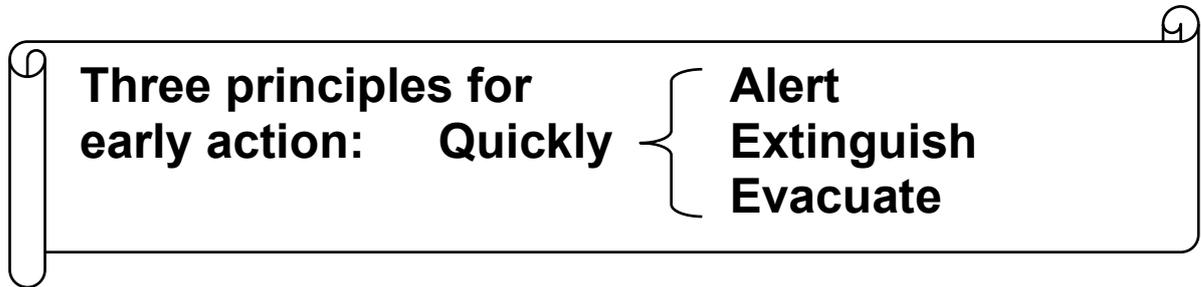
If you contract an infectious disease, immediately inform the staff of your laboratory and relevant secretariat office.

To prevent the infectious disease from spreading, use e-mail or telephone for communication.

Inform the staff and secretariat office of the following items in as much detail as possible: [1] symptoms and current condition (fever, cough, etc.), [2] family members' conditions, [3] medical instructions received, and [4] events, etc., participated in before diagnosis.

Follow the doctor's instructions and stay at home until fully recovered.

IV In case of fire



- **Alert quickly:** Shout “fire” to people nearby and sound the emergency alarm. Call 119. Also immediately call the Disaster Center (ext. 5048).
- **Extinguish quickly:** Attempt early fire-fighting using a fire extinguisher or indoor fire hydrant. Stop extinguishing if the fire spreads from the walls to the ceiling.
- **Evacuate quickly:** If the fire is out of control, immediately evacuate the area, go to a safe place and alert others without delay.

1. Extinguishing fires

1) Alerting others

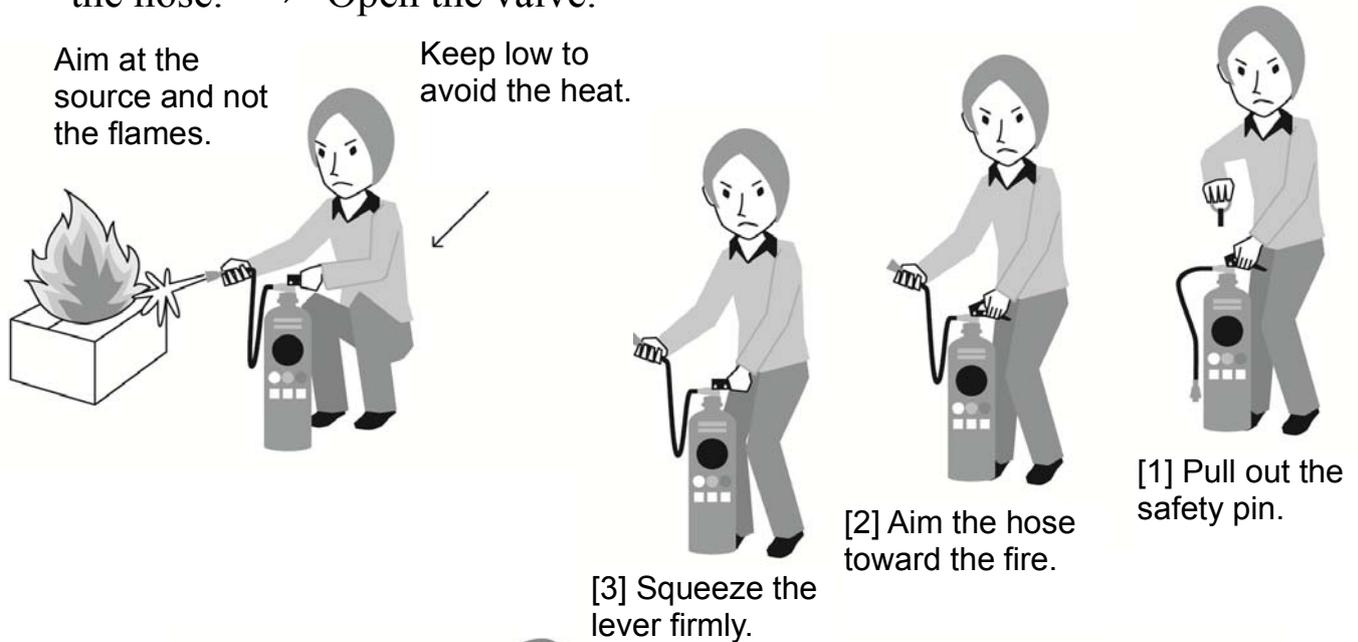
If you discover or have caused a fire, shout “**fire**” to people nearby and press the alarm button installed above the fire hose in the hallways, etc. If the fire is out of control, immediately call the **fire department (119)**. Also call the Disaster Prevention Center (ext. 5048).



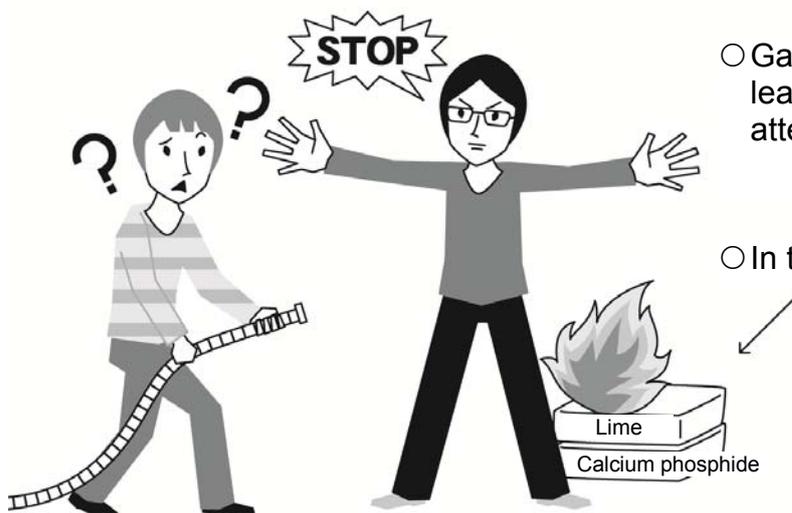
2) Early firefighting

First, turn off the main power and gas main. Carefully transfer any flammable materials away from the fire. If the source of the fire is known, small-scale, and is confirmed to not immediately endanger you, you may extinguish the fire using appropriate firefighting equipment. Keep calm and conduct the firefighting considering all conditions. If you are informed of a fire in another room, first confirm that your room is safe, then rush to the other fire with an extinguisher.

Attempt extinguishing the fire until it spreads to the ceiling, and do not only use the fire extinguisher. If the fire may be extinguished with water, use the fire hose located below the fire alarm. The operation steps are “Press the run button” → “Extend the hose.” → “Open the valve.”



- Excessive water use leads to large water damage. Fight fires appropriately.
- For electrical fires, pay attention to the possibility of electric shock.



- Gas or hazardous material fires may lead to larger disasters. Pay greater attention to firefighting in these cases.

- In this case, water causes ignition.

4) Evacuation and contact

If the fire cannot be controlled by early firefighting, immediately evacuate to a safe place and call the fire department (119) and the Disaster Prevention Center (ext. 5048). Regarding evacuation and contact, pay attention to the following.

- When evacuating a room, turn off the gas main. If possible, deal with hazardous materials appropriately, confirm that nobody is in the room, and shut the door as you leave. Do not lock the door.
- **Do not use the elevator.** Elevators will not be operating in a fire or emergency.
- In areas filled with smoke, **cover your mouth with a towel and evacuate keeping low to the ground.**
- Close hallway fire doors after confirming that no one is left inside.
- If a person is injured, give him/her first aid. If necessary, contact a doctor/medical institution immediately.

V In case of earthquakes

Protect yourself, extinguish any fire and secure your evacuation route. Do not run out immediately. Check surroundings during evacuation.

- **In the event of an earthquake, first beware of objects falling from the ceiling or shelves. Keep away from cabinets or bookshelves and protect yourself by hiding under a strong table or desk.**
- **If possible, extinguish any fire and turn off the gas main and power.**
- **Do not run outside in haste. Calm down and react according to the situation.**
- **Familiarize yourself with emergency exits, routes and evacuation sites.**
- **Beware of aftershocks.**



1. Actions in an earthquake

1) What to do in an earthquake

a. Detection of an earthquake- before primary tremor

Take precautionary actions when detecting an earthquake, before the primary tremor strikes.

- First protect yourself. Evacuate dangerous areas, watching out for falling objects (including lighting) and glass windows.
- If possible, turn off the gas main.
- Confirm the emergency exit and your exit route.

b. During the primary tremor

According to earthquake intensity, one's ability to act during earthquakes is reduced significantly. Give priority to physical safety. Keep calm when taking any actions. Careless actions can lead to injury.

c. After the primary tremor

- Reconfirm the gas main. Check the electricity.
- In case of fire, attempt early firefighting.
- Confirm, respond to, and treat any victims.
- Beware of fallen or scattered materials, including glass, during evacuation.
- If possible, put on a helmet provided to all students, faculty and staff.
- If necessary, go to the evacuation area designated by the NAIST or the local evacuation area.

2) Precautions on campus

a. In the lecture room

Many students may be assembled together in one room. It is important to act calmly. Avoid mass reactions such as rushing to exits in large numbers. Teachers and group leaders must make decisions and give instructions calmly.

Beware of fallen and falling materials suspended from the ceiling such as lighting or office equipment.

b. In the laboratory

Beware of falling furniture including bookshelves and lockers, their contents spilling out, and falling personal computers and equipment.

c. In the experimental laboratory

Many devices in experimental laboratories can be dangerous in an earthquake. Fire and other conditions may affect not only experimental laboratories but also the surrounding areas; therefore, it is necessary to deal appropriately with dangerous equipment and the conditions after an earthquake.

2. Actions in an earthquake during an experiment

In laboratories of the Division of Bioscience and Materials Science, when an earthquake occurs during experiments in animal testing facilities, plant green rooms, radiation facilities or clean rooms, people may become injured or trapped in facilities or laboratories due to equipment breaking or the collapsing of facilities; furthermore, experimental plants and transgenic animals may die or spread outside the facilities, while chemicals, radioactive materials, and high-pressure and liquefied gas may leak. Fire may break out due to this leakage.

The Emergency and Risk Management Manual describes projected scenarios and the measures to be taken in such cases.

If an earthquake occurs during experiments, protect yourself by finding a secure place to hide and follow the instructions of the laboratory faculty and staff which are in accordance with Chapter 2 of Emergency and Risk Management Manual.



3. Evacuation

1) Earthquake drill

When evacuating a laboratory due to an earthquake, it is necessary to take measures to prevent fire. After turning off the power and gas being used and dealing appropriately with high temperature substances and flammable materials, evacuate to a safe area via the designated evacuation route. **Do not use the elevator** because it does not operate in emergencies such as earthquakes or fires.

2) Gather accurate information

Make efforts to gather the latest and most accurate information possible through radio, mobile phones, and, if possible, TV.

3) Safety confirmation

When a major earthquake occurs, priority should be given to confirming the safety and location of each person, his/her family, supervising professors, and laboratory staff. **Make efforts to maintain close contact with your family, supervising professors, etc.**

In order to facilitate safety confirmation, the NTT Disaster Emergency Message Dial (171) and the disaster message board services of mobile phone carriers are available.

4. When an Earthquake Early Warning is issued

When an Earthquake Early Warning is issued, suspend experiments, etc., hide under a desk or safe area and stay there for your safety until the earthquake subsides. If possible, put on the helmet provided to all students, faculty and staff.

After the earthquake subsides, follow instructions for evacuation given in NAIST broadcasts.

5. NAIST-designated temporary evacuation area



Please evacuate to the lawn on the west side of the
Material Sciences building

VI In case of electrical disasters

In the case of electric shock: turn off the source with a non-conductive object, disconnect the device from power, and examine the victim's conditions (consciousness, respiration and pulse).

- **In cases of electric shock, immediately turn off the switch or power, or break the device. Priority should be given to breaking the electrical circuit. If it is impossible to cut the power, the victim should be removed from the source via an insulated object (dry wooden pole, rubber glove, cloth, etc.).**
- **When respiratory or cardiac arrest is suspected, immediately perform CPR (cardiopulmonary resuscitation) and call an ambulance.**
- **Even a minor electrical injury may cause tissue necrosis, so specialized treatment is absolutely essential.**

1. Effects on humans

Electric shock is the receiving of an electric current in a small area of the human body, frequently resulting in death.

When the electric current flows through the heart, ventricular fibrillation, a fatal arrhythmia, occurs, frequently resulting in death in several minutes. It should be noted that electric shock for even one or two seconds is extremely dangerous.

Contact with high voltage breaks the skin, allowing strong current to flow through the human body which has a lower resistance.

Contact with low voltage electricity may also have a fatal effect on the body if the skin is wet or if electrodes are within the body.



2. Extinguishing electrical fires

- 1) When a fire occurs due to an electrical accident, start extinguishing the fire after shutting off the power, except in exceptional circumstances.
- 2) When performing firefighting in exceptional circumstances, use powder and carbon dioxide extinguishers to avoid the possibility of electric shock from using water.
- 3) When the power cannot be cut off in a disaster, special measures against further accidents should be taken.

VII Crime and safety on campus

If you discover a prowler or an incident of assault, do not handle the incident alone and inform the Disaster Prevention Center (ext. 5048).

In the case of theft, do not disturb the scene and inform the Disaster Prevention Center.

Do not immediately react to suspicious phone calls, but call back after confirming information.



1. Prowlers, suspicious individuals, and assaults

When you discover a prowler or an incident of assault, if possible do not handle the incident alone, make sure of your safety and inform the Disaster Prevention Center (ext. 5048) of the location of the prowler or assailant, as well as the circumstances and any damage.

In general, the Disaster Prevention Center will contact the police.

However, in an emergency or if immediate danger is sensed, you should call both the Disaster Prevention Center and the police.

2. When theft is discovered

In the case of suspected theft, first call the Disaster Prevention Center (ext. 5048).

The Disaster Prevention Center will contact the police.

The police will perform a crime scene investigation later, so do not disturb the scene.

3. Suspicious or harassing phone calls

Do not immediately respond to suspicious phone calls. First confirm the affiliation, name and phone number of the person who called, and then call back

VIII In case of accidents

When involved in an accident, call the fire department (119) and police (110), and contact your family and the laboratory staff.

If necessary, perform emergency life support (CPR, stop bleeding, etc.) on the victim(s).

If you cause a traffic accident, never leave the scene.

Before overseas travel, confirm NAIST's (laboratory and Student Affairs Division) emergency contact system.

1. When accidents occur

Call the fire department (119) and police (110) while making efforts to evacuate to a safe area in order to insure your safety.

If you encounter a person who is wounded, unconscious, or in a state of shock, perform possible emergency life support (*CPR, stop bleeding, etc.).

* For CPR, see page 3.

If you are not alone, confirm other's safety.

If you are transferred to a hospital, make sure you have the relevant personal information with you.

If you cause a traffic accident, move your vehicle to a safe place (shoulder of the road, open area, etc.), immediately stop the engine, set up warning triangles and turn on hazard lights at night in order to prevent accidents involving subsequent vehicles.

Immediately call both the police and the fire department to rescue victim(s).

A hit-and-run is a crime. Never leave an accident scene.



2. Preparation for traveling overseas

When travelling overseas to study abroad or for research, in preparing for possible emergencies after your arrival please try to keep in mind the phrase, “Protection starts with your own actions.” Please check the “Emergency and Risk Management Manual for International Students” and NAIST’s “Notes Related to Travelling Abroad” internal homepage at (<https://ad-info.naist.jp/gakusei/member/kaigairyugaku/caution/caution.html>) and take the appropriate measures to ensure your safety.

(1) “Protection starts with your own actions.”

- In order to avoid possible emergencies or incidents while abroad please try to keep this phrase in mind. It means that always considering your actions and their effects is most important for your safety. Researching conditions of your

destination and getting mentally prepared for your travels can help you avoid difficulties and accidents.

- To avoid problems abroad, please pay attention to the following and pay attention to your surroundings when travelling.

- Avoid dangerous places
- Do not carry large amounts of cash or valuables, avoid conspicuous dress and actions, research measures to avoid situations, etc. abroad
- In case of robbery, do not resist
- Do not easily trust people you have just met
- Keep aware of your location and maintain a method of communication
- Contact your family regularly
- Follow the local laws and regulations, respect the country's religion and culture
- Additionally, do not use illegal drugs or those that may be illegal in Japan

(2) Preparation before departure

i. Information about conditions and safety at the destination

- Understand developments in related international events
- Obtain information (from the internet, etc.) concerning local safety and security and emergency contacts. Also verify university (lab, administration, etc.), insurance and government contact information
- Check information concerning diseases, outbreaks, etc.
- Research the local government, society, and culture, relationships with and image of your country at destination

ii. Confirm travel insurance details

- For travel abroad requiring a travel request, the university pays for travel insurance. (for trip duration) Please contact the Planning and General Affairs Division for any questions about university insurance.
- If you will study abroad during a leave of absence, you are not eligible for university travel insurance and must purchase insurance individually.

iii. Travel Abroad: Standards for execution, cancellation, postponement and temporary return

- In accordance with the “Travel Abroad: Standards for execution, cancellation, postponement and temporary return” below, travel abroad may be cancelled or postponed depending on the level determined by the Ministry of Foreign Affairs in its Overseas Travel Safety Information

iv. Study Abroad Request and Overseas Travel Notification

- In order to be able to confirm your safety and conditions in the event of disasters, accidents, etc. while you are abroad, students are asked to submit a “Study Abroad Request” to the International Affairs Division when studying abroad as a NAIST student, or an “Overseas Travel Notification” to the Educational Affairs Division when traveling abroad and studying abroad during a leave of absence from NAIST.

Travel Abroad: Standards for execution, cancellation, postponement and temporary return

NAIST faculty, staff and students should decide to travel abroad, or its cancellation, postponement or temporary based on the Overseas Travel Safety Information (emergency and infectious disease emergency information) of each country released by the Ministry of Foreign Affairs in Japan.

(Ministry of Foreign Affairs (MOFA) / Overseas Safety HP:

<http://www.anzen.mofa.go.jp/>)

【Levels & Responses for Emergency Information】

| Information from MOFA | | Response to each level |
|--|---|--|
| Level | Details | |
| Level 1: Exercise caution | People traveling to or residing in the country or area are advised to stay alert to security/ situation. | You can travel there but need to keep aware of safety and developments where you will visit. |
| Level 2: Avoid non-essential travel | People are advised to avoid non-essential travel, and stay alert to security/ issues. Take appropriate safety measures should you decide to travel. | You should cancel or postpone overseas travel to this country/area. If already there, take the necessary safety measures and return to Japan as soon as possible. In case you unavoidably must stay overseas, keep in close contact with NAIST. |
| Level 3: Avoid all travel | Avoid all travel there for any reason. Japanese residents may be advised of the possibility of evacuation or to prepare for it. | You must cancel overseas travel to the country/area, or return to Japan as soon as possible. |
| Level 4: Evacuate and avoid all travel | Evacuate the country/ area immediately and avoid all travel there for any reason. | |

※You should also decide your private overseas trips based on these standards.

【Levels & Responses for Infectious Disease Information】

| Information from MOFA | | Response to each level |
|--|---|--|
| Level | Details | |
| Level 1: Exercise caution | When an emergency meeting based on International Health Regulations article 49 is held and it is decided that travel to the country or area has risk of a specific infection. | You can travel there but you need to keep aware of developments where you will visit. |
| Level 2: Avoid non-essential travel | When an emergency meeting based on International Health Regulations article 49 is held and it announces an "event that may constitute a public health emergency of international concern" (PHEIC) for a specific infection. | You should cancel or postpone the overseas travel to this country/area. If already there, take the necessary safety measures and return to Japan as soon as possible. In case you unavoidably must stay overseas, keep in close contact with NAIST. |
| Level 3: Avoid all travel | When an emergency meeting based on International Health Regulations article 49 is held and announces an "event that may constitute a public health emergency of international concern" (PHEIC) for a specific infection. To prevent further infection, foreign trade and overseas travel may be restricted. | You must cancel overseas travel to the country/area, or return to Japan as soon as possible. |
| Level 4: Evacuate and avoid all travel | When an emergency meeting based on International Health Regulations article 49 is held and announces an "event that may constitute a public health emergency of international concern" (PHEIC) for a specific infection. To prevent further infection, foreign trade and overseas travel may be restricted. Medical treatment services are not functioning. | |

※You should also decide your private overseas trips based on these standards.

(3) After arriving at your destination

i. Submit your residence report to the relevant diplomatic mission abroad and confirm risk information and alerts.

- To receive services such as safety confirmation in emergencies and evacuation arrangements from a diplomatic mission abroad when staying abroad for more than 3 months (depends on citizenship), submit a residence report to the diplomatic mission. If in a country or area with unstable public security, submit a residence report regardless of stay length.
- Routinely check the website of the diplomatic mission abroad to confirm information on dangers.
- If you are involved in an accident, etc., or are in a situation where you are in danger, request protection or support from the police, emergency services, or the diplomatic mission.

ii. Confirm the crisis management system of the country and notify NAIST (lab or Educational Affairs Division)

- Gather information about crisis management about where you will stay and participate in orientations, etc. Inform NAIST (lab or Educational Affairs Division) when you feel in danger, etc.
- Notify the Educational Affairs Division of any insurance you purchase after travelling abroad and its terms, etc.
- Notify NAIST (lab or Educational Affairs Division) and your family if there are changes in your contact information

or changes in scheduling or destinations to be visited.

iii. Personal risk management

- Carry emergency contact information including police, medical services, diplomatic missions, NAIIST (lab and Educational Affairs Division), contact person abroad and insurance company.
- Arrange for a relevant person in the country of stay to contact NAIIST (lab or Educational Affairs Division) in an emergency.
- In principle, travel in a foreign country shall be by public transportation. However, if necessary, students may drive with an international permit, valid insurance and knowledge of local laws.
- When experiencing trouble, stress, etc. abroad, please consult with the contact person abroad. If this is difficult, consult with NAIIST. (lab, professors, Educational Affairs Division, Health Care Center, etc.)
- When travel abroad is cancelled or postponed due to the Ministry of Foreign Affairs' Overseas Travel Safety Information and the above standards, notify NAIIST immediately
- In case of serious disease, injury, etc., consult with your family and NAIIST to determine whether to continue the stay or not.
- If involved in an accident or incident, contact your

supervising professor. If not available, contact the Student Affairs Division.

If neither of these are available, contact the Disaster Prevention Center and leave basic information, then contact either your supervisor or the Educational Affairs Division (gakusei@ad.naist.jp) by email. Contact only by email can lead to a slower response, so please continue to try and contact by phone. For this, please make sure that you have quick access to contact information at all times.

If you are in a situation where you cannot directly contact your family or NAIST, please have your contact person in the country contact them instead. If you are travelling with faculty members, follow the instructions of the faculty member. Please make sure to contact your family and the insurance company when necessary.

IX Prioritizing safety in your studies, experiments, etc.

Actively organize, inspect and clean the laboratory.

Prepare carefully and make reasonable plans.

Conduct plans carefully.

Always keep in mind the recommended responses when accidents occur.

Pay attention to clothing, wearing appropriate work suits and protective devices.

Do not just assume “It will be all right.”

1. Conducting experiments safely

Three rules for safe experiments

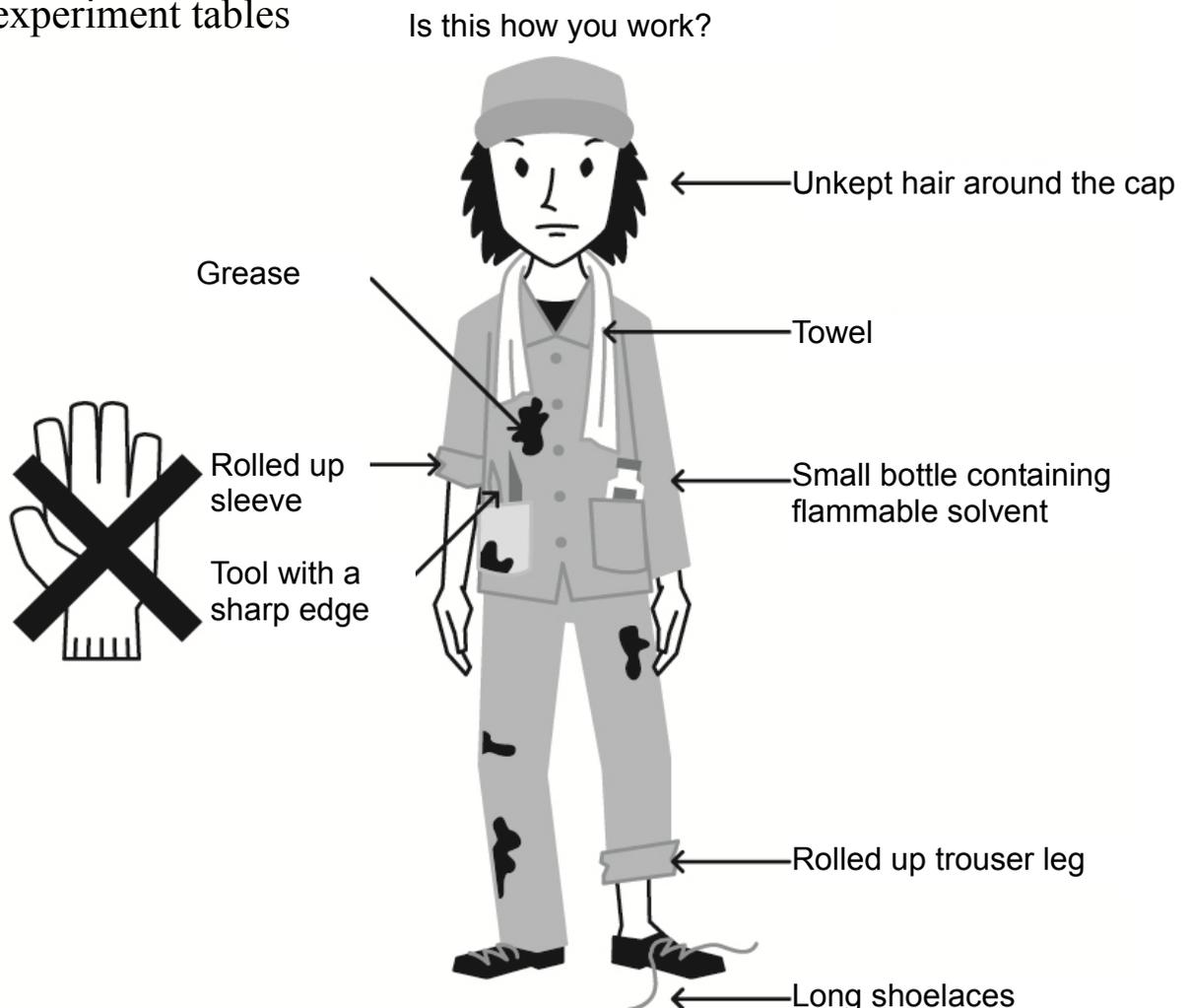
- **Conduct a preliminary survey and predict hazards.**
- **Fully understand the equipment and system.**
- **Always conduct experiments with care.**

Promotion of the “5 S” Activities

- [1] **Seiri (arrangement): divide necessary and unnecessary items and dispose of the latter.**
- [2] **Seiton (organization): decide the position and procedures for using necessary items promptly, and indicate these clearly.**
- [3] **Seiso (cleaning): clean laboratory to keep it free of dust or contamination, thus also checking details.**
- [4] **Seiketsu (cleanliness): Thoroughly arrange and organize the laboratory environment and clean it to maintain organized environment.**
- [5] **Shukan & Shitsuke (habit and discipline): make it a habit of performing specific activities as designated times.**

2. Entering the laboratory

- 1) Do not conduct experiments when you are in poor physical condition. Lack of concentration is likely to cause errors in experiments and may result in hazardous situations.
- 2) Wear clothing appropriate for experiments (lab coat, etc.) and protective devices (safety glasses, mask, etc.). Wear shoes with low heels. Slippers, etc., are strictly prohibited.
- 3) Confirm the emergency exit, evacuation route, emergency alarm, electrical panel, fire extinguisher, faucet, emergency shower, first-aid box, and where to make emergency calls.
- 4) Unlock the windows. Ventilate the room if you smell an odor.
- 5) Do not leave anything in the hallways or on the floor between experiment tables



- 6) In a laboratory where many staff members simultaneously conduct experiments, when performing experiments with a possibility of danger, inform others of the risks; and if you must leave your experiment, tell or indicate this to other laboratory members.
- 7) When a strong earthquake occurs, turn off the gas main and power, and seal hazardous chemicals and reagents tightly before evacuating.
- 8) Eating, drinking and smoking are strictly prohibited in laboratories.

3. Accidents during experiments

When an accident occurs during a chemical or biological experiment or an experiment involving high-pressure or liquefied gas, radiation, or light or electron microscopes, first contact the laboratory staff.

When the following events occur, inform the relevant office of the circumstances.

Fire (press the fire alarm)

... Disaster Prevention Center (ext. 5048)

Injury

... Health Care Center (ext. 5105, 5108)

Blackout, short circuit or electric fault, gas or water leakage, or ventilation system breakdown

… Central Monitoring Station (ext. 5066)

Theft, loss, leakage or outflow of materials, etc.

… Secretariat office for each laboratory

The Emergency and Risk Management Manual describes predicted dangerous situations and measures to be taken.

If an accident occurs during an experiment, secure your physical safety and follow the instructions of the laboratory faculty and staff, which are in accordance with Chapter 1 of the Emergency and Crisis Management Manual.

Of course, it is best to prevent accidents. The Guidelines for Safety (experiment version) describe the basic knowledge necessary for conducting safe experiments, including the outline and operating procedures for chemical or biological experiments and those using high-pressure or liquefied gas, radiation, and light and electron microscopes, procedures for handling experiment systems and the effects of radiation, X-rays or ultraviolet light.

Please read the Guidelines for Safety (experiment version) thoroughly and conduct research carefully to prevent accidents.



4. “Occurrences” and “incidents”

“Occurrence” and “incident” may sound unfamiliar, but are used in the Occupational Safety and Health Management System. They are safety measures to prevent from accidents and draw attention by gathering reports of unexpected occurrences and incidents during laboratory work. Troubles that you may experience will be shared with other researchers and students to improve work environment. Please submit the “Accident report” and the “Report of work-related disorders” to the General Safety and Health Management Office (ext. 5928) should you confront any trouble.

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