



Centre for Comparative Medicine Research

EMERGENCY AND DISASTER MANAGEMENT PLAN

- I. **PURPOSE/APPLICABILITY:** To prescribe procedures to follow in the event of an adverse condition, emergency or disaster situation affecting the Centre for Comparative Medicine Research (CCMR) and other research animal holding areas at HKU. To identify appropriate personnel and resources to take necessary actions before, during and after such emergency. To minimize the loss of animals and/or negative impacts to ongoing research and animal colony management. To enhance the ability of the CCMR to restore and sustain its operations during an emergency.
- II. **RESPONSIBILITY**
 - A. **Head, CCMR:** Periodically reviews and ensures compliance with this Emergency and Disaster Management Plan (“The Disaster Plan”). Ensures that humane care is provided and that the responsibility of providing satisfactory standards of care for animals is upheld even when there are adverse conditions.
 - B. **Assistant Technical Director – (Safety Portfolio), CCMR:** Periodically reviews procedures for managing the disaster plan and proposes changes to the Head of CCMR. Identifies personnel in the Centre to be responsible for each part of the disaster plan. Responsible for implementation and ensuring that all personnel in the Centre respond to assigned emergency duties. Performs post-emergency review and proposes suitable actions to improve the plan.
 - C. **CCMR Area Heads, or Designated Departmental Safety Representative (DSR):** Serve as first responders for their relative areas and train and supervise subordinates in their areas to ensure the disaster plan is understood and implemented. Collects all information and makes emergency report draft for the Head of CCMR. Files all reports as required. Updates the responsible personnel list and telephone numbers on the emergency roster at least biannually.
- III. **PROCEDURES**
 - A. **Definitions**
 1. Emergency management is the process of preparing for, responding to, and recovering from emergencies or disasters.
 2. Emergency and Disaster Management consists of four phases:
 - a. Preparedness Phase occurs before an emergency happens. It consists of making plans or preparations to save lives and prevent additional property damage.
 - b. Response Phase occurs during the emergency. It includes the actions that are taken to save lives, ensure animal welfare, and prevent additional property damage.
 - c. Recovery Phase takes place after the emergency, and it includes actions that are taken to return to a normal or safer state.
 - d. Mitigation Phase takes place both before and after the emergency, and it prevents an emergency from happening, minimizes the likelihood that an emergency will happen, or lower the damaging effects of unavoidable emergencies.

3. A First Responder plays a key role in directing emergency responses at the CCMR. The First Responder is the Area Head at CCMR facilities or DSR at Satellite facilities, of each area, who directs the overall emergency response effort, and coordinates the actions of other responders. He/She will manage Technicians to provide husbandry care for the animals in emergency situations. In the absence of the Area Head/DSR, the second in command or another Area Head/DSR must automatically assume the role of the First Responder.
4. Emergency Coordinators:
 - a. Veterinary Care Coordinator is the Veterinarian in charge of the area affected, who will manage veterinary operations in an emergency. In the absence of the area veterinarian, another veterinarian will perform this role. In the event that no veterinarian can be contacted, any Technician with relevant experience may assume this role temporarily, and is authorized to provide first-aid treatment within the limits of his/her ability and training, until a veterinarian arrives to relieve him/her of that responsibility.
 - b. Technical Coordinator is the Senior Technical Manager at CCMR, or the Lab Superintendent in Satellite areas. He/She will manage and coordinate with Estates Office any measures needed to minimize impact of the incident.
5. First Responders & Coordinators will report any incidents at all animal areas to the Head of Centre (or Acting Head of Centre). The Head of Centre will report any major incidences to the Dean, Associate Dean (Research) or the CULATR Chairman depending on the severity of the incident and whether research or animals are affected.

B. General Procedures

1. Possible emergencies that may occur, their descriptions and appropriate responses are listed in Appendix A (System Failures) and Appendix B (Emergencies):
 - a. System failures include computer system, electric power, emergency generator, fire alarm system, sewage stoppage, sewage/water leakage, water supply system, water shortage, steam/hot water system, telephones, HVAC system and air conditioning Centre failure.
 - b. Emergencies also include, but are not limited to, fire, chemical spills or other violent situations.
2. Essential emergency telephone numbers of CCMR personnel are listed in prominent areas and on our website https://intraweb.hku.hk/local/CCMRnit/our_team.html. Area Head's and Senior Management are also members of a WhatsApp Group.
3. Animal Evacuation and Priority
 - a. Preservation of human life is the primary goal of this plan. Only when safe to do so will measures to safeguard animals be undertaken.
 - b. If safe to do so, animals will be relocated to other areas in the Centre if the condition of the room is not satisfactory and may threaten the animals' lives or well-being. Animals will be maintained in established groups if at all possible.
 - c. If the disaster is severe, the Head of CCMR at the direction/advice of the AV, will decide

whether all animals in the Centre must be evacuated. The animals will be evacuated as prioritized in the list below.

- (i) central breeding colonies
 - (ii) experimental breeding colonies
 - (iii) experimental holding colonies
- d. Emergency animal euthanasia can be authorized by any CCMR veterinarian on site as necessary for moribund or severely injured animals, or when no acceptable housing or care is available during the emergency. Euthanasia will be performed in accordance with the AVMA Guidelines for the Euthanasia of Animals: 2020 Edition. The AV and any Centre Veterinarian have absolute authority to make decisions safeguarding animal welfare.
- e. If the disaster does not pose an immediate threat to human and animal welfare/life, a disaster response team will be formed to evaluate measures needed to rectify the situation and prevent future occurrences.
- f. In the event of a disaster taking place within a biological/hazardous containment area, or an accident resulting in human casualties, the Area Head or DSR will immediately notify the University Biological Safety Officer.
4. Training: Supervisory staff must ensure that their subordinates understand the emergency plan.
5. Fire drill and drills for water supply/ventilation/electric power failure should be conducted at least annually. The Executive Officer must ensure that all telephone lists are accessible and accurate and that an updated website telephone list is maintained at https://intraweb.hku.hk/local/CCMRnit/our_team.html.

C. Disaster Response Procedures:

1. Response Phase:

- a. The staff on the scene should first prioritize human safety and take all necessary measures to protect human life and safety. If safe to do so, their next priority should be to safeguard animal life, health and welfare.
- b. Notify the Area Head or DSC for the affected area, who will be the First Responder and will coordinate safety and husbandry actions required for animals in accordance with the emergency plan.
- c. The Area Head or DSC will notify the Veterinary Team, (AV, or other veterinarian) who will take all actions necessary for proper veterinary treatment of animals. The CCMR Centre Head/Acting Head will also be notified.
- d. Notification to all team members as soon as possible via WhatsApp group or telephone is needed.
- e. In the event of a disaster taking place within a biological/hazardous containment area, or an accident resulting in human casualties, the Area Head or DSC will immediately notify the University Biological Safety Officer.

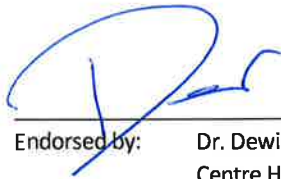
2. Recovery Phase: After the emergency, all actions are taken to return to a normal or safer state. The emergency recovery phase is usually managed by the Technical Coordinator. A disaster response team that includes the AV will also be formed to evaluate measures needed to rectify the situation and prevent future occurrences.
3. Mitigation Phase: After the emergency or disaster, the situation, response, damage, and resolution are summarized and reported by the Executive Officer, CCMR, with input from the Estates Office engineers or maintenance staff. This will help prevent future emergencies from happening, decrease the chance that an emergency will occur, and minimize damaging effects of unavoidable emergencies. The report is reviewed by the Assistant Technical Director (Safety Portfolio), The Biological Safety Officer (if applicable) ; the AV, and then submitted to the Head of CCMR, and if applicable Director of Safety Office.

IV. APPENDICES

- A. List of Systems Failures and Basic Staff Responses
- B. Emergency Conditions and Basic Staff Responses
- C. CCMR Van: SOP for Emergencies
- D. Disaster Plan During Animal Surgery



Approved by: Dr. Jennifer Go
Chairman of the Centre Safety Committee



Endorsed by: Dr. Dewi Rowlands
Centre Head

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SYSTEMS FAILURES AND BASIC STAFF RESPONSE

FAILURE OF:	WHAT TO EXPECT:	WHO TO CONTACT:	RESPONSIBILITY OF USER
Computer Systems	System down	Executive Officer, CCMR Ms. Jane Yau Tel: 28168515, or Mr. Albert Au LKS Faculty of Medicine Tel: 39176843/90944269	Use backup manual/paper systems.
Electrical Power Failure (Emergency Generators Working)	Many lights are out, only emergency outlets and switches work.	Senior Technical Manager, CCMR Mr. P.H. Yeung Tel: 28168513 Security Guard Room (24 hours) Tel: 39179300	Check system on emergency power.
Fire Alarm system	No fire alarm	Executive Officer, CCMR Ms. Jane Yau Tel: 28168515	Institute a fire watch; inform all personnel; minimize fire hazards; use telephone and/or walkie talkie to report fire.
Medical Supplies	Out of critical medical supplies.	Senior Technical Manager, CCMR Mr. P.H. Yeung Tel: 28168513	Purchase from local drug companies.
Intensive Care Equipment/System; Special Animal Containments	Equipment/System not functioning properly	Senior Technical Manager, CCMR Mr. P.H. Yeung Tel: 28168513	Relocate animals to the appropriate place. Try to find replacement equipment. Mark malfunctioning equipment and take out of service. Contact local distributor for repairs.
Sewer Stoppage	Drains, toilets backing up	Security Guard Room (24 hours) Tel: 39179300	Do not flush toilets; do not use tap water.
Telephones	No phone service	Information Technology Services Miss Winnie Cheung Tel: 35495247	Use mobile phones
Freezers and Refrigerators	Not in service	Senior Technical Manager Mr. P.H. Yeung Tel: 28168513	Observe freezer temperature closely. Relocate all specimens and other items if necessary.
Ventilation (HVAC or A/C)	No ventilation, no heating or cooling	Senior Technical Manager Mr. P.H. Yeung Tel: 28168513 Security Guard Room (24 hours) Tel: 39179300	Obtain fans/heaters from Estates Office as needed.

Water System and Hot Water System	No hot water. Sinks and toilets inoperative	Security Guard Room (24 hours) Tel: 39179300	Institute Fire Watch; conserve water. Ensure water taps at sinks are turned off.
Suspension of Lift Service	Access to animal facilities including barrier facilities (i.e. Specific Pathogen Free Central Breeding Area and Minimal Disease Area) may be affected; disruption to animal delivery services	Executive Officer, CCMR Ms. Jane Yau Tel: 28168515 Senior Technical Manager, CCMR Mr. P.H. Yeung Tel: 28168513	Do not use the lift; use the stairs if possible.

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EMERGENCY CONDITIONS AND STAFF RESPONSE IN RESEARCH ANIMAL AREAS

Emergency	Description	Initial Response	Secondary Response	Follow up
Fire	Fire	Rescue those in immediate danger. Isolate the fire by closing all doors. Pull the fire alarm. Evacuate immediately. Once in a safe area notify Technical Coordinator	If safe to do so, use a fire extinguisher to put out the fire.	Evacuate personnel areas. If safe to do so, follow the animal evacuation plan.
Chemical Spills	Chemical spills	Cordon off spill area (if safe to do so). Evacuate area. Inform supervisor (Area Head). Inform Safety Office or Fire Service (depending on severity)	Dispose of containerized material. Consult the Safety Office if necessary.	Complete report of the incident and submit it to the Safety Office.
Flood	Flood	Turn off power supply. Notify Technical Coordinator	Report to Estates Office Staff to turn off water isolation valve.	Complete report of the incident and submit it to Estates Office.
Regulated Medical Waste Spills or Leak into a Containment Area	Blood or body fluids or microbiological agents.	Contain the spill (if safe to do so). Notify Technical Coordinator & University Biological Safety Officer	Disinfect the contaminated area.	Complete report of the incident and submit it to the Safety Office.
Violent Situation	A combative user, gang related incident or other violent or potentially violent situation.	Move to a safe place and lock the doors. Seek help or dial 999 for Police. Wait for Estates Office Security or Police to respond.	Do not try to disarm individuals or physically contact them in any way. Speak softly to calm the individual.	Complete report of the incident and submit it to the Estates Office.
Civil Unrest	An incident of civil disobedience, protest or unrest	Safety of staff is of first priority. Only travel to/from work if safe to do so.	Identify teams that are able to attend work to provide basic husbandry duties. Instigate flexible working arrangements. Provide basic husbandry duties as a priority	

Closure of Public Transport	Breakdown or closure of mass transit systems due to strike, adverse weather or mechanical breakdown	Instigate flexible working arrangements. Identify teams that are able to attend work to provide basic husbandry duties.	Provide basic husbandry duties as a priority	
Infectious Disease Epidemic or Pandemic	Widespread community transmission of an infectious disease	Secure animal areas identify teams that are able to attend work to provide basic husbandry duties Follow institutional guidelines.	Instigate disease spread and mitigation measures e.g. flexible working arrangements, split teams, travel history, temperature and health surveillance, surgical mask wearing.	

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Disaster Plan for the CCMR Van during Animal Delivery Service

No.	Emergency Events	Description	Outcome	Responsible Parties and Actions to be Taken
1	Ventilation	Suspension of Ventilation System (A/C)	No Air-con supply to the Goods Compartment	<p><u>Driver/Driver's Assistant</u></p> <ul style="list-style-type: none"> ■ Check the Temp. inside the Goods Compartment. ■ Check the animals and remove the issue trolley cover if Temp $\geq 26^{\circ}\text{C}$. ■ Turn on the Exhaust fan to increase air change inside the Goods Compartment. ■ Inform SA Supervisor [Tel: 2816 8468/8539/8513] ■ If the total no. of animal cages ≤ 3, move the animal cages to the Driver Compartment. ■ If Temp. $\geq 29^{\circ}\text{C}$ and/or Duration of transportation ≥ 30 minutes, <ul style="list-style-type: none"> - Inform GO [Tel:2816 8510]. - Postpone the delivery service whenever possible, return the animals and house them in IVCs in CA-Ext, DM Building temporarily. - If the Van is on the way, <ul style="list-style-type: none"> ● drive back to CA-Ext, DM Building. ● return the animals and house them in IVCs in CA-Ext, DM Building temporarily. <p><u>GO</u></p> <ul style="list-style-type: none"> ■ Inform researchers of any updated delivery schedule.
2	Flat tyre	Puncture or Deflation of tyre(s)	Suspension of Delivery Service	<p><u>Driver/Driver's Assistant</u></p> <ul style="list-style-type: none"> ■ Inform GO [Tel:2816 8510] and SA Supervisor [Tel: 2816 8468/8539/8513]. ■ Call a tow for tyre repairing service. ■ Postpone the delivery service whenever possible, return the animals and house them in IVCs in CA-Ext, DM Building temporarily. <p><u>GO</u></p> <ul style="list-style-type: none"> ■ Inform researchers of any updated delivery schedule.
3	Tail Lift	Tail Lift does not function properly or could not open /close	Animal Delivery Trolley could not be unloaded	<p><u>Driver/Driver's Assistant</u></p> <ul style="list-style-type: none"> ■ Inform SA Supervisor [Tel: 2816 8468/8539/8513]. ■ Use the side door of the Unit Van for unloading of the animal cage(s). ■ Call for maintenance after the delivery service.

4	Driver	Feeling unwell or for other reasons that driver could not carry out his duty	Suspension of Delivery Service	<p><u>Driver/Driver's Assistant</u></p> <ul style="list-style-type: none"> ■ Park the Van at the nearest parking area of CA-Ext/FMB/Main Campus or in a safe place at roadside. ■ Switch on the Emergency light. ■ Inform GO [Tel:2816 8510] and SA Supervisor [Tel: 2816 8468/8539/8513]. ■ Call an ambulance if necessary. ■ The backup driver to continue the delivery service or return the animals to CA-Ext, DM Building and house them in IVCs temporarily if delivery service need to be postponed. ■ Backup driver returns the Van to the Unit parking lot. <p><u>GO</u></p> <ul style="list-style-type: none"> ■ Inform researchers of any updated delivery schedule.
5	Engine Stall	Engine Failure or Overheat	Suspension of Delivery Service	<p><u>Driver/Driver's Assistant</u></p> <ul style="list-style-type: none"> ■ Inform GO [Tel:2816 8510] and SA Supervisor [Tel: 2816 8468/8539/8513]. ■ Postpone the delivery service whenever possible. <ul style="list-style-type: none"> (A) If the Van stopped at G/F of CA-Ext or CA-FMB, <ul style="list-style-type: none"> - Unload the animals and keep them inside CA-Ext or at the G/F of Lift No. 14 Lobby of CA-FMB temporarily. - Inform researchers to collect the animals in CA-Ext or CA-FMB. - Call a tow for repairing service. (B) If the Van stopped on road, <ul style="list-style-type: none"> - Call a tow^{Note 2} to pull the Unit Van to CA-Ext, DM Building. - Return the animals and house them in IVCs temporarily. - Tow the Unit Van for repairing after the animals are unloaded. <p><u>GO</u></p> <ul style="list-style-type: none"> ■ Inform researchers of any updated delivery schedule.

6	Traffic collision	Crash or being crashed by other vehicle(s) or object(s)	No or minor damage (Personal, Animals, Unit Van and/or other properties)	<p><u>Driver/Driver's Assistant</u></p> <ul style="list-style-type: none"> ■ Stop the Van ■ Inform GO [Tel:2816 8510] and SA Supervisor [Tel: 2816 8468/8539/513]. ■ Call police to file a record. ■ Exchange details if other parties involved. ■ Record the time and venue of accident and how the accident happened. ■ Take some photos of the accident scene and vehicle(s) involved. ■ (A) Resume Delivery Service after the issue is settled. ■ (B) If the Unit Van cannot resume the delivery service, <ul style="list-style-type: none"> - Postpone the delivery service whenever possible, return the animals and housed those animals in IVCs at CA-Ext, DM Building temporarily. - If not, call a tow^{Note 2} to pull the Unit Van to CA-Ext, DM Building. - Return the animals and house them in IVCs temporarily. - Tow the Unit Van for repairing after unloading the animals. <p><u>GO</u></p> <ul style="list-style-type: none"> ■ Inform researchers of any updated delivery schedule.
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			<p>Serious injuries and damage (Personal, Animals, Unit Van and/or other properties)</p> <p>Driver/Driver's Assistant</p> <ul style="list-style-type: none"> ■ Stop the Van ■ Inform GO [Tel:2816 8510], Departmental Safety Representative (DSR) and SA Area Head [Tel: 2816 8513]. <p>Personal injuries:</p> <ul style="list-style-type: none"> ■ Call police and/or ambulance immediately. <p>Animal injuries/escape</p> <ul style="list-style-type: none"> ■ In case the animals escape from the animal cages, <ul style="list-style-type: none"> - Return the Unit Van to the nearest CCMR Animal Facility whenever possible. - If the Unit van cannot be returned to the nearest CCMR animal facility, wait until supporting CCMR staff arrived. - CCMR staff will wear personal protective equipment to catch the escaped animals. - The caught animal(s) will be euthanized after advised by the Unit Attending Veterinarian. ■ In case there is/are animal(s) found injuries/death, return the animal cages to the nearest CCMR animal facility. ■ Perform euthanasia if deem necessary after advised by Unit Attending Veterinarian <p>Unit Van damage</p> <ul style="list-style-type: none"> ■ Call the police. ■ Check the animals and Unit Van's condition. ■ Call a tow^{Note 2} to pull the Unit Van to CA-Ext, DM Building. ■ Return the animals and house them in IVCs temporarily. ■ Tow the Unit Van for repairing after the animals are unloaded. <p><u>GO</u></p> <ul style="list-style-type: none"> ■ Inform researchers of any updated delivery schedule
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Note:

1)	CA-Ext – Conventional Area-Extension, DM Building	GO – General Office
	CA-FMB – Conventional Area – LKS Faculty of Medicine Building	SA – Service Area
	DM Building – Dexter H.C. Man Building	IVCs – Individual Ventilated Cage System
2)	Tow Companies	Telephone number
	A) 偉滔拖車服務有限公司	2572 8353 / 2575 0500
	B) 恒輝拖車有限公司	2668 2999
	C) 鴻運拖車服務	2559 9333

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Disaster Plan for Mandatory Evacuations During Animal Surgeries

- A) When there is fire alarm:-
- 1) Personnel should not continue with any ongoing or planned procedure.
 - 2) Technical staff should communicate with Departmental Safety Representative (DSR) by using the walkie-talkie in Rm G07 or via telephone/ WhatsApp.
 - 3) Veterinary Attendant/Assistant staff should prepare the drugs for euthanasia (Pentobarbital, Trade name: Dorminal 20%).
- B) If evacuation is not required,
- 1) All personnel can continue with the ongoing or planned procedures.
- C) If evacuation is required, and
- 1) a surgical incision has not been made at the time of the alarm:-
 - i. The surgeon should not proceed any further with the planned procedure.
 - ii. The anaesthetic machine and ventilator will be turned off.
 - iii. The animal will be disconnected from anaesthesia and any monitoring equipment and return to its recovery cage (for large animals such as pigs and goats, the animal should be placed on the floor).
 - iv. The cuff on the endotracheal tube, if present, will be deflated and the tube removed.
 - v. Ensure the door is closed when evacuating.
 - 2) a surgical incision has been made or if the procedure is well under way:
 - i. The animal should be euthanized with an overdose of an appropriate euthanasia agent (150mg/kg Pentobarbital).
 - ii. An incision should be made at the intercostal space entering the thoracic cavity as secondary method of euthanasia.
 - iii. The anaesthetic machine and ventilator will be turned off.
- D) Once evacuated:-
- 1) Evacuees should proceed to the assembly area outside the building.
 - 2) Do not return to the evacuated building unless directed by DSR.
 - 3) Once authorized to return to a building, animal research personnel are to return to their animals and are to attend to their clinical care.