



澳門大學
UNIVERSIDADE DE MACAU
UNIVERSITY OF MACAU



中華醫藥研究院
Instituto de Ciências Médicas Chinas
Institute of Chinese Medical Sciences



中藥質量研究國家重點實驗室 (澳門大學)
Laboratório de Referência do Estado para Investigação de
Qualidade em Medicina Chinesa (Universidade de Macau)
State Key Laboratory of Quality Research in Chinese Medicine
(University of Macau)

SAFETY TRAINING

SPF LABORATORY ANIMAL CENTRE

Laboratory Technician:

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CONTENT

- Introduction
- Management
- Safety

INTRODUCTION OF SPF LABORATORY ANIMAL CENTRE

- Location: N22 research building 1st floor side building
- Area: 880m²
- Bio-safety level: BSL-2
- Cleanliness: SPF level
- Function: Housing & bedding SPF level animal
- Animal type: Mice and Rat
- Available for laboratory animal sampling, surgery, drugs perfusion & anesthesia

INTRODUCTION OF SPF LABORATORY ANIMAL CENTRE

SPF Laboratory animal centre	
Total qty. of housing mice cages	5402
Total qty. of housing rat cages	70

For quarantine & bedding			
Total qty. of housing mice cages	1706	Total qty. of housing mice	10236

For user			
Total qty. of housing mice cages	3696	Total qty. of housing mice	22176
Total qty. of housing rat cages	70	Total qty. of housing rat	420

MANAGEMENT TEAM FOR SPF LABORATORY ANIMAL CENTRE

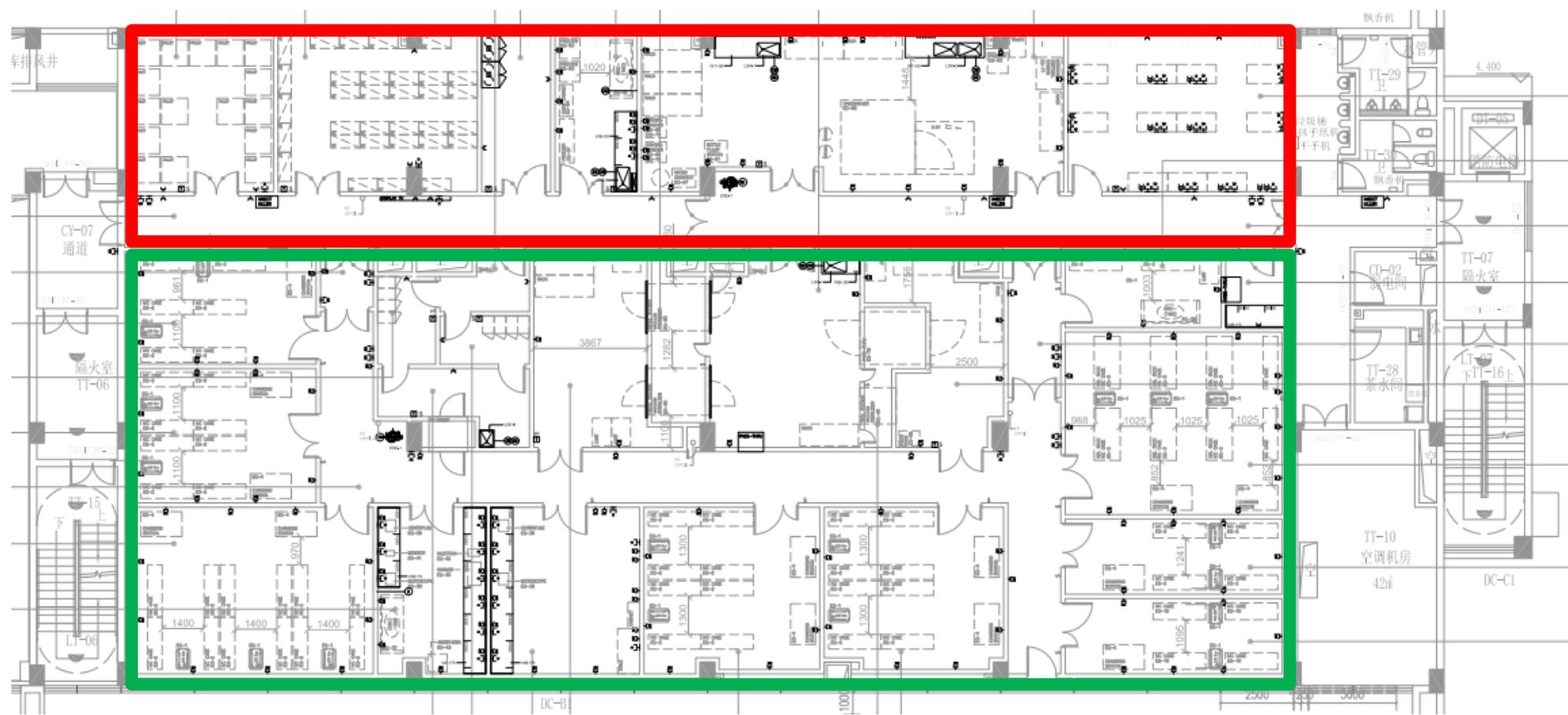
ICMS

Location	Contact person	E-mail address	Extension
N22-Room 1046	ICMS SPF LAC Team	icms_spflac@um.edu.mo	
	Eric Huang	erichuang@um.edu.mo	8822 4539
	Ryan Leong	kunhongleong@um.edu.mo	8822 2594
	Chloe Chak	chloechak@um.edu.mo	8822 4578
	Bernice Cheang	bernicecheang@um.edu.mo	8822 4581

FHS

Location	Contact person	E-mail address	Extension
N22-Room 3067,4031/4033	Dr. Heng SUN	hengsun@um.edu.mo	8822 8803
N22-Room 3064	Avery Tam	averytam@um.edu.mo	8822 4802

FUNCTION AREA OF SPF LABORATORY ANIMAL CENTRE



Function area :
■ Un-barrier area
■ Barrier area

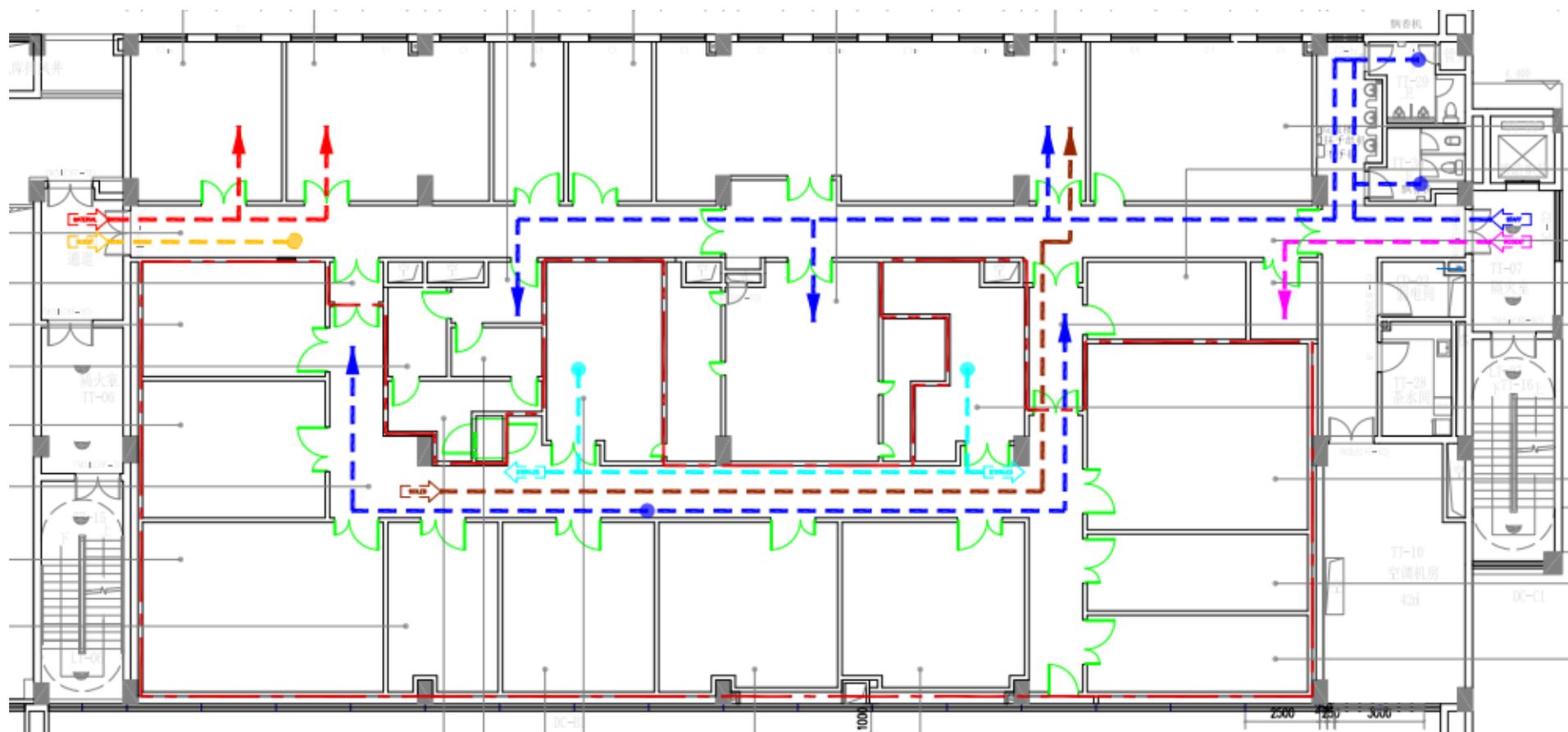
FUNCTION AREA OF SPF LABORATORY ANIMAL CENTRE



Function :

- • Supporting area
- • Public area
- • ICMS housing area
- • FHS housing area
- • Trans-genetic animal room
- • Bedding room
- • Quarantine room
- • Rat housing room

FUNCTION AREA OF SPF LABORATORY ANIMAL CENTRE



- Function :
- Personal flow
 - Animal flow
 - Consumable flow
 - Visitor flow
 - Sterilization flow
 - Soiled material flow

MANAGEMENT OF SPF LABORATORY ANIMAL CENTRE

- Government
- University of Macau
- ICMS animal facility management committee

Before performing the animal experiment

Must obtain the below permit:

1. IAM permit
2. UM Animal Research Ethics permit

MANAGEMENT OF SPF LABORATORY ANIMAL CENTRE

• Government

	IAM	IAM	IAM	IASF
Law & article	Law No. 4/2016 Animal Protection Law	Law No. 7/2020 Animal Epidemic Prevention Law	Law No. 4/2023 Law on Veterinary Clinical Care and Commercial Activity of Animals	Law No. 34/99/M Regulation of narcotic drugs and psychiatric substances lawful trade and use
Content	<ol style="list-style-type: none"> 1. Animal owner responsible 2. General protection of animals 3. Crime of cruelty to animals 4. Use of animals for scientific application 	<ol style="list-style-type: none"> 1. Isolation of infected animals 2. Declaration to the IAM or Police within 24hours 	<ol style="list-style-type: none"> 1. Not allowed to operate any commercial activity of animals simultaneously 	<ol style="list-style-type: none"> 1. Lawful trade and use narcotic drugs and psychiatric substances 2. Before performing every narcotic drugs and psychiatric substances in experiment must report to IASF in advance
Website or leaflet	Website: https://bo.io.gov.mo/bo/i/2016/30/lei04_cn.asp 	Website: https://bo.io.gov.mo/bo/i/2020/21/lei07_cn.asp 	Website: https://bo.io.gov.mo/bo/i/2023/15/lei04_cn.asp 	Website: https://bo.io.gov.mo/bo/i/99/29/decllei34_cn.asp 

MANAGEMENT OF SPF LABORATORY ANIMAL CENTRE

- University of Macau
- UM Animal Research Ethics Application
- **UM Research Ethics Review System** (RERS)
- To get an overview of the new system, you may login using the following steps:
 1. As a new user, you will need to apply for a license on the UM website before login on the system. You can access the license application page at the following URL: <https://account.icto.um.edu.mo/mylicense> .
 2. Reviewers can access the system at the following URL: <https://review.researchethics.um.edu.mo>
- Contact:
- Department: RSKTO
- Email: rskto.ethics@um.edu.mo

MANAGEMENT OF SPF LABORATORY ANIMAL CENTRE

- ICMS animal facility management committee
- Responsible:
 - To establish management and operating procedures for the use of animals;
 - Review research and development and teaching programs using laboratory animals;
 - Develop plans for the management and use of laboratory animals;
 - Regular inspection of the animal house and its facilities;
 - Develop training guidelines for staff and enforce laws and regulations related to animal experiments.

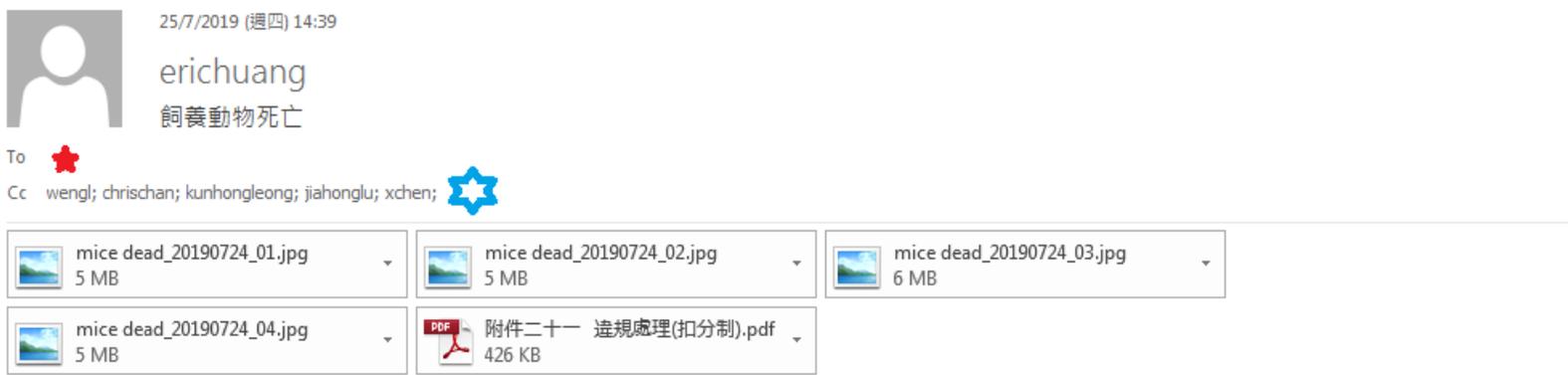
MANAGEMENT OF SPF LABORATORY ANIMAL CENTRE

- Regulation of SPF LAC
- 12 point deduction system

Deduction Point	Description/ action	Punishment
1	No check in-out record/ Incorrect labeling/ Cage reservation overtime etc.	1. Verbally warning
3	No PPE/ Poor handling for infection waste/ Poor handling for animal carcass/ No cover during transferring animal/ Wrong location for housing/ No report for the unusual status animal lab etc.	<ol style="list-style-type: none"> 1. Email warning 2. Submit the Declaration and Repentance letter 3. Report to PI
6	Wrong labeling for reagent or chemicals/ No action and notified for chemical or reagent spill/ Animal transfer out of the lab without management committee or team approval/ Unusual Animal death/ No permit/ Animal escape etc.	<ol style="list-style-type: none"> 1. Email warning 2. Submit the Declaration and Repentance letter 3. Report to PI
12	Cruelty to animals/ Processing the infection experiment without lab without management committee or team approval	<ol style="list-style-type: none"> 1. Email warning 2. Submit the Declaration and Repentance letter 3. Cancel all of the SPF LAC access 4. Report to the University 5. No allowance for application anymore

MANAGEMENT OF SPF LABORATORY ANIMAL CENTRE

- Example of Punishment



2019年7月24日發現動物房7016ab房中屬於  同學租用的C00206號位置籠具中飼養的動物死亡，同時發現食物架中沒有食物和水，懷疑動物是因饑餓或缺水導致出現互食情況出現致死。

根據動物房管理規程附件二十一第6項**不當飼養令動物死亡（如非畜意餓死，或使動物缺氧死亡等）**，作扣**6分**處理，並按照動物房管理規程附件二十一第12項**在一個記分周期內累積記分未達12分，但記3分或以上之使用者，應就每次記分事項遞交報告書一份，內容應包括：被記分事項經過、檢討記分原因及改善報告計劃等**，該報告書要求使用者之指導老師在上簽名確認，請同學以此為戒，謝謝！

附件相片為扣分的依據

Best regards,
Eric Huang

HOW TO HAVE THE ACCESS FOR SPF LABORATORY ANIMAL CENTRE?

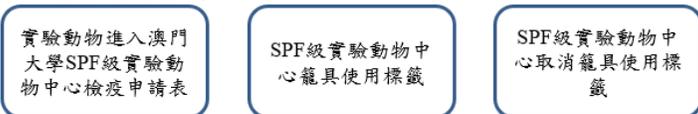
- Pass the safety training
- Pass the SPF Laboratory animal centre training

SPF實驗動物中心管理規範文件

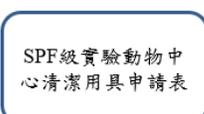
● 使用者申請



● 動物進出申請



● 用具進入潔淨區申請



項目	內容	附件	文件數目(份)
1	ICMS-1F-SPF動物實驗室管理規範	總則	1
2	將動物科學應用實驗設計方案須知	附件一至三, 附件二十四, 附件三十二至四十四	17
3	受管制麻醉品及精神物質之許可活動申請及使用	附件四, 附件二十六至三十一	7
4	SPF級實驗動物中心培訓及考核及指引	附件五至附件十二, 附件十六	9
5	動物實驗SOP	附件十三至十五	3
6	SPF級實驗動物中心意外處理	附件十七	1
7	SPF級實驗動物中心違規處理-扣分制	附件十八	1
8	相關法律法規	附件十九至二十三	5
總數			44

LABORATORY SAFETY OF SPF LABORATORY ANIMAL CENTRE

- Office hour:
- 9:00 to 17:45 (Monday to Thursday)
- 9:00 to 17:30 (Friday)
- Weekend or public holiday (Upon application and manpower)
- Barrier area operating time:
- 9:00 to 18:00 (Everyday)

✓ Emergency Alarm System



✓ Emergency Shower



✓ Spill kit



✓ First aid kit



個人防護裝備穿戴流程

Procedure for putting on Personal Protective Equipment

1. 洗手 Hand hygiene

穿著防護裝備前，要除去手上的飾物並徹底清潔、消毒雙手。

擦淨包括手掌、手背、指隙、指背、拇指、指尖、手腕。

Before putting on the PPE, please remove any accessories, clean and disinfect your hands thoroughly. Including palms, back of hands, between fingers, back of fingers, thumbs, fingertips and wrists.



2. 口罩 Mask

佩戴合適尺碼的口罩，確保口罩完全覆蓋口、鼻及下巴。

Wear the suitable size mask, and ensure the mask completely covers the mouth, nose, and chin.



3. 頭套、鞋套 Disposable head cover, shoes cover

將所有頭髮包到保護帽內，穿已滅菌的防護鞋以及戴好鞋套。

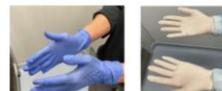
Wrap all your hair in the disposable head cover. Wear sterilized protective shoes and shoe covers.



4. 手套 Gloves

戴上合適尺碼的手套，並在穿著防護衣後包圍防護服袖口。

Put on suitable size gloves. Using the gloves to cover the cuffs of the protective coveralls after wearing the suit.



5. 防護服 Protective Coverall

選擇合適尺碼的防護服並檢查是否有縫隙或缺失，由下而上穿著，確保從脖子到腳踝，肩膀到手腕都完全覆蓋，注意穿著時避免衣袖及頭套接觸地面。

Choose the appropriate size protective coveralls, and check parts to ensure none are missing or damaged. Wear it from the bottom up, and ensure that fully covers your body from neck to knees and your arms to the end of your wrists. Avoid the cuffs and the head cover touching the ground while wearing the suit.



6. 護目鏡(如有需要) Goggle (If necessary)

請調節好護目鏡，應與臉部緊密貼合，皮膚與眼鏡之間沒有縫隙。

Please adjust the goggles so that they fit snugly on your face and there is no gap between your skin and the goggles.



7. 使用酒精消毒雙手 Disinfecting hands with alcohol

LABORATORY SAFETY OF SPF LABORATORY ANIMAL CENTRE

- **For your safety, do not enter to the barrier area during the UV lamp is operating!!!**
- UV lamp operating time:
- 20:00 to 8:00 (Everyday)

LABORATORY SAFETY OF SPF LABORATORY ANIMAL CENTRE

- Accident in animal laboratory: Animal bite, finger cut or needle punch
 - If you bite by animal, please settle the animal in cage and prevent escape.
 - Immediately wash by suds and clean the wound under running water around 5 to 10 minutes even though the wound is small.
 - Follow up the treatment and report the status to the staff responsible for animal issues and ICMS Animal Facility Management Committee by the supervisor.
 - Campus Medical Centre , ext. 8822 4123, Located at Room G002, ground floor, UM Sports Complex
- (Monday to Saturday, 09:00 – 13:00 & 14:00 – 18:00)
- Call Security services, ext. 8822 4000/8822 4126
 - Report to HSEO, ext. 8822 4436



ICMS Accident Handling Procedure of Bite by Animal 被動物咬傷的意外處理指引

When a lab worker is bitten by animals in the laboratory, he or she must deal with it immediately. According to the university's office hours and non-office hours at the time of injury and the situation or scale of severity, the handling procedures of bite by animal are as follows:

Office Hour

1. Alert co-workers.
2. Ask helps from laboratory technicians immediately: laboratory technicians will evaluate the scale of severity with professional knowledge and call the related department for handling whenever it is needed.
3. Immediately wash by suds and clean the wound under running water even though the wound is small.
4. Ask a co-worker to check whether animal is still in the cage or trapped in a place to prevent escape instead of trying to kill the animal.
5. Follow up the treatment and report the status to the staff responsible for animal issues and ICMS Animal Ethics Committee by the supervisor.

Non-office hour

1. Alert co-workers
2. Immediately wash by suds and clean the wound under running water even though the wound is small.
3. Ask a co-worker to check whether animal is still in the cage or trapped in a place to prevent escape instead of trying to kill the animal.
4. If the injured person is able to walk and is conscious then either (a) or (b)
 - a) co-worker accompanies the injured person to hospital by taxi, or
 - b) phone call to the security center for an ambulance
5. If the injured person is unable to walk or is unconscious, phone call to the security

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Thank you for your attention!