


**QUESTIONS THAT NEED TO BE ANSWERED DURING SESSION ON  
ANIMAL HANDLING, ANESTHESIA AND VIVARIUM PROCEDURES**

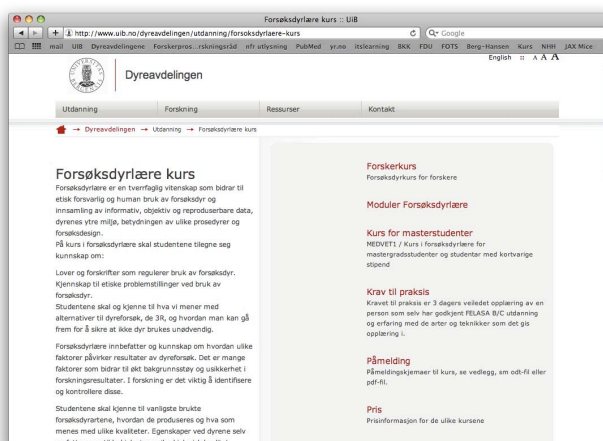


1. Do I need an official animal course to start imaging animals with MR? If so, when and where I can take such a course?
2. How do I apply for permission to perform experiments involving animals?
3. How do I get an account on fOTS (<http://www.fdu.no/fdu/>)?
4. Who do I get in touch with regarding care and storage of animals in Vivarium?
5. What do I need to know/do before bringing animals into Vivarium?
6. What do I need to know when keeping animals in Vivarium? (Do I need to check on the animals regularly, if so, how often, do I need to feed them and give them water?)
7. What do I need to do when taking animals from the storage room to the MRI room?
8. What do I do with animal remains? Where do you store them?
9. What kind of safety protection I need to use when handling animals in Vivarium/MRI room?
10. What is the dress code in Vivarium?
11. What if I am allergic to animals?
12. What kind of anesthesia you use when scanning animals with MR?
13. How do I operate the anesthesia apparatus?
14. What shall I do if I notice there is no gas (oxygen or  $\text{NO}_2$ ) in the gas lines?
15. How do you keep animals warm while anesthetized?
16. I need to cannulate the vein of the mouse/rat. Who can teach me this procedure?
17. I am afraid of handling animals, especially rats. What shall I do to overcome this fear?
18. I would like to take a lunch break and do not want to eat in the MRI room. Where can I eat/drink coffee? 

## Do I need an official animal course to start imaging animals with MR?

- §13 Planning and conducting an experiment.
- “Persons who conduct or plan experiments must have received a form of training approved by the Mattilsynet”
- *(Regulation on Animal Experimentation)*

## If so, when and where I can take such a course?



<http://www.uib.no/dyreavdelingen/utdanning/forsoksdrylaere-kurs>

## How do I apply for permission to perform experiments involving animals?

Innlogging

08.01.2007 10:43

**FOTS**  
Forskingsdyrvalgets tilsyns- og søknadssystem  
| Portal | Min side | Hjelp

Logg inn

Innlogging

Velkommen til FOTS  
Forskingsdyrvalgets tilsyns- og søknadssystem

Skriv inn brukernavn og passord for å logge inn på systemet.  
NB! Klikk på "Lukk" for veiledning i å bruke systemet for du logger deg på for første gang.

Brukernavn:   
Passord:   
(Logg inn)

Hvis du har glemt brukernavn/passord eller tidligere har søkt FDU om å tilrettelegge til forsøk med dyr, så [klikk her](#) og skriv din e-postadresse for å få tilsendt brukernavn/passord.

Dersom du ikke er registrert som søker så ta kontakt med FDU ved å sende e-post til [fd@dyreforsok.uib.no](mailto:fd@dyreforsok.uib.no)

Professors ID

Contact your ansvarshavende to get access to FOTS  
For UoB go to  
<http://www.uib.no/dyreavdelingen/forskning/soknad-om-dyreforsok>

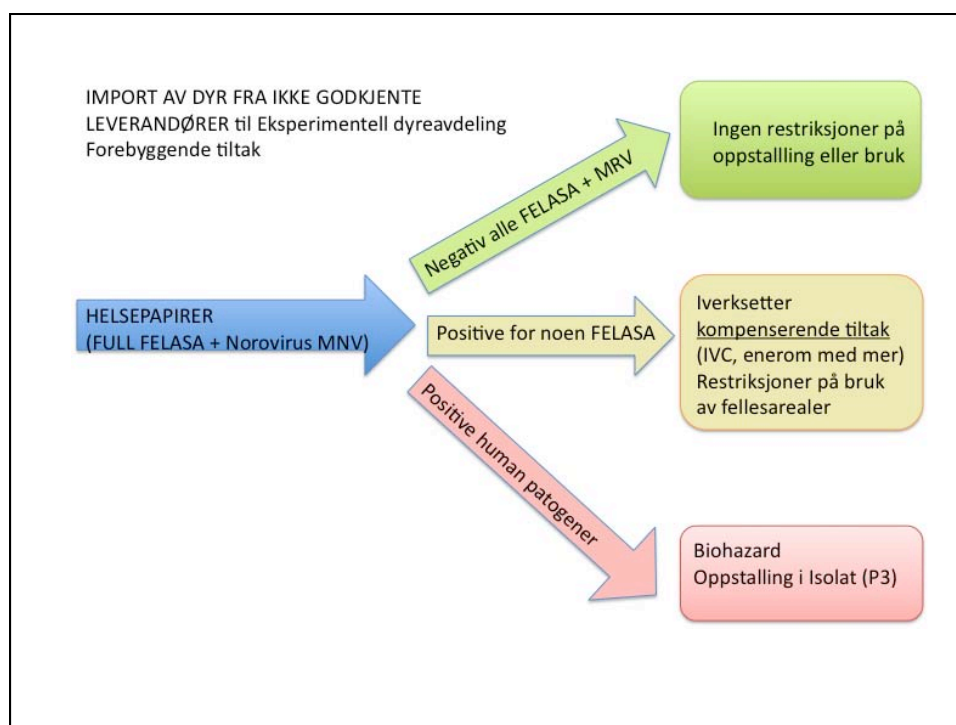
<http://www.uib.no/dyreavdelingen/forskning/soknad-om-dyreforsok>

## Who do I get in touch with regarding care and storage of animals in Vivarium?

- Contact "driftsansvarlig"
  - [Gry.bernes@ffhs.uib.no](mailto:Gry.bernes@ffhs.uib.no)
  - This will also be clarified in "project upstart meeting"

## What do I need to know/do before bringing animals into Vivarium?

- If you bring animals from another animal facility you need
  - Approved application in FOTS including MRI investigation
  - Permission to take in animal from university veterinarian (Aurora Brønstad) to take in animals. Health certificate might be requested.
  - Agreement with "driftsansvarlig" Gry Bernes were to store animals (capacity demands, place, human resources)
  - All animals must be ordered and registered in "Hotel" for reporting to authorities



What do I need to know when keeping animals in Vivarium? (Do I need to check on the animals regularly, if so, how often, do I need to feed them and give them water?)

- § 12. Care and supervision of animals
- .....Animals must be inspected daily, ....., and as often as necessary. .. a shift system must be established ... outside of normal working hours.
- 2 times a day? 4 times a day? every hour ??depend on how the experiment influence animals conditions
- Animals care staff inspect animals once a day, they check that bedding is dry and that they have food and water + no signs of disease
- If more frequent inspection is necessary, that is the responsibility of the researcher – who must be available and respond on request!!
- In case of no respond – the animals will be euthanaized
- This will also be clarified in "project upstart meeting"
- Pilot experiments Determine required frequency of animal observation
- Se also lecture on humane endponits
  - <http://www.uib.no/dyreavd/handouts/HEP.pdf>

What do I need to do when taking animals from the storage room to the MRI room?

- (internal transport in Vivarium)
- Animal must be put in transport cage and covered to protect against spread of allergens
- Only use "dirty" elevator in Vivarium
- All transport of animals must be clarified with animal care staff

## What do I do with animal remains? Where do you store them?

- Animal carcasses and organs should be put in freezer in Vivarium 4 floor

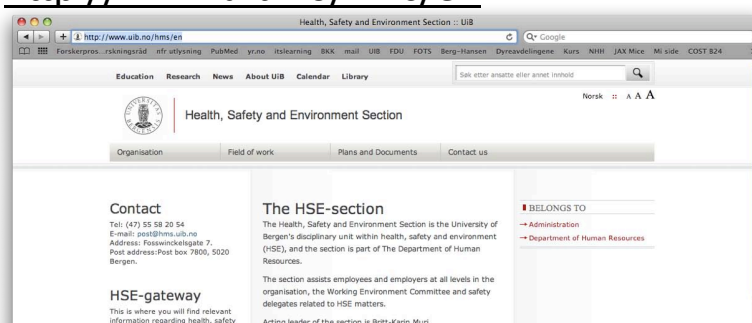
## What kind of safety protection I need to use when handling animals in Vivarium/MRI room? What is the dress code in Vivarium?

- change coat and shoes is mandatory when enter the animal facility
- change pants and shirt every time you work directly with animals
- For best protection we recommend
  - use gloves, face mask and hood
  - you find clothes in the wardrobe
  - take a shower before you go home (family members can become allergic to!!)
  - Use can also buy M3 mask from Vivarium for better protection



## What if I am allergic to animals?

- Follow the dress code very strictly
- Contact the occupational health service (“Bedriftshelsetjeneten”) at UiB
- <http://www.uib.no/hms/en>



## What kind of anesthesia you use when scanning animals with MR?

- Choice of anesthesia product
  - Scientific and animal-welfare considerations:
  - The anesthesia products potential interaction with the research-protocol
  - Ability to give satisfying degree of anesthesia
- Other factors
  - Reliability in use with other equipment
  - Competence
  - Costs
- MRI lab is arranged for use if Isoflurane

## Anesthesia

- Repeated imaging of same animal
  - Repeated anesthesia stress
  - Animal disease status

Invasiveness:	Animal:	
	Healthy	Non-healthy
Non - invasive	Low risk	Risk ↑
Invasive	Risk ↑	Risk ↑↑↑

- IMPORTANT: Refine anesthesia protocol

## The ideal anesthesia

- Reversible and controlled loss of consciousness
- “No” mortality
- Safe for the patient and for the operator
- Undisturbed physiology/vital functions
- Minimal homeostatic changes
- Optimal conditions for surgery
- Relief of pain, stress and discomfort
- Easily administered



## How do I operate the anesthesia apparatus?

- This is topic for a separate course
- Will be demonstrated on the lab

What shall I do if I notice there is no gas (oxygen or NO<sub>2</sub>) in the gas lines?

- Contact [kai.brandt@ffhs.uib.no](mailto:kai.brandt@ffhs.uib.no) or telephone 73791
- Stop planned anesthesia until problem is solved
- Consider to use alternative anesthesia (injectable anesthetics)

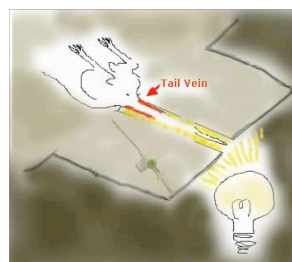
## How do you keep animals warm while anesthetized?

- Incubator (before and after anesthesia)
- Wrap in isolating material
- Use heating blankets (Circulating water)



## I need to cannulate the vein of the mouse/rat. Who can teach me this procedure?

- Here are some advice - Injection in tail vein
- Place the animal in an incubator
- (32-34°C) for 20 min
- Cause dilatation of the vein
- Use lamp to transluce the tail and vein through the cleft and to maintain heating of tail
- Turn of light in the room to enhance contrast
- Insert venflon (yellow 24G) in tail vein
- Fix venflon to tail with adhesive tape
- For further help: Contact technicians at Vivarium or an experienced colleague



I am afraid of handling animals, especially rats.  
What shall I do to overcome this fear?

- Practice more!!
- Start with handling anesthetized animal
- Use positive reinforcement in rat handling
- Work together with experienced animals technician until you feel you have enough experience to handle them your self

I would like to take a lunch break and do not want  
to eat in the MRI room.  
Where can I eat/drink coffee?

- It is not allowed to eat or drink coffee in animal room, in MRI room or any other laboratories!!
- The MR control room (3023) is not defined a laboratory – you can eat and drink here
- You can have your meals in lunch room on 4 floor.
- You can eat your lunch in guest office on 3.floor (3039) (as long as it is not used by others)
- The MRI lab is small and work is very intensive. Ventilation is not very good and there is no direct daylight.
- Plan you day so you get some rest, some fresh air and stretch your legs and shoulders.
- Get time enough for food, drink (2 cl/hours) and recover.

