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Guidelines for how to write your laboratory animal ethics application

General information

The online system

Ethical applications are submitted via the online service found at the Swedish Board of Agriculture ("*Jordbruksverke"t*, SJV) Ansök om etiskt godkännande av djurförsök - Jordbruksverket.se . Since March 2023 there is a new version that will be mandatory to use from September 2023.

First time you log in, you need to contact your Named Animal Care and Welfare Officer (NAWCO, "föreståndare" in Swedish) in order to get access to the SU license number to use laboratory animals ("*tillstånd att använda försöksdjur"*) in the system. Without access to this license number, you cannot fill out an application properly.

Key persons

The **principal investigator** ("*försöksledare"*) is the owner of the ethical permit. He/she is responsible to write the application in Swedish and to ensure that all the information in the application follows the Swedish legislation (incl. "SJVSF 2019:9 saknr 150, *Djurskyddslag* (*DL*, 2018:1192")). Before applying for an ethical permit the principal investigator must have acquired the proper education and working skills in accordance with SU guidelines (SU FV-0635-22). The principal investigator ensures also that all staff working under the approved ethical permit adhere to and work according to the permit content. The principal investigator is legally responsible for all work performed under this permit.

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The **"förståndare"/NAWCO** provides advice and guidance on the ethical application, and approves sending the application to the Swedish Board of Agriculture. The NAWCO also oversees that the animal work performed within the facility follows the ethical permit and that the principal investigator prevents and stops all unnecessary suffering. The **"förståndare"/NAWCO** ensures that all animal work follows the rules stipulated by the Swedish legislation and guidelines by SU.

The **veterinarian** provides advice and guidance on all matters concerning animal health, in the preparation of ethical applications, during the experiments and holding of animals. The veterinarian oversees that animals are maintained in good health.

The application

The text in your ethics permit should be kept relatively general. Also avoid colleagues' names, company names, trademarks and the likes.

The text should also be written so a layperson can follow what is done with each individual animal

Interventions and experimental parts

The **most important change** in the new application form is that you need to list all the **interventions ("*försöksåtgärder*")** and use them to build the different **experimental parts ("*försöksgrupper*")**. You will need to think ahead of how the application should be structured (= not necessarily as a publication). It is valuable to draw one or several flow charts prior to writing, helping to define all the types of interventions that your experiments will require.

Each experimental part **contains one or several interventions** which are meant to be done to the animal once or repeatedly. The same intervention can be used in different experimental parts.

You must build a list of your interventions.

You also need to describe how the animals are affected by each specific intervention. Include both potential physical and psychological suffering and motivate the need to perform this intervention and what will be done to minimize the suffering.

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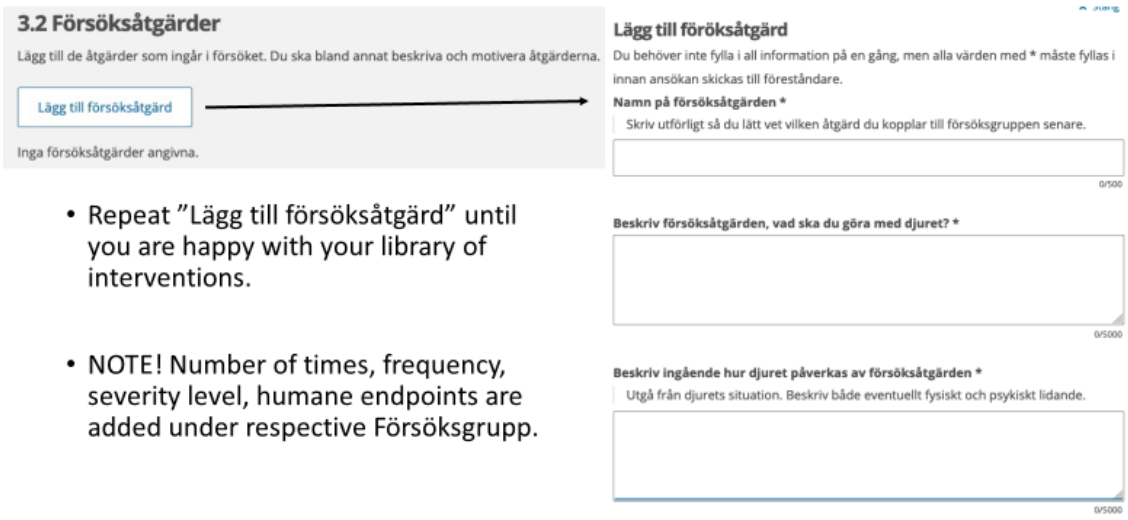
Note: The number of times an intervention is done, the frequency, the severity level and the humane endpoints should be added under the respective experiment part (“*försöksgrupper”)*. You should not describe this kind of information in the interventions part.



Once your list of interventions is completed, you will be able to build the experimental groups “*försöksgrupper*”**.** Follow the indication/box to complete all the headings.

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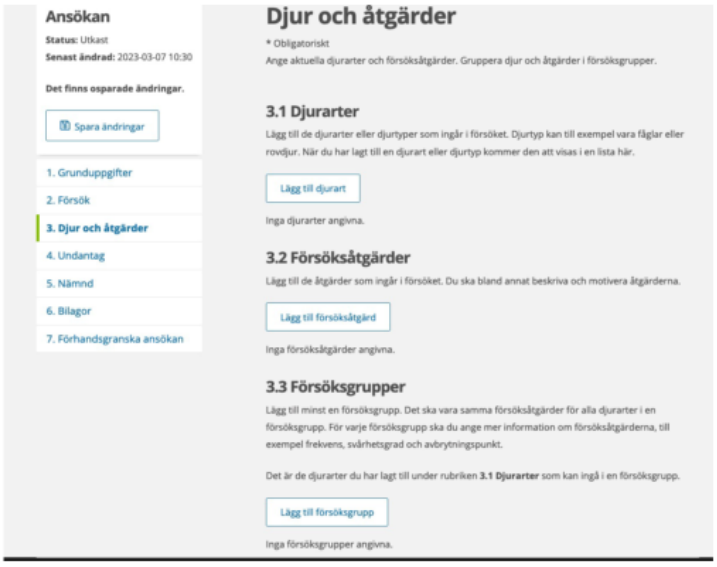

- 3.1: Add one or more species, how many, termination methods, etc.
- 3.2: Build a library of all procedures (Åtgärder) included in the application.
- 3.3: Build one or more experimental groups (Försöksgrupper) by choosing various Åtgärder.

Try to include an intervention, a sentence or an experimental part (depending on how the application is written) allowing you to do small changes of a specific experimental part, in order to refine your methods (3Rs principles).

Flowcharts

You can add documentation to your application. A flowchart is strongly recommended as it makes it easier to follow the overall application and can help to understand what individual animals will undergo.

Work order

The application **must be read and reviewed** by an animal technician (if there are one at the establishment), the university veterinary and the “föreståndare”/NAWCO. They need at least 2 weeks to give feedback.

The application needs to be sent to the ethical committee 5 to 6 weeks before their meetings assembly. The meetings usually take place monthly, except over the summer, but some ethical board meet less frequently. Ask your “föreståndare”/NAWCO about the dates.

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Approximately 2-3 weeks before your ethics application is taken up by the ethics committee for decision, you will receive questions from the Ethics committee preparatory group ("b*eredningsgrupp"*). Your answers to these questions will be legally binding and will become terms to your ethics approval. Therefore, we recommend that your "förståndare"/NAWCO and the Veterinarian are consulted when answering them, before replying to the ethics committee.

You have 3 weeks to appeal any terms that have been placed on your ethical permit. Read the approval in its entirety, and discuss any concerns with the "föreståndare"/NAWCO and the Veterinarian

N.B

Be aware that the ethical permit is **a public document**, meaning that once an ethical application is submitted in the SJV online service, it becomes an official document that can be handed out upon request of anyone.

Within an application, some **specific parts or terms can be set as confidential** but this needs to be motivated. If a confidential part is agreed upon by the committee, and if a hand-out request comes in, the confidential part will be "blacked out" before sending the application to the inquirer. It is not allowed to set entire paragraphs or ideas as confidential.

Severity classification

Prospective determinations of degree of difficulty can be challenging. Here are some examples from the EU directive (EU 2010:63):

1. Mild ("ringa"):

(a) administration of anaesthesia except for the sole purpose of killing;

(b) pharmacokinetic study where a single dose is administered and a limited number of blood samples are taken (totalling < 10 % of circulating volume) and the substance is not expected to cause any detectable adverse effect;

(c) non-invasive imaging of animals (e.g. MRI) with appropriate sedation or anaesthesia;

(d) superficial procedures, e.g. ear and tail biopsies, non-surgical subcutaneous implantation of mini-pumps and transponders;

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(e) gentle handling of fish out of water, including the administration of an injection or use of a minimally invasive identification method, where removal from water is brief;

(f) administration of substances by subcutaneous, intramuscular, intraperitoneal routes, gavage and intravenously via superficial blood vessels, where the substance has no more than mild impact on the animal, and the volumes are within appropriate limits for the size and species of the animal;

(g) Behavioral studies involving short-term exposure to an artificial predator and where escape is not possible.

2. Moderate ("måttlig"):

(a) frequent application of test substances which produce moderate clinical effects, and withdrawal of blood samples (> 10 % of circulating volume) in a conscious animal within a few days without volume replacement;

(b) acute dose-range finding studies, chronic toxicity/carcinogenicity tests, with non-lethal end-points;

(c) surgery under general anaesthesia and appropriate analgesia, associated with post-surgical pain, suffering or impairment of general condition. Examples include: thoracotomy, craniotomy, laparotomy, orchidectomy, lymphadenectomy, thyroidectomy, orthopaedic surgery with effective stabilisation and wound management, organ transplantation with effective management of rejection, surgical implantation of catheters, or biomedical devices (e.g. telemetry transmitters, minipumps etc.);

(d) models of induction of tumours, or spontaneous tumours, that are expected to cause moderate pain or distress or moderate interference with normal behaviour;

(e) intramuscular or intraperitoneal implantation of telemetry devices by surgical procedures (under general anaestheia);

(f) forced swim tests with exhaustion as the endpoint.

3. Severe ("avsevärd"):

(a) toxicity testing where death is the end-point, or fatalities are to be expected and severe pathophysiological states are induced. For example, single dose acute toxicity testing (see OECD testing guidelines);

(b) testing of device where failure may cause severe pain, distress or death of the animal (e.g. cardiac assist devices);

(c) vaccine potency testing characterized by persistent impairment of the animal's condition, progressive disease leading to death, associated with long-lasting moderate pain, distress or suffering;

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(d) irradiation or chemotherapy with a lethal dose without reconstitution of the immune system, or reconstitution with production of graft versus host disease;

(e) models with induction of tumors, or with spontaneous tumors, that are expected to cause progressive lethal disease associated with long-lasting moderate pain, distress or suffering. For example tumors causing cachexia, invasive bone tumors, tumors resulting in metastatic spread, and tumors that are allowed to ulcerate.

Tips and tricks

1. Plan the application before writing

   - List all the interventions, measures, activities or equivalent ("*åtgärder"* in Swedish) that should be performed on the animals,
   - Combine several interventions, activities or equivalent to form the experimental group "*försöksgrupp*",
   - The application can contain many experimental groups.

2. Make a flow chart
   - What experimental groups will you need?
   - What interventions are required to build up the application?

3. Several species can be used in a same experimental group but only if they underwent the same activities (same number, same administrations routes etc…).

4. Spend time on the3Rs in the application as you can use the same text for the NTS/ *PVS* in ALURES.

5. Do not forget that the ethical application should be written so that a layperson can follow what is done with each individual animal