

## Purpose / Scope

The purpose of this policy is to ensure alignment of animal husbandry practices within Animal Holding Areas associated with Western and affiliates with national and provincial standards, including the Canadian Council on Animal Care's (CCAC) guideline on the *Husbandry of animals in science (2017)*.

This does not include policy statements pertaining to the physical requirements of Animal Care Facilities, as per CCAC's guidelines on: laboratory animal facilities (CCAC, 2003b).

## Rationale

The ability to maintain appropriate animal environments through good husbandry practices is closely linked to the infrastructure and operation of the facility.”<sup>1</sup> Appropriate animal husbandry supports positive animal-based science outcomes; conversely, its absence can have significantly detrimental impacts upon research results.

## Policy

Animal husbandry practices must *'aim to provide a good quality of life for the animals ...Consideration of animal welfare implications must encompass the whole life of the animal, with appropriate husbandry provided from birth to end of life.'*<sup>2</sup>

All exceptions to the following policy statements must be justified and pre-approved by the Animal Care Committee (ACC).

All aspects of animal husbandry, outlined below, must be monitored daily by trained, competent staff.

Any environmental and operational divergences from husbandry operations, outlined within this policy, must be disclosed to the ACC, institutional veterinarians, and AUP Holders.

### *Housing Management*

Animal housing must meet the animal's basic physical, social and behavioural needs.

Animals must be provided with both adequate space and opportunities that facilitate normal species-specific physical activities and social behaviours.

- Since most experimental animals are social and benefit from the company of conspecifics or humans, species- and animal-specific social interactions must be provided.

Animal housing must be different for every species and for varying health statuses, including a separation of ventilation and water circulation systems, with the exception of species known to benefit from multi-species housing.

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<sup>1</sup> CCAC Guidelines: Husbandry of Animals in Science

<sup>2</sup> CCAC guidelines: Husbandry of animals in science P.4

### *Animal Identification*

The method for identifying and genotyping animals must be appropriate for both the animal type and research requirements. The identification method that causes the least pain and/or distress to the animal must be used whenever possible.

Animal marking must be performed by trained and competent personnel.

The use of sedatives, local anaesthetics and/or analgesics that reduce the animal's pain and/or distress during identification or genotyping must be used according to related standard operating procedures, or if deemed necessary by the Institutional Veterinarian.

### *Food*

All animals must be provided with ready access to adequate – high quality that meets nutritional requirements – and appropriate – species-, age- and research-specific – food.

- All supplemental food used for environmental enrichment must be pre-approved by the PI and the Institutional Veterinarian.

Where fasting from food is required by the AUP, the fasting duration must be scientifically justified within the AUP and pre-approved by the ACC, appropriate for the species, and as short-term as is possible.

Adequate quantities of food must be purchased from a reputable supplier that ensures consistent quality.

- Food acquisition records must be maintained within the animal facility.

Food must be stored off the floor in a designated clean, vermin-proof room and in accordance with manufacturer's recommendations in a manner that prevents cross contamination.

- A reasonable amount may be stored within vermin-proof, covered containers within an animal holding room.
- In-room food records must be maintained.
- Food expiry dates provided by the vendor must be adhered to.
- Decanted food must be labeled with a milling or expiry date.

Cage-level humidity, temperature, light and food turnover must be controlled to prevent food quality degeneration over time.

### *Water*

Fresh, clean drinking water must be made readily available within species-appropriate containers to all animals at all times.

Water quality must be monitored and verified by a reputable source at least annually.

Animals introduced to new watering systems must be observed to ensure they have adapted to it.

When individual water bottles are used, they must be transparent, regularly observed and maintained.

- Rather than repeatedly refilling water bottles, they must be replaced with clean, freshly filled bottles on a regular basis.

- Water bottles containing medicated water must be identified and changed with a frequency that aligns with the medication's manufacturer's instructions.

Where fasting from water is required by the AUP, the fasting duration must be scientifically justified within the AUP and pre-approved by the ACC, appropriate for the species, and as short-term as is possible.

### *Bedding*

Safe, consistent, species-appropriate bedding materials must be provided to assist in maintaining a comfortable and healthy environment that supports the expression of species-specific behaviours.

Bedding must be purchased from a reputable supplier that ensures consistent quality, and then stored in alignment with manufacturers' instructions.

To ensure a clean, dry and relatively odour-free micro-environment while minimizing the stress associated with cage changing activities, bedding and related caging must be changed at a frequency that aligns with the animal's needs and between changes in animals or animal groups.

### *Environmental Enrichment*

Safe, species- and strain-specific environmental enrichment must be provided in order to enrich an animal's physical and behavioural needs.

- Environmental enrichment must be implemented in alignment with research objectives

Human contact with animals must be undertaken in a manner that minimizes pain and stress to animals as well as risks to both animals and personnel.

- The use of physical or chemical restraints must be pre-approved by the ACC with reference to experts, e.g., Institutional Veterinarian; a plan must be in place to acclimatize animals.
- Personnel involved in restraint must be adequately trained and must use the appropriate PPE.

### *Environmental Monitoring – Temperature and Humidity*

All Animal Holding Areas must have a means of daily monitoring by humans of ambient temperature and relative humidity that is readily accessible and visible to PIs as well as internal and external regulators.

- Completely automated monitoring of temperature and humidity conditions cannot be the sole means of monitoring
- Records of environmental conditions may be kept at the room level or centrally, but such records must be kept for at least one year and be readily available to regulators.

Regardless of the mechanism, all Animal Holding Areas must have the minimum / maximum ambient temperature and minimum / maximum relative humidity for the previous 24 hours values read and recorded daily.

Temperature and humidity monitors used for this purpose must be accurate at least to plus/minus 3 degrees Celsius and plus / minus 10 percent relative humidity either by specification or by observation of performance.

- Monitor accuracy must be assessed quarterly at minimum to determine if they fall within the tolerances above

All Animal Holding Areas must have a plan in place to maintain acceptable temperature and humidity monitoring in the event of a sudden failure of the primary means of monitoring.

- In the event that conditions in the Animal Holding Area have fallen outside the expected parameters for the species within, the responsible personnel must act to remedy the problem as quickly as is possible.

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## References

Canadian Council on Animal Care.

CCAC guidelines: Husbandry of animals in science

CCAC guidelines: Laboratory animal facilities — characteristics, design and development, 2003

Terms of reference for Animal Care Committees

Western's MAPP 7.12 – Animal Ethics and Care Program

Animal Care Committee

Animal Care and Use Records Policy (POL-003)

Sick Animal Response Policy (POL-009)

Concerns Policy (POL-004)

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## Revision History

Version	Date	Description of Changes	Author
00	05-30-18	New Policy	LT
01	14-10-21	Reformatted; removed Roles & Responsibilities, updated content	LT