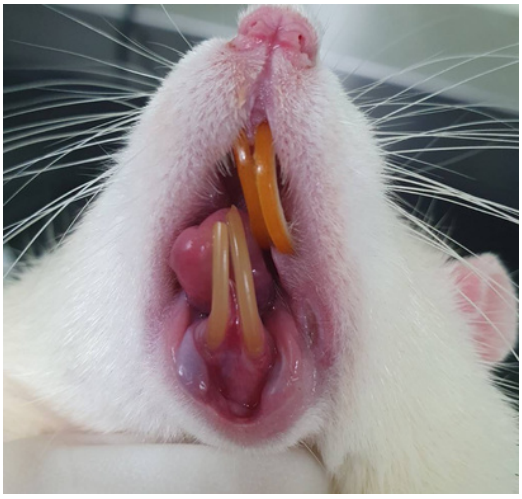
TMU實驗動物中心
Laboratory Animal Center

動物中心-現場快報

大鼠先天性咬合不正



拍攝：獸醫師 劉光祐

文：獸醫師 劉光祐

大鼠的咬合不正（Malocclusion）是實驗動物蠻常見的口腔問題，在成年 Wistar 大鼠發生率可達1%[1]。

這種狀況會導致門齒（Incisors）無法正常對位摩損與過度生長，尤其是餵食粉質飼料或環境中缺乏磨牙物品(如：木棒)更容易發生，進而影響進食，可能導致體重下降、甚至口腔外傷與感染。

預防方式，如提供啃咬物（如木塊），或是更換硬質顆粒飼料，促進自然磨耗。或定期通知中心獸醫師，替動物剪除過長門齒，並增加觀察頻率，維護實驗動物福祉。

調節環境日照 對實驗動物的重要性

文：獸醫師 劉光祐

近期動物中心團隊將一樓大小鼠動物房照明設備更新，以滿足中華實驗動物學會《國際認證合格動物房範例》之足夠亮度 (130-325 lux) 與穩定光週期的環境要求。

日照（光照、光週期）對實驗動物極其重要，它直接影響動物的生長、生殖、代謝、反應與睡眠週期[2]。然而，過強光照或長時間暴露可能導致動物異常現象，如視網膜損傷、干擾晝夜節律、增加動物的慢性壓力與焦慮、免疫與繁殖系統失調、甚至影響實驗結果[3][4]。

目前動物中心設置的日照定時器固定為7:00-19:00，夜間若依實驗求需進入飼育室，避免干擾日夜節律，請勿開啟飼育室燈光，動物中心未來將在走道提供紅光手電筒以供夜間時段使用。

拍攝：資深飼育員 邱肇鳳

參考文獻 ：
1. “Malocclusion in Aging Wistar Rats” (Dontas et al., 2010)
2. “Effects of Light at Night on Laboratory Animals and Research Outcomes” (Emmer et al., 2018)
3. "Light at night increases body mass by shifting the time of food intake" (Fonken et al., 2009)
4. "Chronic exposure to dim light at night suppresses immune responses" (Bedrosian et al., 2011)

PUBLISHED ON JULY 1, 2025 VALID INTIL JULY 30, 2025

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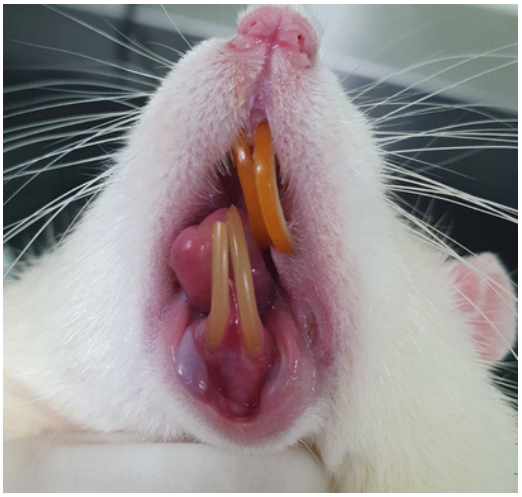
TMU LAC - NEWSLETTER

Malocclusion in rats



By Liu, K. Y., Vet of TMU LAC

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Malocclusion is a common issue in lab rats, with an incidence rate of up to 1% in adult Wistar rats [1].

This condition prevents the incisors from properly aligning and wearing down, leading to overgrowth. It occurs more frequently when rats are fed powdered diets or when the environment lacks gnawing materials such as wooden sticks. Overgrown incisors can interfere with feeding, potentially resulting in weight loss, oral injuries, and secondary infections.

Providing gnawing materials, like wooden blocks, or switching to hard pellet diets are some of the effective ways to prevent it. Regular monitoring and timely reporting to the vet for incisor trimming are also recommended and can ensure animal health and welfare.

Circadian Rhythm for Laboratory Animals

By Liu, K. Y., Vet of TMU LAC

The animal facility team recently upgraded the lighting system in the ground floor animal rooms to meet requirements for appropriate light intensity and a stable light-dark cycle.

Light exposure (intensity and photoperiod) is vital for lab animals, as it directly affects their growth, reproduction, metabolism, behavioral responses, and circadian rhythms [2]. However, excessive light intensity or prolonged exposure can cause abnormal outcomes, including retinal damage, disruption of circadian rhythms, increased chronic stress, immune and reproductive dysfunction, and potential impact on experimental results [3][4].

The current lighting cycle in the facility is set from 07:00 to 19:00. To avoid disturbing the animals' circadian rhythms, please refrain from turning on lights in animal rooms during the dark period. Red flashlights will be available in the hallway for use during nighttime access.

By Mrs. Chiu, TMU LAC staff

References :
1. "Malocclusion in Aging Wistar Rats" (Dontas et al., 2010)
2. "Effects of Light at Night on Laboratory Animals and Research Outcomes" (Emmer et al., 2018)
3. "Light at night increases body mass by shifting the time of food intake" (Fonken et al., 2009)
4. "Chronic exposure to dim light at night suppresses immune responses" (Bedrosian et al., 2011)