RUTGERS UNIVERSITY
Office for Research

RUAC STANDARD OPERATING PROCEDURE

TITLE: DVC Room Care/Check Procedures		
SOP Category: Husbandry	**RUAC SOP #: 3.25**	**Page: 1 of 2**
Effective Date: 06/06/2025	**Approval:** Jeetendra Eswaraka	
Revisions: 4/15/25		

OBJECTIVE:

This procedure establishes how Tecniplast Digital Ventilated Cage (DVC) is utilized for all aspects of rodent housing at Rutgers University Comparative Medicine Resources department (CMR). For detailed information on rodent husbandry, see SOP 3.05. DVC Manual furnished upon request.

SCOPE: This SOP addresses the following:

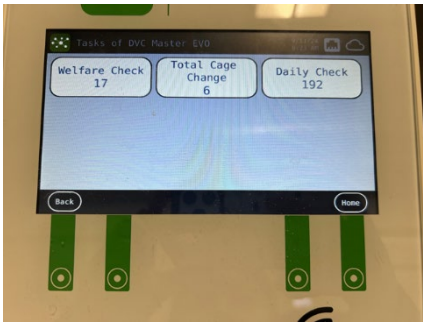
- Daily Observation of Animals Using DVC
- Cage change process

PROCEDURES:

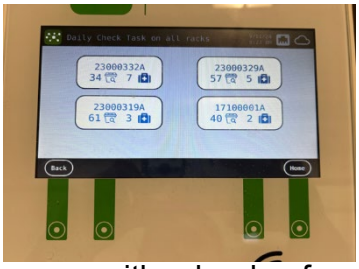
Daily Observation of Animals Using DVC. The digital ventilated cage (DVC) system is used to aid animal care technicians in performing everyday work tasks.

Within this system, there are various tasks that must be performed daily. These include the daily check, welfare check, and cage changes.

Daily Check:
This task is used to aid workers in checking each cage in the room every day. *Refer to DVC Manual for detailed steps.*



Welfare Check:
This task is used to allow workers to focus their energy on doing a thorough health check on cages

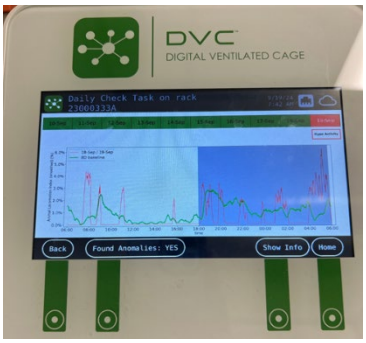


that were seen to have unusual activity when the system monitored the cages overnight. This may not always indicate a sick mouse, but the cages should be checked in case. *Refer to DVC Manual for detailed steps.*

Cage Changes:
The system will notify when cages need to be changed. Cages can either be due for a *partial cage change* or a *total cage change*. You may see a mix of these that need to be completed.

Partial Cage Change: Only the cage bottom needs to be changed.
Total Cage Change: The cage bottom, lid, and feeder need to be changed.

- Animals are checked 365 days a year. Smart Caging (DVC) relies on a home cage monitoring technology, which send alerts when a cage requires manipulation (ie. Low food, low water, flooded cage, dirty cage, dead or sick animal).
    - Staff perform daily checks using the DVC Master or room tablet. Cages requiring attention will light up to alert the user that they need to physically remove the cage for inspection.



    - Hypo/hyperactivity alerts occur when animals are more or less active than expected. The DVC system monitors animal activity 24/7. The baseline activity for the previous 5 days is compared against the nighttime activity (12hrs since lights off) to determine is there is reduction in activity. Locomotor activity changes helps to identify sick before clinical signs might be observed.
    - Night Welfare Checks (NWC) occur when unusual activity is detected overnight. The staff get these alerts the morning after and will address each issue individually.

Cage Change Procedure

- Cages are changed when DVC system alerts user that the cage needs to be changed based on wetness of the cage using a measure called **Bedding Status Index (BSI)**. Technicians will get alerts to do a partial or full cage change depending upon criteria or schedule set by the facility.