

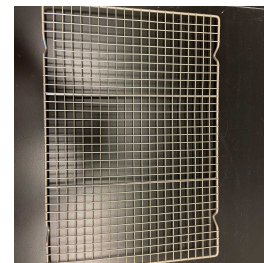
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Wire hang

 Forked from [Wire Hang Assessment](#)

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Anastasiya Moiseyenko¹

¹California Institute of Technology



Anastasiya Moiseyenko

California Institute of Technology

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We use this protocol and it's working

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Abstract

The wire hang test for mice is a simple and cheap way to assess overall grip strength, motor and neuromotor pathologies in a mouse model of Parkinson's disease. Described herein is an adapted protocol from Deacon, 2013.

Materials

1. Wire Screen Apparatus (something similar to is a 43 cm square of wire mesh consisting of 12 mm squares of 1 mm diameter wire surrounded by a 4 cm deep wooden beading¹ (Figure 1)).
3. Stop watch.
4. GoPro (if recording is desired).
5. Single cage filed with ~4" of bedding.
6. 4 empty cages.

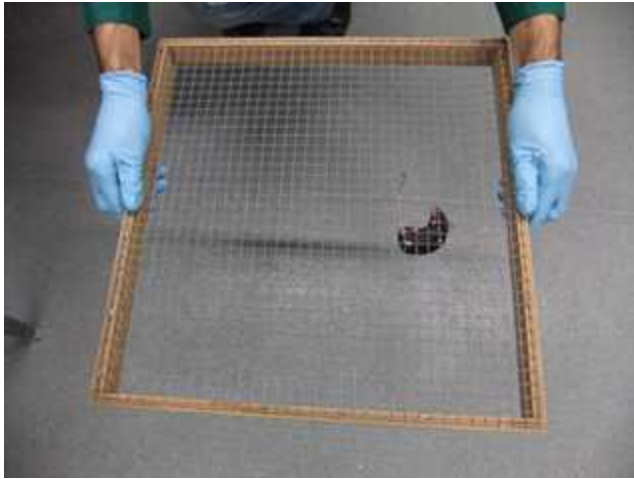


Figure 1. Wire hang apparatus. From Deacon, 2013.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3725666/>

Set up

- 1 Habituate animals to behavior testing room for 1 hour prior to assay start.
- 2 Suspend the apparatus approximately 40cm using two stacked standard mouse cages, above a cage filled with bedding to provide the mice with a safe place to land when descending from the wire hang (Figure 1.)

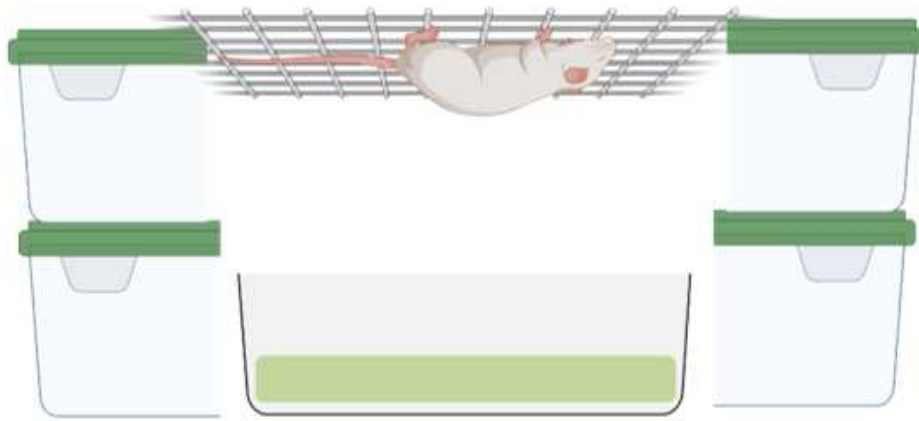


Figure 1. Wire hang apparatus set-up.

- 2.1 A wire hang apparatus can be made easily for use in this protocol and requires very little material (see Figure 1 for example). The apparatus should be easily traversed by the mice, meaning the spacing of the bars should be close enough to allow for free and easy movement of the mice and the width of the bars should be thin enough to allow for full grip by the paws. According to a protocol by Deacon, 2013 the ideal measurements are as follows. "The inverted screen is a 43 cm square of wire mesh consisting of 12 mm squares of 1 mm diameter wire (Figure 1). It is surrounded by a 4 cm deep wooden beading (which prevents the occasional mouse which attempts to from climbing on to the other side)" (see protocol image and materials for examples)
- 3 Wipe down the set up with animal-safe cleaning agent before beginning any trials and between each cage.

Assessment



- 4 Begin by taking the first mouse out of its home cage and place the mouse, stomach down, onto the top of the wire hang apparatus. Make sure to place the mouse facing away from you in the center of the wire hang screen.
- 5 Gently flip screen with animal, with the head of the mouse inclining first, making a full 180 degree rotation and placing the apparatus back in the start position on top of the stacked cages (the mouse should now be hanging with its back facing down).
- 6 Timing is started once the animal is hanging from the wire screen horizontally and stopped when the animal falls to the bedding underneath or remains hanging on for a maximum of 60 seconds.
- 7 Repeat Step 6 for a total of 2 trials per mouse, rotating through all animals for one trial, then moving onto the next trial, allowing animals to rest in between trials.
- 8 Clean wire hang and change out cage under the apparatus before moving onto the next cage.

Protocol references

1. Deacon RM. Measuring the strength of mice. *J Vis Exp*. 2013 Jun 2;(76):2610. doi: 10.3791/2610. PMID: 23770643; PMCID: PMC3725666.