Aug 25, 2025

Pole Test

DOI
dx.doi.org/10.17504/protocols.io.3byl4q362vo5/v1

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OPEN ACCESS

DOI: dx.doi.org/10.17504/protocols.io.3byl4q362vo5/v1

Protocol Citation: Jhodi Webster 2025. Pole Test. **protocols.io https://dx.doi.org/10.17504/protocols.io.3byl4q362vo5/v1**

Protocol status: Working
We use this protocol and it's working

Created: October 20, 2023

Last Modified: August 25, 2025

Protocol Integer ID: 89665

Keywords: ASAPCRN, pole test, pole test this protocol, motor coordination, sensitive to motor deficit, textured pole, rapid behavioral assay, parkinson, motor deficit, other neurological condition, behavioral assay, slowness of movement, test, movement, animal head

Abstract

This protocol describes the pole test, a simple and rapid behavioral assay used to evaluate motor coordination, balance, and bradykinesia (slowness of movement) in mice and rats. The test involves placing an animal head-up at the top of a vertical textured pole and measuring the time it takes to turn and descend to the base. It is highly sensitive to motor deficits caused by Parkinson's disease models, cerebellar lesions, or other neurological conditions, making it a valuable tool for phenotyping and drug screening.

Setup

1 Allow for one hour habituation period for mice in the testing room.

2 Place pole (approx 20.5in long, with rubber bands place at 1 inch intervals)

3 Have an extra empty cage handy

Training:

4 place mouse nose-down at the base of the pole and allow it to climb off onto the floor of the enclosure before being returned to home cage.

5 Do this twice for each mouse.

Probe Trials:

6 Place mouse nose-up at the top of the pole and allow for no more than 180 seconds to turn around and climb down to the bottom of the pole

7 Repeat this 5 times for each mouse. Allow for minimum of 30 seconds rest between each trial.

Measurements (in seconds):

8 Total descent time: from the time mouse was placed on the pole to the time taken for the mouse to reach to the bottom of pole.

9 Turnaround time: time the mouse takes to turn around on the pole to face the bottom.

10 Time descending: total time to descend

Considerations

11 If mouse pauses while turning around or descending, repeat trial.

12 If mouse could not turn around, but instead descends with a lateral body position, then attribute total descent time to turnaround time.

13 If the animal immediately falls off the pole, assign the following max scores: total descent = 120secs, turnaround time = 120secs.

14 Do not allow mouse to climb over the top of the pole instead of making a turn. A small piece of cardboard can be placed at the top of the pole to prevent this.