# Von Frey Test HRWL_VFR_001

## Purpose

To assess mechanical sensitivity using calibrated von Frey filaments.

## Experimental Design

Minimum number of mutant animals: 7 males + 7 females

Age at test: 10 weeks

Sexual dimorphism:

## Procedure

1. Habituation
    1. Place mice in the testing chambers on the elevated wire grid.
    2. Leave each mouse for an hour to acclimatise.
    3. The left hind paw is tested first using the following method.
        1. The 0.6g von Frey filament should be used as the starting filament.
        2. Apply the filament to the plantar surface of the hind paw. The filament should be applied with enough force to cause the filament to bend, and remain in contact for a total of 1-2 seconds.
        3. The size of the next filament to be applied will depend on the response to the previous filament.
            - If no withdrawal response was observed then the next highest filament is tested.
            - If there was a withdrawal response then the next lowest filament is tested.
        5. Continue applying filaments until the paw has been tested 5 times, with at least 2 minutes between each stimulus presentation.
    5. Repeat the testing process with the right hind paw.
3. Test 1
    1. 24 hours after habituation, re-test the mouse with the von Frey filaments using the same procedure as described for the habituation period.
5. Test 2
    1. 48 hours after habituation, re-test the mouse with the von Frey filaments using the same procedure as described for the habituation period.

## Notes

**This procedure is a pilot study from the Pain Phenotyping Pilot**

## Parameters and Metadata

## Habituation: tabulation HRWL_VFR_001_001 | v1.0

seriesParameter

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Increments:** Left, Right,

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## Habituation: final filament (target force) HRWL_VFR_002_001 | v1.0

seriesParameter

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Unit Measured:** g

**Increments:** Left, Right,

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## Habituation: 50% threshold (grams) HRWL_VFR_003_001 | v1.0

seriesParameter

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Unit Measured:** g

**Increments:** Left, Right,

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## Habituation: 50% threshold (log scaled) HRWL_VFR_004_001 | v1.0

seriesParameter

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Increments:** Left, Right,

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## Habituation: average 50% threshold (grams) HRWL_VFR_005_001 | v1.0

simpleParameter

**Req. Analysis:** false **Req. Upload:** false **Is Annotated:** false

**Unit Measured:** g

**Derivation:** meanOfIncrements('HRWL_VFR_003_001',1)

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## Habituation: average 50% threshold (log scaled) HRWL_VFR_006_001 | v1.0

simpleParameter

**Req. Analysis:** false **Req. Upload:** false **Is Annotated:** false

**Derivation:** meanOfIncrements('HRWL_VFR_004_001',1)

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## Test 1: tabulation HRWL_VFR_007_001 | v1.0

seriesParameter

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Increments:** Left, Right,

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## Test 1: final filament (target force) HRWL_VFR_008_001 | v1.0

seriesParameter

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Unit Measured:** g

**Increments:** Left, Right,

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## Test 1: 50% threshold (grams) HRWL_VFR_009_001 | v1.0

seriesParameter

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Unit Measured:** g

**Increments:** Left, Right,

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## Test 1: 50% threshold (log scaled) HRWL_VFR_010_001 | v1.0

seriesParameter

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Increments:** Left, Right,

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## Test 1: average 50% threshold (grams) HRWL_VFR_011_001 | v1.0

simpleParameter

**Req. Analysis:** false **Req. Upload:** false **Is Annotated:** false

**Unit Measured:** g

**Derivation:** meanOfIncrements('HRWL_VFR_009_001',1)

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## Test 1: average 50% threshold (log scaled) HRWL_VFR_012_001 | v1.0

simpleParameter

**Req. Analysis:** false **Req. Upload:** false **Is Annotated:** false

**Derivation:** meanOfIncrements('HRWL_VFR_010_001',1)

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## Test 2: tabulation HRWL_VFR_013_001 | v1.0

seriesParameter

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Increments:** Left, Right,

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## Test 2: final filament (target force) HRWL_VFR_014_001 | v1.0

seriesParameter

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Unit Measured:** g

**Increments:** Left, Right,

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## Test 2: 50% threshold (grams) HRWL_VFR_015_001 | v1.0

seriesParameter

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Unit Measured:** g

**Increments:** Left, Right,

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## Test 2: 50% threshold (log scaled) HRWL_VFR_016_001 | v1.0

seriesParameter

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Increments:** Left, Right,

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## Test 2: average 50% threshold (grams) HRWL_VFR_017_001 | v1.0

simpleParameter

**Req. Analysis:** false **Req. Upload:** false **Is Annotated:** false

**Unit Measured:** g

**Derivation:** meanOfIncrements('HRWL_VFR_015_001',1)

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## Test 2: average 50% threshold (log scaled) HRWL_VFR_018_001 | v1.0

simpleParameter

**Req. Analysis:** false **Req. Upload:** false **Is Annotated:** false

**Derivation:** meanOfIncrements('HRWL_VFR_016_001',1)

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## Number of runs per test HRWL_VFR_019_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Options:** 2 (left paw first, right paw second),

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## Number of trials per run HRWL_VFR_020_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Options:** 5,

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## Minimum interval between filament presentation HRWL_VFR_021_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Unit Measured:** min

**Options:** 2,

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## Number of repeats with same filament HRWL_VFR_022_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Options:** Once, if response unclear repeat up to 3 times,

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## Minimum acclimatisation period HRWL_VFR_023_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Unit Measured:** Hours

**Options:** 1,

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## Paws tested HRWL_VFR_024_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Options:** Left and right hind paws,

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## Time between habituation and test 1 HRWL_VFR_025_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Unit Measured:** Hours

**Options:** 24,

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## Time between habituation and test 2 HRWL_VFR_026_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Unit Measured:** Hours

**Options:** 48,

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## Tetrad manufacturer HRWL_VFR_027_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Options:** Built in-house,

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## Tetrad dimensions HRWL_VFR_028_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Unit Measured:** cm

**Options:** 10 cm H x 6 cm W x 8 cm L,

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## Tetrad material HRWL_VFR_029_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Options:** Perspex,

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## Tetrad colour/opacity HRWL_VFR_030_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Options:** Clear,

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## Inset material HRWL_VFR_031_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Options:** Plastic,

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## Inset colour/opacity HRWL_VFR_032_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Options:** Opaque,

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## Grid material HRWL_VFR_033_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Options:** Stainless steel,

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## Grid hole size HRWL_VFR_034_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Unit Measured:** mm

**Options:** 5 mm x 5 mm,

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## Filament set manufacturer HRWL_VFR_035_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Options:** Stoetling,

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## Filament set model HRWL_VFR_036_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Options:** Touch test sensory probes,

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## Filament material HRWL_VFR_037_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Options:** Nylon,

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## Range of filaments used (target force) HRWL_VFR_038_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Unit Measured:** g

**Options:** 0.04 - 4,

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## Starting filament (target force) HRWL_VFR_039_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

**Unit Measured:** g

**Options:** 0.6,

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## Date filaments last calibrated HRWL_VFR_040_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

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## Experimenter ID HRWL_VFR_041_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** true **Is Annotated:** false

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## Disinfectant HRWL_VFR_042_001 | v1.0

procedureMetadata

**Req. Analysis:** false **Req. Upload:** false **Is Annotated:** false

**Options:** Distel 2%,

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## Delta2: difference in log10 threshold (g) HRWL_VFR_043_001 | v1.0

simpleParameter

**Req. Analysis:** false **Req. Upload:** false **Is Annotated:** false

**Unit Measured:** g

**Derivation:**
sub(meanOfIncrements('HRWL_VFR_004_001',1), meanOfIncrements ('HRWL_VFR_016_001',1))

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