

# 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,

**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,

**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,

**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%,

**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))