

# **NRC. Narcolepsy Type 1 and Type 2**

NIHR BioResource – Rare Diseases study project

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## **Summary**

Narcolepsy (Type 1 and Type 2) are rare neurological sleep disorders affecting 1 in 2000-3000 individuals worldwide.

It manifests with excessive daytime sleepiness, hypnagogic hallucinations, sleep paralysis and cataplexy (the sudden loss of muscle tone usually precipitated by strong emotion). It has significant impact on quality of life, productivity, safety in the workplace, driving safety, and has large health economic costs.

The pathophysiological mechanisms underlying narcolepsy type 1 are incompletely understood. It is presumed that the loss of hypocretin-1 producing neurones relates to an environmental trigger causing immune-mediated destruction in genetically susceptible individuals, since almost all patients are positive for the HLA DQB1\*0602 marker, and genome-wide association studies have identified a T-cell receptor subunit gene as a susceptibility allele. The pathophysiological mechanisms for narcolepsy type 2 are less well understood.

The overall objective is to characterise factors contributing to susceptibility to narcolepsy, genetic predictors of response and adverse effects to medications, and to better understand immunological changes mediating disease onset.



# Recruitment Criteria

## Inclusion

### Type 1

- The patient has daily periods of irrepressible need to sleep or daytime lapses into sleep occurring for at least 3 months.
- The presence of one or both of the following:
  - Cataplexy and a mean sleep latency of 8 minutes or less and 2 or more sleep onset rapid eye movement periods (SOREMPs) on a multiple sleep latency test (MSLT).
  - Cerebrospinal fluid (CSF) hypocretin-1 concentration, measured by immunoreactivity, is either 110 pg/mL or less, or less than one-third of mean values obtained in normal subjects with the same standardized assay.

### Type 2

- See ICSD-3\*

## Caution

At least 1 week of actigraphy assessment with a sleep log is strongly recommended prior to MSLT to determine factors that may bias results (e.g., insufficient sleep, shift work, or other circadian rhythm disorder).

## Exclusion

- Secondary narcolepsy following acquired brain injury/brain tumour/metabolic.

## References

\*ICSD-3 = International Classification of Sleep Disorders, 3rd ed.