

Inpatient sleep telemetry



Information for patients Clinical Neurophysiology



PROUD TO MAKE A DIFFERENCE

SHEFFIELD TEACHING HOSPITALS NHS FOUNDATION TRUST



You have been referred to the Clinical Neurophysiology Department for inpatient sleep telemetry. You may need one or a combination of the following:

- Actigraphy
- Video EEG telemetry with polysomnography
- Multiple sleep latency test (MSLT)

1. What is actigraphy?

This test is done as an outpatient and takes place before your inpatient sleep telemetry. It is a recording of your movements, usually over a period of 1-2 weeks, by wearing a type of watch called an actiwatch. The watch can be posted to you or you can collect it from the department (which would take about 20 minutes), this will be discussed with you when you ring to make the appointment. The watch is usually fitted one week before your inpatient telemetry and then returned when you attend.

The actiwatch is usually worn around your ankle and you will be given a diary to complete whilst you are wearing it. You may wish to wear long trousers and socks so that the actiwatch is not visible around your ankle. The actiwatch remains in place and is showerproof so it can still be worn when you shower. However if you take a bath or go swimming, please remove the watch and replace it as soon as possible afterwards.

How will actigraphy help me?

The information collected by the device monitors your movement activity and this can be used to give a measure of both your active and sleep periods. When the watch is returned, the data is downloaded onto a computer and printed out as a graph, which acts like a sleep diary. The graph helps your neurologist to be able to look at your sleep patterns and the information can be used to help with the diagnosis of specific

sleep disorders. This test is followed by a sleep telemetry and sometimes a multiple sleep latency test (see below).

2. What is video EEG telemetry with polysomnography?

This is a test which gives a comprehensive assessment of your sleep. It monitors the natural changes taking place whilst you are asleep. This includes recording your brain waves (EEG or electroencephalography). Polysomnography means recording other signals, such as eye movements (EOG), snore noises, breathing, heart beat (ECG), oxygen levels (oximetry) and body movements (EMG).

You will also be recorded on video so that we can examine any symptoms or movements in more detail. You will be asked to give your consent to this.

How will having video EEG telemetry with polysomnography help me?

The test will give us detailed information on the quality of your sleep. We can monitor how much time is spent getting to sleep and once asleep, the time spent in different stages of sleep. We can observe any changes in oxygen levels, ECG or breathing rates and also any disturbances caused by movements. Sometimes you may be having regular disturbances during sleep and we may be able to record a typical event.

This detailed information is important when investigating excessive daytime sleepiness, narcolepsy (a disturbance in the sleep / waking system), sleep apnoea (breathing irregularity) and periodic limb movements.

These are just some examples of the conditions which the video EEG telemetry with polysomnography will help your doctor to diagnose.

Will I need to come into hospital for the test?

Will I need to come into hospital for this test? Yes, you will come into the Royal Hallamshire Hospital, Ward N2, for this test. Enter through the main entrance on A floor (outpatients) or B floor (tower block) and take a lift to N floor. On arrival at N floor, follow the sign and go through the doors to Ward N2 and then follow the overhead sign to the Video Telemetry Unit.



Car parking is limited; please use public transport when possible. Park and ride sites are available across the city to link with bus and tram routes. If you are a blue badge holder, there are limited spaces on-site and also in the car park (present your ticket and blue badge to car park staff on your return to the car park).

The postcode if you are using a Sat Nav is **S10 2JF**. Multi-storey car park disabled bays on entrance level only. Charges apply.

Can I get public transport to the hospital?

Park and ride sites are available across the city to link with bus and tram routes. To check which bus routes serve the hospital you can contact Traveline:

- 01709 51 51 51
- www.travelsouthyorkshire.com

Is it safe?

The test records various activities which your body is performing naturally. It is painless and there are no after effects. The aim of the test is to record sleep. A reduction in certain medications may be undertaken with your consent. Occasionally patients may experience mild skin irritations due to the products we use.

Are there any preparations before my admission?

Yes, please make sure that you:

- Have clean, dry hair which is free of gel and hairspray
- Wear comfortable clothes and pyjamas that have loose necks or buttons. This makes it easier when you are getting dressed and undressed with the equipment on. Clothes with tight necklines that need to be pulled over your head may dislodge the electrodes.

- There are certain medications which may affect the recording. Your consultant will discuss whether any of these need to be stopped before your admission. Please bring a list of current medications with you.
- Please remove nail polish and false nails before admission as they prevent the oxygen saturation monitor detecting the light.

What happens when I come into hospital?

You will need to remain on the ward throughout your stay. You may be in a 3 bedded bay or a single room on ward N2. Staff will give you all the support they can.

It is advisable for you to bring books, music or pastimes with you. Mobile phones may be used on the ward but please keep this to a minimum to be courteous to other patients in the bay. Hospital wi-fi is available free.

We would also remind you that the hospital has a no-smoking policy, this includes electronic cigarettes. Nicotine patches can be prescribed. Staff will give you all the support they can.

What happens on the day of the test?

One of our physiologists will visit you in the afternoon and explain the test and what they are going to do. If you have any questions at this time they will be able to answer them for you. It will take 2 hours to set up the equipment and to get you ready for the recording to start.

First we will glue 23 discs to your head; each has to be in a particular position. The physiologist will measure your head and draw a mark where each disc needs to be.

Each place is rubbed with a gritty paste to get a good contact and then the discs are glued into position.

These discs record your EEG (brain activity) and allow us to study your sleep patterns. Polysomnography measures other signals from the body

during sleep. Two discs are also placed above one eye and below the other to monitor eye movements. A further two stickers are placed under the chin to monitor muscle tone.

A sticker is placed on each shoulder to monitor your heart beat and two stickers are placed on each arm or leg to monitor movements. In addition a small microphone is placed on your neck to measure snoring and 2 velcro straps around your chest which record your breathing.

Finally a sensor is taped to a finger to monitor oxygen levels and a fine tube is placed at the entrance to your nose to monitor airflow.



What happens during the test?

All of the equipment connected is designed to be slept in; few patients report any problems sleeping with it on. Staff will check it all before you go to sleep at night.

Each of the contacts is connected by a wire to a small box which is then connected to a computer by a long cable. The box is carried on a belt around your waist so you can move freely around the room but remain in view of the camera. You will not be able to have a bath or shower with the equipment connected but you will be able to have a standing wash. In the single room there is an en-suite bathroom which is the only part of the room not covered by the video. If you are in the 3 bedded bay, you will be able to disconnect the cable for short periods to enable you to visit the bathroom.



What happens after the test?

If you are having a multiple sleep latency test (MSLT) this will be performed the following morning whilst you still have electrodes on your head. Most of the extra contacts on your legs, finger, chest and nose will be removed. If you are not having an MSLT test all of the contacts will be removed, using a solution to dissolve the glue. It is unavoidable that some of the glue is left in your hair. This will come out after you have washed and conditioned your hair a few times. You may wish to bring a hat to wear on the way home.

3. What is a multiple sleep latency test (MSLT)?

MSLT is a test during which a patient is given four or five opportunities to sleep in a quiet darkened room whilst having their EEG monitored. The test measures the average time for a person to fall asleep.

How will having a multiple sleep latency test help me?

The average time taken to fall asleep can be used as a measure of daytime sleepiness. Knowing this may help to distinguish tiredness from excessive daytime sleepiness and can also be used to investigate narcolepsy. Narcolepsy is a disturbance in the wake / sleep regulating system, one of the common symptoms is excessive daytime sleepiness.

Is it safe?

The test is recording your ongoing brain wave activity that you produce naturally. No x-rays are used. You will not feel anything during the test. Occasionally patients experience minor skin irritations due to the products we use.

Where is the test done?

The test is performed in a small recording room on N floor of the Royal Hallamshire Hospital or in a side room on the ward.

Is there anything I need to do before having the test?

Some medications will be discontinued before this test; your doctor will advise you if this is necessary. If you are having the MSLT test, you will be asked not to drink anything that contains caffeine on the ward after midnight. These include:

- Tea
- Coffee
- Coca-Cola
- Chocolate

It is necessary for you to stay awake in between naps.

Please remember that any food or drinks you consume throughout the day should still not contain caffeine.

How long will the test take?

The procedure is time consuming. On the day of the test you will need to remain available on the ward from 8.30am until approximately 6.00pm. On some occasions it may end earlier at approximately 4.00pm.

What happens on the day of the test?

You will be collected from the ward and taken to the recording room. You will already have electrodes on your head and these will be reconnected.

At 9.00am you will be settled and left undisturbed to sleep for half an hour with the lights turned out. You will then be woken and the

procedure will be repeated at 2 hourly intervals: 11.00am, 1.00pm, 3.00pm and 5.00pm. In between these times it is necessary for you to stay awake.

Please note, we routinely video the test in case you have any symptoms that we might need to re-examine. We will ask your permission to do this.

What happens after the test?

Once the test is finished we will remove the discs from your head using oil. You may find that some of the glue or gel is left in your hair, this is unavoidable. However, it will come out after you have washed and conditioned your hair a few times. If you are no longer needed on the ward you can go home. You may wish to bring a hat to wear.

When will I get the results?

You will not be able to get your results on the day of the test due to the large amount of complex information that needs to be analysed by one of our doctors. Once this has been done, a report will be sent to your hospital consultant within 15 working days and they will arrange to discuss them with you . However, sometimes your results need to be discussed at a monthly multidisciplinary team meeting. This may delay your results by 6-8 weeks.

Who should I contact if I have any questions or concerns?

If you would like more information, please ring the Department of Clinical Neurophysiology:

- **0114 271 3237**
Monday - Friday, 8.30am - 4.30pm



www.neurocare.org.uk
0114 267 6464
appeals@neurocare.org.uk



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