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## Narcolepsy

**Narcolepsy is a rare and rather strange condition that results in a person suddenly falling asleep without warning and often in inappropriate places. It occurs because the brain is unable to regulate waking and sleeping patterns in the usual way. The results, apart from sudden and inappropriate episodes of sleeping, are a variety of co-ordinatory and hallucinatory events.**

The brain is unable to regulate effectively the patterns of sleeping and waking which we all take for granted. The result is excessive daytime sleepiness and intermittent episodes of falling asleep during the day which is beyond the control of the individual. The condition was brought to the fore in the ITV television series *Doc Martin*, where the character Joe Penhale (played by John Marquez) has narcolepsy.

From a medical perspective, narcolepsy occurs as a result of disordered sleep. Normally people enter the early stages of sleep (non-rapid eye movement sleep NREM) followed by a deepening of sleep until a phase called slow wave sleep is reached. There is a lack of eye movement which may be associated with muscle paralysis. After about ninety minutes, the person moves into a period of rapid eye movement (REM) sleep accompanied by muscle atonia and dreams or nightmares. In narcolepsy sufferers, the REM sleep occurs almost immediately.

Narcolepsy typically starts in the teenage years or the twenties but it can start at any age. In some people the symptoms go unrecognised and it is probably underdiagnosed. It appears to affect men and women equally. About one in

every 2,000 people has narcolepsy and there are about 25,000 individuals affected in the UK.

The disturbance results in a series of symptoms of variable intensity:

- Excessive daytime sleepiness, which interferes with normal daytime activities such as concentration and staying awake, irrespective of whether the person has sufficient sleep at night.
- Sudden sleep episodes where the individual suddenly falls asleep without any warning. They may last seconds or minutes and varies from person to person. They may happen infrequently or up to several times a day.
- Cataplexy which is a sudden loss of muscle tone leading to feelings of weakness and loss of control of muscles. The symptoms may be very variable, including slurred speech, jaw drop and double vision up to total collapse. The problem is often triggered by intense emotions such as laughter or anger. They may occur very infrequently or up to several times a day.
- Hallucinations which may be vivid and frightening. They are usually visual

(dream-like images) but any of the senses may be involved. They are called **hypnogogic** when accompanying the onset of sleep and **hypnopompic** when they occur during periods of being awake.

- Sleep paralysis which is associated with the temporary inability to move or speak when falling asleep or waking up. Episodes are generally brief lasting seconds or a minute or two.
- Other symptoms including headache, depression, memory loss and confusion.

The cause of narcolepsy is unclear in some patients but in others it appears to be associated with lack of a neuropeptide chemical called **hypocretin** which regulates arousal, wakefulness and appetite. There are believed to be 50-100,000 neurons associated with the hypothalamus that extend through the brain and spinal cord that influence wakefulness. It is thought that lack of hypocretin may be the result of an auto-immune defect or may be induced by infections, severe psychological disturbances or changes in other hormones.

Narcolepsy may also develop as a result of a secondary manifestation of

Diagnosis may be difficult. The first stage is a detailed history and examination. Commonly a sleep scoring system, called the Ebworth score, is employed and, if suspected, the individual is referred to a sleep laboratory where specialised tests are carried out:

- **Polysonnogram** – monitors the sleep cycle overnight to identify any abnormalities.
- **Multiple Sleep Latency Test** – performed during the day to measure the tendency to fall asleep and the

pattern of any REM sleep during what should be normal waking hours.

Other causes of excessive daytime sleepiness could include:

- **Sleep apnoea**
- **Hypothyroidism**
- **Chronic insomnia**

There is no cure for narcolepsy and for some it remains a disabling condition. However, some of the more disabling symptoms can be ameliorated by a system of planned treatments:

- Developing a pattern of taking **frequent brief naps** during the day will often reduce the excessive drowsiness.
- Having a strict plan for **nocturnal sleep** in the form of a routine.
- Medication. Sleepiness can be treated with drugs chemically similar to amphetamines and abnormal REM sleep can be modified with antidepressant drugs.
- There are new drugs to minimise the effects of cataplexy but they are not universally available under the NHS.

The ability to drive may be compromised by narcolepsy and sufferers will be allowed to drive only when it can be demonstrated that the narcolepsy is well-controlled.

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