

Early indications of Parkinson's disease revealed in dream sleep

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During a large-scale study of the socioeconomic costs of this neurodegenerative disease, Danish researchers, some from the University of Copenhagen, discovered that very early symptoms of Parkinson's disease may be revealed in dream or REM sleep.

Parkinson's disease is a [brain disease](#) best known for the trembling it causes. It is an incurable, chronic disease and gradually affects the muscles and mental capacity, seriously afflicting the lives of the patient and his or her immediate relatives.

"In the study we saw that eight years before diagnosis, Parkinson's sufferers exhibited work and health indications that something was wrong," says Poul Jennum, professor of clinical neurophysiology at the Center for Healthy Ageing, University of Copenhagen, and the Sleep Centre at Glostrup Hospital.

Among the very early symptoms is the sleep disorder RBD, or [REM sleep](#) behaviour disorder. REM is a particular stage of sleep in which we dream, and our eyes flicker rapidly behind our eyelids, hence the term REM, or [Rapid Eye Movement](#). To prevent us from actually acting out our dreams the body usually shuts down our muscle movement during REM sleep, but in RBD it is still active, and REM sleepers with RBD display a range of behaviours from simple arm and leg spasms to kicking, shouting, seizing or jumping out of bed.

"In some cases their behaviour may be violent and result in injuries to

the patients or their partners," Professor Jennum explains.

"Our [hypothesis](#) is that the very earliest stages of Parkinson's disease show up as various other diseases such as RBD," Jennum says.

In recent years, great advances have been made in the treatment of Parkinson's disease, but we still do not have therapies to mitigate the later symptoms, costs and increased mortality of the disease.

"This may become possible if we are able to intervene earlier, and if we are able to find clear indications of Parkinson's disease eight years sooner than we are now, this may give us an important tool. The question is of course whether we can actually say that RBD is always a very early marker for Parkinson's disease. That is what we are now investigating at the Sleep Centre at Glostrup Hospital," says Jennum.

Not surprisingly the study showed that Parkinson's sufferers are more often in contact with all sections of the health service, more often unemployed, more often on benefits, and on average cost the health service DKK 50,000 a year more than healthy control subjects.

For the study, researchers used the National Patient Register to identify all the patients diagnosed with Parkinson's disease between 1997 and 2007. 13,700 patients were compared to 53,600 healthy patients of the same sex, social class, educational background etc.

The study was carried out by researchers from the Center for Healthy Ageing, the Danish Center for Sleep Medicine, University of Copenhagen, Glostrup Hospital, Bispebjerg Hospital and the Danish Institute of Health Research, and was published in the *Journal of Neurology*, February 2011.

Provided by University of Copenhagen

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