

## **NICE Health technology appraisal**

### **Continuous positive airway pressure (CPAP) for the treatment of obstructive sleep apnoea/hypopnoeas syndrome (OSAHS)**

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Personal statement (clinical specialist) by Dr John Stradling, professor of respiratory medicine, Oxford University and Churchill Hospital, Oxford, to the Technology Appraisal Committee, chair Professor Andrew Stevens.

My first experience with sleep and breathing disorders was as an SHO looking after respiratory patients in 1977. During a late-night round, I noticed a patient stopping breathing and repeatedly going blue. There were limited opportunities to chase this up until I negotiated a research post in 1979 to look at sleep apnea in patients with COPD (my MD, 1981). As a registrar at the Hammersmith Hospital in 1982 I treated the first OSA patients with home made CPAP systems, following the description of CPAP by Sullivan in 1981. I was then offered a year in the Toronto sleep unit, by Professor Elliott Phillipson, where I was trained in sleep and breathing disorders. On my return to Oxford in 1985, I set up the sleep clinic to specifically diagnose and treat patients with obstructive sleep apnoea, but also covering other sleep disorders as these were also rather neglected at the time. This included initially developing 'home made' CPAP machines, and then working with a fan and blow a company in Yeovil to produce a more available version.

In those days, the dramatic response of severe OSA to CPAP was so impressive that the requirement for randomised controlled trials seemed superfluous. As the NHS service in Oxford grew, the local Health Authority supported my activities following audits and data provided by our unit. However, despite our growing numbers of referrals and patients on CPAP (490 by the end of 1997), there was much resistance to this new disease by many other Health Authorities who saw it as an American invention of dubious importance. It was also at the beginning of severe financial restriction and rationing, and sleep apnoea lost out on the 'last in, first out' principle.

The final disaster, from the point of view of NHS service provision for patients with OSA, was the review by Trevor Sheldon's team in the BMJ in 1997. This review questioned the importance of OSA and its treatment, concentrating on cardiovascular issues, and largely missed the point that clinicians actually treated OSA for symptoms. This ill-informed review had devastating effects on

NHS service provision, with many Health Authorities using it as a reason to strangle services at birth. On the other hand, the review also acted as a spur to those of us in the field to carry out randomised controlled trials that did demonstrate the large symptomatic benefits in severe patients (e.g. Lancet 1999).

Despite such randomised controlled trials being available, and later a favourable Cochrane review (2001) that clearly demonstrated benefits, there has remained a prejudice against diagnosing and treating OSA. This prejudice is interesting and often talked about. It seems to stem from the idea that OSA is entirely a self-induced disease, confined to obese patients who should simply lose weight, when in fact only about 2/3rds are obese. The association with snoring and sleepiness has always reduced the seriousness with which OSA is considered, allowing it to be reduced to the level of a music hall joke. The epidemic of type 2 diabetes due to obesity has not received the same prejudice, largely I think because of the association with vascular disease and the expense to the NHS that this causes.

By 2004, despite the Cochrane review in its favour, the NHS treatment of OSA across the UK was highly variable, and was an extreme example of 'post code' prescribing. In Oxford we were relatively lucky, having a reasonably well supported service that coped with increasing referral rates and CPAP prescriptions (2453 by the end of 2004) by constantly innovating and reducing the cost of the way we provided the service. Some areas had no service at all, as the local commissioners absolutely refused to believe that OSA was a problem at all, still citing the 1997 review as evidence.

Because of this, I submitted a proposal to NICE in 2004 to undertake a technology appraisal of CPAP for OSA. I had been repeatedly told by commissioners that the absence of any NICE assessment meant that they could safely ignore OSA and its treatment. Hence a NICE appraisal seemed the only way forward. Recent approaches by physicians to Parliament, with the support of both the patients' association (SATA, which we had set up some years earlier) and MPs, had unfortunately been poorly effective.

During the course of the CPAP technology appraisal, I have been responsible for the BTS submission, and have worked with the York centre on further data they required for the economic modeling. I have also provided feedback on the preliminary appraisal report (again on behalf of the BTS). Therefore this current statement concentrates very much on my personal experiences, rather than simply repeating previous documentation.

Having read the preliminary CPAP technology appraisal produced by NICE, I feel it is fair. It justifiably highlights the areas of uncertainty, and reinforces the areas of clear benefit. My main disappointment is the exclusion of the full costs of motor vehicle accidents from the economic analysis as NICE only considers health costs, rather than the wider societal costs: the latter having been estimated to be about £53 million per year across the UK.

My own personal experience, both as an NHS clinician and researcher, is that OSA is a common finding on a sleep study, but only some people develop disabling symptoms as a consequence. When they do, they can be life-wrecking in many ways, with poor performance and its consequences at work and at home. The improvement in quality of life with CPAP is enormous in the more severe patients. There is less benefit at the milder end of the spectrum. The effect of OSA on vascular outcomes is still an area of significant uncertainty. The provision of CPAP, however bizarre a treatment, is extraordinarily effective, cheap and safe. That is why I continue to devote many hours of my life to the clinical and research aspects of sleep apnoea, its consequences, and its treatment. Of all the areas I work in within respiratory medicine, the treatment of OSA is by far and away the most beneficial.

My hope is that this NICE report will produce both appropriate and equitable NHS clinical services for patients with OSA across the whole UK, as well as stimulate research into the areas where there are still uncertainties.