



# SLEEP MATTERS

THE SLEEP APNOEA TRUST ASSOCIATION

## “Obstructive sleep apnoea and co-morbidities: a dangerous liaison”

### A review of a review!

We have all been there. Our Sleep Apnoea has finally been diagnosed, we have a CPAP machine and are ready to start treatment. All of us will have heard our sleep doctors and nurses advise us about the increased risk of things like heart disease or stroke associated with our condition but, in reality, it is lack of sleep that is the overwhelming problem and the thing that we really want to be sorted out.

But what about those other conditions? Can those really be associated with OSA? Is there anything else that could be associated with or made worse by our condition? The answer is “yes”!

Will CPAP help with those problems as well? The answer is less clear - “yes in some cases, maybe in others”!

In fact, the association of OSA with a range of conditions (co-morbidities) including heart and blood pressure problems (cardiovascular disease), stroke (cerebrovascular disease) and conditions like diabetes (metabolic diseases) was recognized many years ago, but what has not been clear is whether OSA is a **result** of these conditions or at least associated with them, or if it is actually the **cause** (or at least one of the causes). There have always been problems in confirming which of these is true.

A recent review has attempted to shed light on some of these problems and has identified many of the risks associated with untreated OSA. Entitled “*Obstructive Sleep Apnoea and Co-morbidities: a dangerous liaison*” the review appeared earlier this year in the journal *Multidisciplinary Respiratory Medicine* (the full title and authorships are given at the end of this article). A great deal of work has been done in recent years on these co-morbidities and this review draws together the results of the most important of these studies on the most common and/or important of the possible co-morbidities. To quote directly from the review: “Several recent studies reported that such co-morbidities

occur commonly in OSA patients. The distribution of co-morbidities differed between men and women, with diabetes and ischemic heart disease (disease caused by poor blood supply) being more prevalent in men with OSA, and high blood pressure (hypertension) and depression being more prevalent in women with OSA compared to non-OSA subjects”.

The authors note that “according to some studies, the co-morbidity burden progressively increases with OSA severity”.

These co-morbidities are themselves all complex conditions and it can be very difficult to determine what is causing what! In addition, the many different studies on these factors have different focuses with OSA being the centre of only some. This means that it can be difficult to make direct comparisons between them. Taken together these may cloud the identification of the role of OSA or of CPAP treatment.

### Effects of CPAP treatment

Many of the studies on co-morbidities in OSA patients included in the review did examine the effects of CPAP treatment. Different studies showed different results but overall, they seem to show that the occurrence of co-morbidities in OSA patients could identify sub-groups of patients at high risk, who might benefit from CPAP treatment. Several studies have tried to determine whether there are differing clinical characteristics of patients with OSA (compared to those who do not have the condition) and of different types of patient within the OSA group. For example, a cluster of patients with few OSA symptoms but a high co-morbidity burden has been reported by most studies published so far; such a cluster at least partly overlaps with the cluster of elderly OSA patients. Recent analyses pointed to disturbed sleep and hypoxia (reduced oxygen supply) as risk factors for cardiovascular events or death, and regular CPAP use appeared to exert a protective effect.

## Cardiovascular and cerebrovascular diseases

### **Systemic hypertension**

This condition is high blood pressure in the vessels that carry blood from the heart to the body's tissues and is the blood pressure that is measured in your doctor's surgery. The reviewers note that this condition has been the most studied co-morbidity in OSA. They point out that a positive relationship has been shown between OSA severity and blood pressure and that resistant hypertension (poor control of blood pressure by three antihypertensive drugs) is frequent in OSA patients.

Analyses of several studies showed that, on average, blood pressure decreased by only a small amount during CPAP treatment, but the effect varied according to OSA severity, compliance with CPAP treatment and baseline blood pressure values. The reviewers state that, in general, treatment of blood pressure with drugs is necessary in hypertensive OSA patients, because CPAP alone is not enough.

### **Cardiovascular events and/or death.**

The reviewers examined several studies that addressed the question of OSA and cardiovascular disease and death. They noted differences between the results of different studies, mainly depending on whether the studies were purely observational and dealt with all types of patient with OSA, or if they involved specially designed trials of treatments for patients with a known high cardiovascular risk. The former type of study confirmed the general association of untreated OSA with overall and cardiovascular mortality and that the raised risk of this type of disease in patients with severe OSA could be reduced by CPAP treatment. However, more targeted studies on the effects of CPAP in patients with known coronary or cerebrovascular disease (stroke etc.) failed to show any protective effect of CPAP treatment.

The authors of the review suggest that the selection of patients with different characteristics in the different types of study might explain the different results.

### **Stroke**

They also note that “Good compliance to CPAP (i.e. average nightly use of at least four hours) was associated with some protection, especially for occurrence of stroke”. Several of the studies reviewed reported an increased risk of stroke in snorers and OSA patients, but the reviewers note that the role of CPAP treatment in reducing strokes and in recovery from strokes is not clear. While CPAP treatment “may reduce the risk of stroke” they consider that “more studies are necessary to evaluate the possible protective effects of CPAP on survival after stroke”.

### **Arrhythmias**

Arrhythmias (irregular heartbeats) are frequent in OSA patients, especially atrial fibrillation (the most common serious abnormal heart rhythm) and CPAP treatment is reported to have a protective effect in this condition. However, its protective effects on ventricular arrhythmias (less common but much more serious) are less clear.

## Metabolic diseases

### **Metabolic syndrome & Diabetes**

The relationship between OSA and metabolism (the chemical reactions in the body) is complex and the subject of much research, particularly with the worldwide epidemic of obesity (with which OSA is often associated) and the increasing occurrence of type 2 diabetes. The review authors note that metabolic syndrome, a pre-diabetic state associated with central obesity (abdominal obesity) and increased cardiovascular risk, is very common in OSA patients. OSA may play a role in the development of insulin resistance (a pre-diabetic state) through intermittent hypoxia (oxygen shortage in the tissues) and sleep loss or fragmentation. Short-term CPAP treatment for 8 hours per night improves insulin resistance, so prolonged nightly treatment with CPAP may be needed to modify the way our bodies deal with glucose (and hence reduce the risks of diabetes) in OSA.

Data on the effects of CPAP on the complications of diabetes are scarce but the reviewers suggest that treatment of OSA may help to prevent severe consequences. This is because untreated OSA in diabetic patients is associated with an increased occurrence of several potentially serious conditions including neuropathy (nerve damage), peripheral arterial disease (narrowing of vessels other than those which supply the heart and brain), diabetic retinopathy (damage to the retina of the eye) and diabetic nephropathy (kidney disease). They summarise their review of the literature on this topic by stating that “OSA may worsen metabolic abnormalities, and regular and effective OSA treatment could play a protective role, especially when people make lifestyle changes and actively lose weight. Screening for OSA in diabetic patients should be systematically done, since CPAP treatment for at least four hours each night may be protective, especially when diabetic complications are also present”.

### **Kidney diseases**

Kidney diseases and OSA share common risk factors, like high blood pressure, diabetes, obesity and advanced age. Each of these factors may contribute to the onset and progression of the others. Although studies have not consistently reported an association between OSA and alterations in kidney function, some studies have suggested that reduced kidney function and chronic

kidney disease is more common among patients with OSA. Most papers on the effects of OSA treatment on kidney function showed positive effects of CPAP. In summary, there is some evidence that OSA may worsen kidney function, and CPAP may exert beneficial effects.

### Respiratory problems

#### **Chronic Obstructive Pulmonary Disease (COPD)**

OSA affects breathing and one might expect a relationship between the condition and lung disease. The authors of the review point out that both OSA and COPD are common conditions and may occur in the same patient. If they do, their association is known as “overlap syndrome”. In OSA patients, occurrence of the overlap syndrome increases with age, unsurprising as COPD is more common in older subjects. Recent observational studies have reported increased mortality in overlap patients compared to OSA patients without COPD, and a protective effect of CPAP treatment. The review authors state that they consider that better understanding the details of the condition of individual patients with overlap syndrome is needed to optimize treatment of both diseases.

#### **Asthma**

The reviewers examined possible interactions between OSA and asthma, noting that these common conditions are often associated. OSA symptoms frequently occur in asthmatic patients who also report daytime sleepiness, poor asthma control and reduced quality of life. They reported that much of the available literature shows that OSA is more common in asthmatics than in individuals without asthma and that OSA often leads to a worsening of the condition.

Analysis of the published material showed that mild to moderate OSA occurred in 49% of patients with difficult-to-treat asthma, and that patients with severe asthma frequently showed an increased severity of OSA, poor sleep quality and daytime sleepiness. In patients with suspected or confirmed OSA, some studies highlighted the association of asthma and obesity, especially in women. However, the overall situation is far from clear, as some studies have shown a positive relationship between severity of OSA and severity of asthma symptoms while others have not. Further studies are needed to clarify the relationship between these two conditions, and to assess whether CPAP treatment could be a useful part of asthma treatment in OSA patients, especially in cases of poorly controlled asthma.

#### **Cancer**

Numbers of studies have been undertaken in recent years to determine if there is any association between OSA and cancer. Once again, the reviewers note that the situation is not clear. Some studies reported increased

incidence of cancer in groups of OSA patients; others did not. Their conclusion is that, although most studies indicate OSA may increase cancer risk, firm evidence is lacking, and further studies are required.

*(N.B. See From the Chairman & R&D Articles in this edition of Sleep Matters)*

### Conclusions

In their conclusions the authors point out that co-morbidities are common in OSA patients, and OSA can potentially lead to worse outcomes of these conditions “justifying the hypothesis of a dangerous liaison between OSA and co-morbidities”. Interestingly they also conclude that “although the possible protective role of OSA treatment is still uncertain, it could differ among different clinical types of OSA patients”.

They consider that although personalised medicine is slowly developing in the OSA field, there is a need to determine the best treatment for different individuals. In particular, they draw attention to the need to consider the role of co-morbidities in elderly OSA patients and in women with OSA, given the differences in disturbances to normal body function and the symptoms displayed that are shown by members of these two groups, as compared to those shown by middle-aged men who have been studied most commonly so far. They end by stating that they consider that careful assessment of co-morbidities should become standard clinical practice for OSA patients.

Reference: Bonsignore MR., Baiamonte P., Mazzuca E., Castrogiovanni A. and Marrone O. **Obstructive sleep apnoea and co-morbidities: a dangerous liaison.** *Multidisciplinary Respiratory Medicine* (2019) 14:8.

**THE SATA WEBSITE  
HAS BECOME THE  
REFERENCE POINT  
IN THE UK  
FOR THE MOST ACCURATE  
INFORMATION,  
HELPFUL ADVICE  
AND NEWS ABOUT  
THE WORLD  
OF SLEEP APNOEA  
THAT WE ALL SHARE.**

**[www.sleep-apnoea-trust.org](http://www.sleep-apnoea-trust.org)**

## FOUR PICTURES OF THE CONFERENCE CENTRE WE WILL BE USING



Rosewood Suite



Cedar Lounge



Cedar Lounge



Olive Restaurant

# **SATA**day 2019

A breathtaking experience

## **SLEEP APNOEA EVENT FOR PATIENTS**

**Saturday, 19th October 2019**  
**at the Woodlands Event Centre**  
**Wyboston Lakes Resort**  
**Wyboston, Bedfordshire, MK44 3AL**  
**(on the A1 at A428 junction)**

Find solutions to sleep apnoea problems



Talk to specialist nurses



Sort out mask issues



Hear about medical developments



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**The Sleep Apnoea Trust is a charity run by volunteer sleep apnoea patients for patients**

# SATAday 2019 PROGRAMME

09.00 **Registration, tea/coffee – visit stands and mask corner**

09.50 **Move to the Rosewood Suite**

## MORNING SESSION

10.00 **Introduction & Welcome**

*Bill Johnston, Chairman*

10.05 **MOSAIC, PREDICT, ROSA and MERGE - What have patients taught us over a decade?**

*Professor Mary Morrell, Imperial College and Brompton Hospital, London*

10.55 **Sleep apnoea research – What Next?**

*Dr Annabel Nickol, Consultant, Oxford in Respiratory Medicine, Oxford (including Sulaiman Alsaif)*

11.10 **Comfort Break**

11.25 **In need of help with healthy aspirations?**

*Kate Boys/Emma Hagues, Health Promotion Practitioner Specialists, Here for Health, Oxford*

12.15 **Manufacturers' New Products**

*Blake Marsh, Oxford, Sleep Physiologist, Oxford*

**LUNCH Two sittings by name badge colour in the Olive Restaurant**

**12.30 to 13.15 Pink Badges**

**13.15 to 14.30 Yellow Badges**

**Visit Stands & Mask Corner**

## AFTERNOON SESSION

14.00 **Imperial College – The Hidden Burden of Sleep Apnoea**

*Florence Barkats, Clinical Research Director, Imperial College/Acurable, London*

14.30 **SATA Question Time Rosewood Suite**

*Panel Chairman - Chris Rogers*

15.30 **SATA AGM**

16.15 **Conference Closes**

# Sleep Apnoea Trust Association

## Notice of Annual General Meeting

**Notice is hereby given** that the Annual General Meeting of the Association will be held on Saturday 19th October 2019 at 15.30, in:

The Woodlands Event Centre  
Wyboston Lakes Resort  
Great North Road  
Wyboston  
Bedfordshire  
MK44 3AL

to transact the following business:

1. Minutes of 2018 Annual General Meeting
2. Chairman's Report
3. Treasurer's Report
4. Election of Officers
5. Any Other Business

The Chairman, Vice-Chairman and Treasurer are available for re-election and valid nominations have been received. Nominations for any of these posts, validly completed and seconded by members in good standing, must reach me no later than **Friday 4th October 2019**. If there is more than one candidate for any office, a ballot will be held.

**F.W. (Bill) Johnston**

**13th June 2019**

**Please reply to:**

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## FROM THE CHAIRMAN

I am very pleased to tell you that we have two new volunteers for the Committee. We welcome Louise Mather and Chris Wade to help us in our task of trying to raise awareness of sleep apnoea and to improve its treatment on the NHS. In addition, we also have heard from regular Committee member Dr Tim Healing that he has more time to help. As a former editor of Sleep Matters, I am sure he can help us establish a more frequent publication again, so we can keep you better informed. Tim will, in particular, be working with Chris Rogers and David Graddon.



*Bill Johnston,  
Chairman, SATA*

### Cover Story – Co-morbidities and OSA

This has been written by Tim Healing. As you know our basic approach is to assist patients, especially those newly diagnosed, by encouraging them to persevere with their CPAP therapy. We do this with our leaflets, email Helpline and our Annual Conference.

Sometimes, however, it is also necessary to highlight the dangers of not maintaining CPAP therapy, so that patients do understand that sleep apnoea is a serious illness and their overall health can be profoundly affected. On Gov.UK that is underpinned by the Oct 2013 statement that undiagnosed OSA Syndrome can reduce your life expectancy by 20%.

Every now and again, patients need to be reminded and the research paper published earlier this year summarises the potential consequences of not being diagnosed or not maintaining CPAP therapy. It is a bit like waving a big stick but the original NICE Technology Appraisal Guideline (TA139) was based on fairly simple financial consequences in that an undiagnosed OSA patient costs the NHS twice that of a patient diagnosed and on CPAP.

### Increased Cancer Prevalence in Women with OSA than Men

To further support the cover story, we have also published a press release from the European Lung Foundation on a research paper from a large study published in May suggesting that women with OSA may be at greater risk of being diagnosed with cancer than men. This study also takes into account other factors such as age, body mass index (BMI), smoking status and alcohol consumption. This study involved

more than 19,000 people so the results must be considered significant.

SATA continually stresses that, once diagnosed, patients must try hard to adhere to CPAP therapy and seek help and advice if they are struggling. SATA would like to see all patients with sleep apnoea being treated with CPAP or MADs, irrespective of the severity of their condition, with more focus on the symptoms and health risks, than a grading system that increasingly seems to be flawed.

### SATAday 2019

We owe a major vote of thanks to our Vice Chairman, Graham Hill in finding an outstanding venue for this year's Annual Conference and AGM. This is probably the biggest patient event in the UK, certainly the biggest sleep apnoea event. Following problems with the Oxford venue, we did manage to hold what we promised, a Northern SATAday last year in Stoke on Trent. However, the Committee drew up a list of basic requirements for a successful future conference and started searching for venues with some external assistance. That failed either on facilities and/or cost, but Graham kept looking and found the newly refurbished Woodlands Event Centre at the Wyboston Lakes Resort situated between Bedford and Cambridge on the A1, Great North Road. It is a modern, air conditioned, fully accessible, state of the art conference centre with large areas for exhibitors, a conference hall seating 320 delegates cabaret style, a restaurant to feed 300 plus people quickly and comfortably and we can actually maintain last year's cost of £25 per delegate. Details are published on the preceding pages along with the provisional programme, so you can see what you will get for your money. I know that, for some, this is not as convenient as Oxford, but short of going into Central London, or the NEC in Birmingham, (with costs much higher than at present), there are very few venues in the UK that can support what our Conference requires.

I hope as many of you as possible can attend and look forward to seeing you on the 19th October. Please book quickly as places are going very fast indeed.

### Assisting R&D

Many long standing members, will be able to remember when SATA could afford to finance R&D activities into sleep apnoea. Those days are long gone, with NHS Clinical Trials requiring budgets close to the £1m mark. They are amongst the best in the world, so the costs are more than justified.

We have recently assisted several more research projects and Professor Mary Morrell will be talking

about the Positional Obstructive Sleep Apnoea trial at **SATAday** 2019.

The surveys which assist research clinicians vary from brief opinion research to quite complex questionnaires. Some of you feel that, in certain cases, you would like more information or that the subject was not examined in enough depth. I do understand this certain frustration, but the clinicians know what they are doing and in several cases, this is the preparation process that takes place before the formal preparation of a grant application for a national clinical trial.

Please keep responding to surveys as you are providing a very valuable contribution to the sleep apnoea R&D process that is taking place in the UK. We will try to keep you better informed about the outcomes in future so that you do not feel that your contribution has been in vain.

### The SATA Website

Our website is our shop window, our library of patient and clinician information, our advisory service and our voice. It underpins everything we do as a charity that is now known as “The Sleep Apnoea Patient’s Voice”. It is the most important tool that a charity run by volunteer patients possesses as we can reach the widest possible audience and is not subject to the intervention of amateur “experts” that other social media channels are exposed to. All the information on our website is subject to the closest scrutiny at Consultant NHS level, so it is safe, trustworthy and it works. However, the design of the current website is old, the structure is no longer logical and the conformity of layout is very variable. We have, therefore, gratefully accepted the offer of help from Professor Mary Morrell of Imperial College, London, to help us start the process of a major edit and redesign, hence the recent survey of members on their opinion of the website.

After this investigation stage, we will work with Sulaiman Alsaif from Imperial College on a brief for a new website and will also consider how we will fund it. This is the first stage on improving our communications and this will be followed by a study on our presence, or lack of presence, on social media and what we need to do to improve.

### Sleep Clinics Leaflet Ordering Service goes “e”

The printing of our excellent leaflet range is now funded by the Association for Respiratory Technology and Physiology (ARTP) and for that we are most grateful. After struggling for some time with a paper and email-based system of managing and sending out boxes of leaflets, Chris Rogers

has introduced an online ordering system for Sleep Clinics both to improve the service we give, and to minimise the current labour-intensive and inefficient process. Committee Member Keith Nadin who runs the service will now get an email from a Sleep Clinic with their detailed order, print the labels directly from his computer and manage the stock from SATA’s Witney based storage facility, before taking the boxes to ResMed at Harwell Campus where they are sent directly to the Clinics. Without the help from the ARTP and ResMed this free service for Sleep Clinics would not be possible.

### Membership Renewals

In spite of my many requests to renew your membership payment quickly after getting the notification, Chris Rogers advises me that the situation is worsening, not improving, with only 30% of non-direct debit or standing order monthly renewals being paid on time. Sending reminders is very time wasting for us and this has the potential to compromise what we do, especially in terms of advocacy.

We are, as you all know, SUBSTANTIALLY dependent upon you funding the Charity. If the situation does not improve, the effort in getting the funds in is becoming so great, we may have to scale back some of our external functions. It is perhaps the only way I can illustrate to you the effect it is having upon our work.

Chris is, for example, a lay member on the NICE Guideline Committee, which puts him in a position to directly influence the future treatment of sleep apnoea by the NHS, but this takes a huge amount of time and effort. This will be compromised if the speed of receiving subscriptions does not improve. Another example is that a large CCG is acting unlawfully under TA139 in its referral and diagnostic pathway, something we would normally deal with immediately, but cannot owing to the load imposed on the membership process by late payments. This actually affects the lives of other patients.

The solution to this is simple **PLEASE SWITCH TO DIRECT DEBIT AS SOON AS POSSIBLE.**

I look forward to seeing many of you at **SATAday**



## Women with sleep apnoea are more likely to be diagnosed with cancer than men

A study of more than 19,000 people has found that women with obstructive sleep apnoea (OSA) are more likely to be diagnosed with cancer than men with the condition, according to research recently published in the *European Respiratory Journal* (May 2019).

OSA, where the airways close completely or partially many times during sleep, reduces the levels of oxygen in the blood, and common symptoms include snoring, disrupted sleep and feeling excessively tired. The new study suggests that people who experience more closures of the airways during sleep and whose blood oxygen saturation levels drop below 90% more frequently are more likely to be diagnosed with cancer than people without OSA.

The study also found that cancer was more prevalent among women with OSA than men, even after factors such as age, body mass index (BMI), smoking status and alcohol consumption were taken into account, suggesting women with OSA may be at greater risk of being diagnosed with cancer than men with OSA.

The study was led by Athanasia Pataka, who is Assistant Professor of Respiratory Medicine at Aristotle University and works at the George Papanikolaou General Hospital of Thessaloniki, Greece. She explained: "Recent studies have shown that low blood oxygen levels during the night and disrupted sleep, which are both common in OSA, may play an important role in the biology of different types of cancers. But this area of research is very new, and the effects of gender on the link between OSA and cancer have not been studied in detail before."

The researchers analysed data from 19,556 people included in the European Sleep Apnoea Database (ESADA), an international multi-centre study that includes patients with OSA, to explore the link between OSA severity, low blood oxygen levels and cancer development. The participants included 5,789 women and 13,767 men in total, who were also assessed for their age, BMI, smoking status and level of alcohol use, as these factors can impact the risk of developing cancer.

To assess OSA severity and the link with developing cancer, the researchers looked at how many times the participants experienced partial or complete airways closure per hour of sleep, and how many times during the night their blood oxygen levels dropped below 90%.

The data showed that among the ESADA participants, 388 people (2%) had been diagnosed with a serious cancer; this included 160 women and 228 men, which is 2.8% of all women and 1.7% of all men in the ESADA group. Those who were diagnosed with cancer were

likely to be over 50 years of age and less overweight, and the most common type of cancer among women was breast cancer, while prostate cancer was the most prevalent among men.

When the researchers analysed the data again according to the participants' sex, they found that the odds of cancer diagnosis were higher in women with severe OSA and who had more severely lowered blood oxygen levels during sleep compared with women without OSA. But this trend was not the same when comparing men with OSA *versus* men without OSA, even after the research team accounted for the other variables that could impact the risk of developing cancer, such as BMI, age, smoking status and alcohol use, which suggests that women with OSA are more likely to develop cancer than men with OSA.

Professor Pataka explained their results: "Our study of more than 19,000 people shows that severity of OSA is linked to a cancer diagnosis. This link was especially strong in the women that we analysed, and less so in the men, and suggests that severe OSA could be an indicator for cancer in women, though more research is needed to confirm these findings.

"Our study did not explicitly explore the causes of different cancers, but cancer may differ between men and women because of factors such as how hormones affect tumour growth; how the different types of cancer that were more prevalent in men and women are affected by low blood oxygen levels; or how gender specific exposure to cigarette smoking may play a role."

Professor Pataka added: "The classic symptoms of OSA such as sleepiness, snoring and stopping breathing during the night time are reported more frequently in men, but other lesser known symptoms like fatigue, insomnia, depression and morning headaches are more common in women, therefore clinicians should be more careful when evaluating their female patients for possible OSA."

The researchers note that their analysis did not account for other factors that may affect cancer risk, such as participants' physical activity, marital status, education level and occupation, which potentially limits the study. They also stressed that their results cannot show that OSA causes the increased risk of cancer, only that there is an association between the two, and say that further research is needed to understand how OSA symptoms and treatment may affect cancer.

Professor Anita Simonds is a Consultant in Respiratory and Sleep Medicine at Royal Brompton and Harefield NHS Foundation Trust, UK and Vice

President of the European Respiratory Society, and was not involved in the research. She said: “This study adds to the growing evidence on the possible link between the effects of OSA such as low blood oxygen levels and the risk of developing cancer, and provides new data on potential gender differences.

“In this study the overall cancer prevalence was low at just 2%, therefore OSA patients should not be alarmed by this research. Clinicians should continue to be vigilant when assessing patients with possible OSA, especially among women who may present with less common symptoms. Both female and male OSA patients should be advised to adhere to therapy and follow a healthy

lifestyle to manage their condition most effectively, including by being physically active, achieving ideal body weight, limiting alcohol use and not smoking.”

The research team plan to conduct a follow-up study to evaluate the number of cancer diagnoses and cancer deaths in the ESADA population with OSA, and to look at specific cancers in more detail and how OSA treatment may affect outcomes.

This study was funded by the European Respiratory Society’s Clinical Research Collaboration and supported by unrestricted grants from ResMed, the Philips Respiration Foundation and Bayer AG.

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using the SATA website.**

**Click on the  
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Tab”, fill in the details we  
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is placed.**

*The printing of SATA leaflets is generously funded by the ARTP  
(Association for Respiratory Technology and Physiology)*

# TALE END – CLEANING AND MAINTAINING CPAP MACHINE & MASK

Recently there has been heavy marketing of CPAP cleaners and sanitisers costing quite a bit of money. Some use ozone, which when it is 12 miles above the surface of the planet is OK, and helps protect us from harmful UV radiation, but closer to the ground is an irritant and subject to environmental control. Others use ultra violet light which kills most microbes. The implication is that a dirty machine and mask will create infection from the microbes.

The problem is that, whilst a sanitiser does what it says and kills the bugs, it does not remove the human grease, dead skin and dirt from the skin on your face that inevitably sticks to the mask pillow or in the case of nasal pillows, the nose dribbles! Nor does it remove the sweat and dirt that accumulates on the straps and headgear. There is no substitute for hand hot water, a plain detergent and a bit of elbow grease.

In order to bring calm and reason to this situation we have reviewed all the manufacturers' recommendations about cleaning their machines, as we did just before publishing the February 2019 update to our "Living With Your CPAP" leaflet, which is aimed particularly at those new to CPAP treatment.

We are reproducing our recommendations from the leaflet as not all Sleep Clinics pass on these free leaflets to new patients to help you with the daily management of your CPAP equipment:

## When should I clean my CPAP unit?

Externally, the CPAP unit can be wiped over if it gets dusty, at least MONTHLY. However, dust on the outside may mean excess dust in the filter, so check the filter MONTHLY. Filters vary widely; some can be cleaned by brushing or washing,

others must be replaced. Check with your Sleep Clinic, or the manufacturer's instructions.

## When should I clean the mask and hose?

If you can, clean the mask cushion DAILY – it's in contact with your skin, including dirt, oils, germs and make-up. Rub with a damp flannel at least. If not daily, then at least WEEKLY with washing-up liquid and water.

Wash the mask frame and hose WEEKLY if possible, and leave to dry naturally.

Wash the fabric headgear at least WEEKLY – it gets dirty and sweaty. It can be washed in a cool washing machine, but open the Velcro™ fastenings first. Take care with the first wash that the dye is stable.

If you have a cloth mask, then ideally hand- or machine-wash DAILY, but at least WEEKLY – do NOT tumble dry.

## What should masks and hoses be cleaned with?

The best way to clean equipment is with washing-up liquid and hand-hot water. Under no circumstances should a sterilising solution be used, because this hardens the cushion and makes it ineffective. Nor should liquid hand soap or washing soap be used as they contain emollients, which can also damage the mask cushion.

## How do I clean my humidifier?

It depends on the machine; some say that tap water is OK. Otherwise, use distilled, purified or filtered water, or cooled pre-boiled water. When necessary, clean the chamber in a dishwasher, and change the water filter. If scale starts to build up, use vinegar or lemon juice to dissolve it, and rinse before use.

**SLEEP MATTERS is published by the Sleep Apnoea Trust – THE PATIENTS' VOICE**

*The Sleep Apnoea Trust exists to improve the lives of sleep apnoea patients, their partners and families and is managed almost entirely by unpaid volunteers.*

*The editors and publishers of SLEEP MATTERS have no medical knowledge and therefore take no responsibility for the medical accuracy of the content of this newsletter. Concerned readers are advised to take professional medical advice. Queries concerning membership, SATAday, etc., should be addressed to the Secretary at the address below and not to the editors of SLEEP MATTERS.*

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### **Affiliated Groups:**

*East Kent Sleep Apnoea Support Group (Ashford) 01303 269830*

*Derriford Sleep Apnoea Support Group (Plymouth) 07880 79680*

*Welsh Sleep Apnoea Society 01633 799997*

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