2017 Clinical Pathway for Adult Snoring and Sleep Apnea Patients in the HUH Hospital Area

A significant number of patients suffer from snoring and sleep apnea in the HUH Hospital Area (Helsinki, Espoo, Kauniainen, Kerava, Kirkkonummi, and Vantaa). A clear system for referrals and the evaluation of need for treatment performed already in primary health care speed up the entrance to treatment and improve the smoothness of the process. This requires that a limited polysomnography is performed already in primary health care.

A limited polysomnography is justified if the patient is suspected to have sleep apnea which requires treatment, i.e. at least two of the following symptoms:

- loud snoring that has been occurring for a long time
- daytime sleepiness or abnormal dozing off
- pauses in breathing while asleep, witnessed by another person
- morning headaches
- recurrent awakenings during the night due to feeling of suffocation
- disturbances in mood or memory where sleep apnea as the cause cannot be excluded
- restless legs or night-time leg movement syndrome

- Associated symptoms may include frequent nocturia, night sweats, impotence, or irritability.
- Other causes of tiredness must be adequately excluded, e.g. hypothyroidism, anaemia, diabetes, and lack of sleep.
- Polysomnography should not be ordered due to insomnia, or if the tired patient is young and slim, unless they have sleep apnea symptoms.
- The patient must be willing and able to participate in sleep apnea treatment (exception: patients working in risk professions, see below).

Treatment in primary health care

- Patients with mild snoring and sleep apnea symptoms; advice and follow-ups with attention to reducing the risks of sleep apnea (weight management, the use of sleeping pills and alcohol, smoking, sleeping position, treatment of stuffy nose).
- **Current Care Guidelines:** For overweight patients with mild symptoms, weight loss is usually a sufficient treatment.
- Treatment and follow-ups of parallel diseases.
- Follow-ups of patients with a sleep apnea mouthpiece will take place in primary dental health care.
- If the patient’s lower jaw is clearly small compared to their skull, they can be referred for a consultation to an orthodontic specialist in dentistry in primary health care.
When to refer the patient to specialised health care?

- Professional drivers (e.g. taxi drivers), or other professions where falling asleep may cause a serious risk (e.g. air traffic control), and in these cases the preliminary limited polysomnography is not required. Commercial airline pilots follow their own examination and treatment protocol in the Skin and Allergy Hospital.
- Diagnosed moderate/difficult sleep apnea (AHI>15) and the patient is willing to undergo treatment.
- Mild sleep apnea (AHI<15), significant daytime sleepiness and the patient is willing to undergo treatment.
- If the physician thinks the examination results are contradictory and the patient is willing to undergo treatment, the referral is justified (limited polysomnography cannot exclude sleep apnea for certain).

Required information in the referral

- Anamnesis (description of the sleep problem, profession; does daytime sleepiness cause a risk for occupational or road safety, e.g. professional drivers)
- Parallel diseases, previous surgeries, medication, alcohol use, smoking, jaw structure predisposing to sleep apnea.
- Clinical examination (height, weight, BMI, blood pressure, tonsils).
- Other examinations (CBC, TSH, gluc, Epworth Sleepiness Scale), any possible sleeping diary.
- Polysomnography report and its attachments.

Indications to refer the patient to specialized health care

Based on the criteria above, patients are primarily referred to the HUH hospital pulmonary diseases outpatient clinic of their area for CPAP device treatment.

HUH Skin and Allergy Hospital Sleep Research Outpatient Clinic (IAKEPKL, number 1162016, speciality 80) examines and treats sleep apnea patients from Helsinki. The sleep apnea examination and treatment of Finnair’s pilots is centralized in Helsinki. The Joint Outpatient Clinic in Jorvi (JOSPKL, number 1151011, speciality 80) examines and treats sleep apnea patients from Espoo, Kauniainen, and Kirkkonummi, and the Joint Outpatient Clinic in Peijas (PESIS, number 1151012, speciality 80) examines and treats sleep apnea patients from Vantaa and Kerava at their pulmonary diseases outpatient clinics.

HUH Ear, Nose and Throat Disease Outpatient Clinic (KOPKL, Head and Neck Center, number 1142007, specialty 55) examines and treats

- Patients of normal weight (BMI <28 kg/m²) with socially disrupting snoring
- Sleep apnea patients (BMI <32 kg/m²) who are considered for surgical treatment due to failed CPAP and mouthpiece treatment.
- Symptomatic sleep apnea patients who have problems with nasal breathing despite medication (moisturizing with nasal cortisone and oil) or who have large tonsils (grade 3–4).
- Patients who are referred for treatment evaluation must have undergone limited polysomnography previously.
HUH Oral Diseases Outpatient Clinic, Orthodontics (KIHAMPKL, number 1141007, speciality 58X) examines and treats sleep apnea patients whose apnea will be treated with a mouthpiece if they fill the criteria for a mouthpiece:

- The patient has AHI >15 / h, or AHI >5 with sleep apnea symptoms. The amount of obstructive apneas should be >50%.
- CPAP is the primary treatment method. Mouthpiece treatment can be considered if AHI is < 30, BMI < 35 kg/m², average SpO2 in polysomnography >92% and the patient does not have any significant comorbidities. Young age and an existing mouth guard support the mouthpiece treatment whereas BMI 30–35 kg/m² is an opposing factor.
- The patient’s teeth must be well cared for and there has to be at least five teeth per jaw (in exceptional cases one jaw can be toothless).
- Professional drivers and pilots are considered case by case. The mouthpiece is not manufactured for travelling purposes if CPAP treatment is applicable. Snoring patients who have not been diagnosed with sleep apnea can only have the mouthpiece manufactured at a private service provider.
- The evaluation and implementation of orthognathic surgery i.e. corrective jaw surgery