**OHS: investigations and treatment**

**Diagnosis**
- Consider serum venous bicarbonate as a preliminary test if pre-test probability of OHS is low. If bicarbonate levels are below 27 mmol/litre, OHS is unlikely.
- Measure arterial blood gas when awake to diagnose OHS and assess extent of chronic ventilatory failure. Do not delay treatment for acute ventilatory failure for further investigations.

Discuss lifestyle changes tailored to the person’s needs.
Give information on OHS, including the treatments available and choosing the best treatment for the person.

**Priority factors for rapid assessment**
- Severe hypercapnia: PaCO₂ > 7 kPa when awake.
- Hypoxaemia (<94% on air).
- Acute ventilatory failure.
- Vaccination driving or vigilance-critical job.
- Unstable cardiovascular disease.
- Pregnancy.
- Preoperative assessment for major surgery.
- Non-arteritic anterior ischaemic optic neuropathy.

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**No acute ventilatory failure**

**Acute ventilatory failure**

**Diagnosing OSAHS and nocturnal hypoventilation**
- Offer home or hospital respiratory polygraphy to determine the presence of OSAHS.
- Consider transcutaneous CO₂ monitoring with respiratory polygraphy to guide treatment.

**Severe OSAHS excluded**

**Severe OSAHS**

**Consider NIV** (see monitoring below)

**Consider CPAP**

**Consider heated humidification** for upper airway side effects and CPAP-induced rhinitis.

**Monitor and offer NIV** as an alternative if symptoms do not improve, hypercapnia persists, AHI or ODI are not sufficiently reduced or CPAP is poorly tolerated.

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**Monitoring and support** (for further details, see the guideline)
- Monitor and optimise therapy with CPAP and NIV.
- Tailor follow-up to the person and offer face-to-face, video or phone consultations with telemonitoring data, if available.
- Offer access to a sleep and ventilation service for CPAP and NIV users for advice, support and equipment.
- Offer educational or supportive interventions by trained specialists to improve adherence.

**Supplemental oxygen**
- Consider supplemental oxygen if hypoxaemia persists despite optimised control of nocturnal hypoventilation and AHI on CPAP or NIV, and address any additional underlying causes of hypoxaemia where possible.
- Review if oxygen is still needed after treatment with CPAP or NIV has been optimised.

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Published date: August 2021. This is a summary of the advice on OHS investigation and treatment in NICE’s guideline on obstructive sleep apnoea-hypopnoea syndrome and obesity hypoventilation syndrome.