Guy's and St Thomas'
NHS Foundation Trust

Clinical Guidance

Obstructive Sleep Apnoea in adults – Perioperative Management, Guidance for GSTT 2019

Summary: ***This guideline is for the perioperative management of adult patients undergoing elective and emergency surgery when they have known or suspected OSA.***

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1.0 Introduction

Obstructive sleep apnoea (OSA) is the most common sleep related breathing disorder. Chronic hypoxic episodes cause physiological changes that impact on the safe conduct of anaesthesia and the incidence of cardiorespiratory complications in the perioperative period (1).
This risk can be reduced substantially if OSA is identified preoperatively (2). This guideline has been developed to guide the perioperative management of patients in this group within GSTT.

2.0 Scope

This guideline is for the perioperative management of adult patients undergoing elective and emergency surgery when they have known or suspected OSA.
It gives guidance on their pre-assessment, intraoperative management and post-operative care.
This guideline is aimed at pre-assessment clinic staff, anaesthetists, intensivists, perioperative physicians and ward medical surgical and nursing staff along with all members of the site nurse practitioner and clinical response teams.

3.0 Guidance

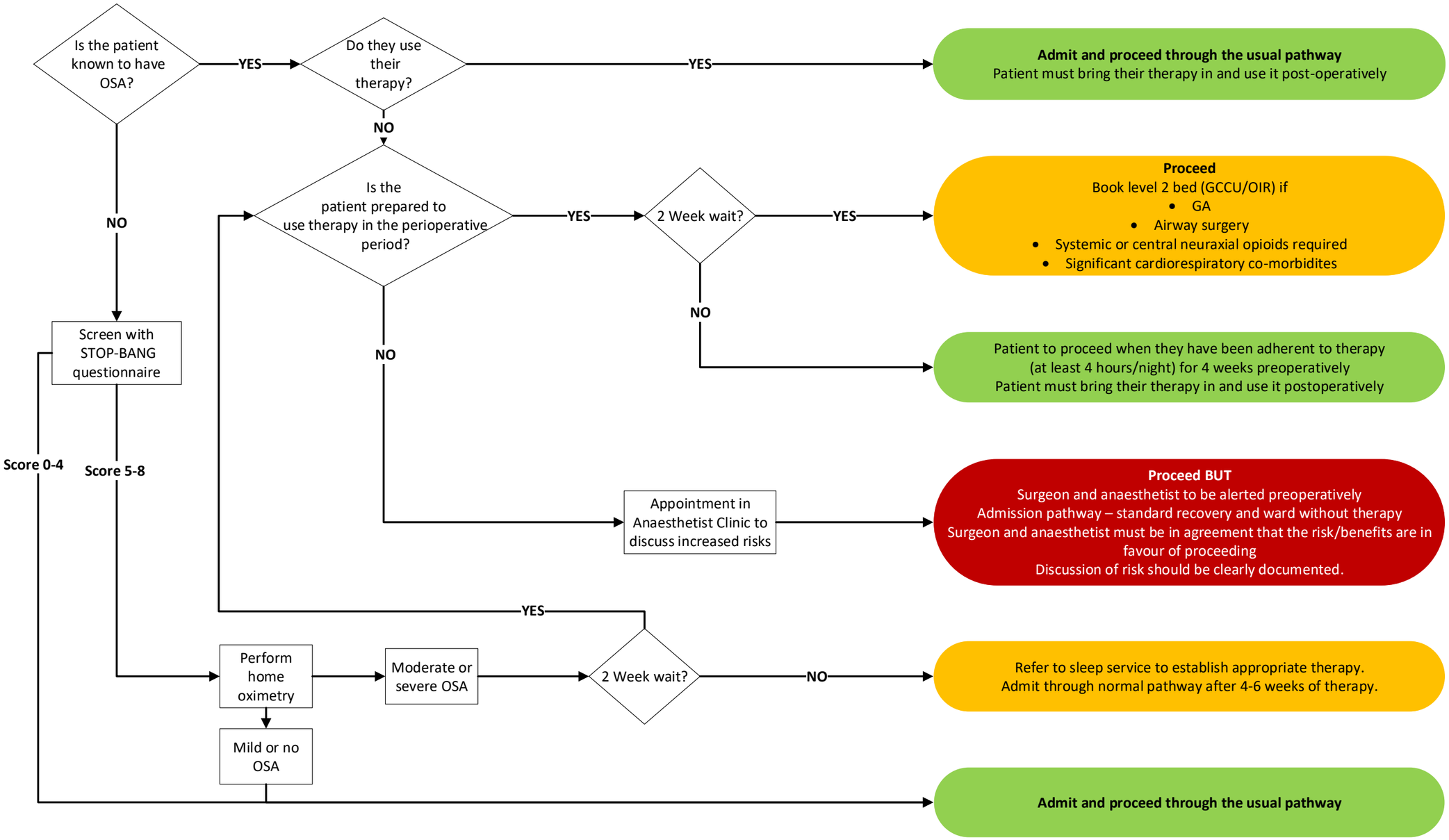
Preoperatively

If the surgery is to ***treat*** obstructive sleep apnoea then proceed to surgery. If unsure then advice should be taken from an anaesthetist. (Anaesthetic consultants are available in central preoperative assessment clinics). A referral for anaesthetic review can be made through EPR.

In other patients follow the guidance on the next page.

Preoperative Screening and Post-operative Care Planning for Known or Suspected Obstructive Sleep Apnoea

- Therapy in this chart refers to CPAP and Mandibular Advancement Devices
- Post-operative compliance with therapy is expected to be 3 consecutive postoperative nights or until opioid PCA is discontinued, whichever is the later.
- Co-morbidities to take into account include (but are not limited to) heart failure, arrhythmias, uncontrolled hypertension, pulmonary hypertension, COPD, stroke and metabolic syndrome.



Intraoperative care

Key issues

- Potential difficult airway
- Reduced Functional Residual Capacity (FRC)
- Increased incidence of undiagnosed pulmonary hypertension
- Anaesthesia and opioids increase risk of airway obstruction postoperatively(3-5)

Confirm the patient has CPAP with them (if used) before proceeding.

Airway management

Preoxygenation and intubation

- Keep upright for pre-oxygenation
- Use Head Elevating Laryngoscopy Pillow
- Preoxygenate using high flow O_2 or CPAP
- Have a difficult airway plan in place
- Seek help for a difficult airway *before* starting(6, 7)

Procedural sedation

- Use CPAP during sedation when possible
- Use capnography to detect apnoea
- Deep sedation is contraindicated in these patients. A formal general anaesthetic should be given(8).

Extubation and emergence

- Ensure full reversal of neuromuscular blockade before end of anaesthesia(9-12).
- Extubate in a sitting/ramped position.
- If the patient uses CPAP put it on as soon as possible.

Anaesthetic Technique

Anaesthetic agents

- Avoid sedative premedication including sedative antiemetic agents.
- Use short acting anaesthetic agents.
- Minimise opioid use.
- Use regional anaesthesia where possible(13), with judicious use of intrathecal opioids.

Analgesic regime

- Judicious use of short acting opioids.
  Opioids, including neuroaxial opioids, worsen post-operative apnoeas and increase the occurrence of post-operative respiratory events.
- Use multimodal analgesia.
- Consider the use of remifentanil intra-operatively.
- Avoid the use of background infusions on PCAs(14-16).

Postoperative care

All areas

- Patient should be nursed in the lateral or semi-upright position. Avoid supine position.(17)
- Patient should use their CPAP or mandibular advancement device when sleeping, including daytime naps.
- NEWS2 frequency and escalation criteria should be according to trust protocol (Recognising and responding to the Acutely Unwell Patients (Adult).
- If supplemental oxygen is required then it can be delivered via the patient's home CPAP machine using a 22mm Male to Female Oxygen connector (available from Lane Fox Unit Intersurgical Part reference 1963000)

Recovery

General principles

- Oxygen should be given according to local guidance as with any postoperative patient.
- If the patient usually uses CPAP then it should be put on as soon as possible.
- If supplemental oxygen is required then it can be delivered via the patient's home CPAP machine using a 22mm Male to Female Oxygen connector (available from Lane Fox Unit Intersurgical Part reference 1963000)
- EXCEPTION: Upper GI patients or those with a covering tracheostomy - discuss with consultant Anaesthetist and Surgeon before using CPAP.

Discharge from recovery

- Follow local policy
- Ensure NEWS2 is recorded when the patient is on CPAP with no more than 5 litres/min supplemental oxygen.
- Patient should be able to put on and take off their own CPAP (if they use it) independently.

Critical care (level 2)/OIR discharge to ward criteria

Patient must be

- Mentally alert and orientated.
- NEWS2 less than 5 on CPAP.
- Able to put on and take off their own CPAP independently.
- Patients not established on CPAP prior to admission will need an individualized decision regarding discharge to the ward.

Refer/alert CRT if they are at increased risk of cardiac or respiratory complications.

Ward escalation triggers

The following should prompt a critical care outreach team (CRT) review for consideration of Critical care admission.

- NEWS2 5 or more or clinical concern.
- New oxygen requirement.
- Patient no longer able to use CPAP independently.
- Increasing sedation or confusion.

4.0 Contact details

Guy's site

GCCU consultant 07748981173
GCCU registrar Bleep 0762
Guy's CRT nurse 1162
Guy's SNP 1165

St Thomas' site

OIR consultant Bleep 0146
CRT Registrar bleep 0610
St Thomas' SNP 0165
St Thomas' CRT nurse 2056

5.0 References and abbreviations

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Appendices

1 – STOP-BANG screening questionnaire

STOP-BANG QUESTIONAIRRE

use to screen all patients
for obstructive sleep apnoea

Patient ID label

S	**Have you been told that you snore? (louder than talking or loud enough to be heard through closed doors)**	**Yes**	**No**
T	**Do you often feel tired, fatigued or sleepy during daytime?**	**Yes**	**No**
O	**Do you know if you stop breathing, or has anyone witnessed you stop breathing when you are asleep?**	**Yes**	**No**
P	**Do you have high blood pressure, or are you on medication to control your blood pressure?**	**Yes**	**No**
B	**BMI >35?**	**Yes**	**No**
A	**Age >50?**	**Yes**	**No**
N	**Neck circumference > 40cm**	**Yes**	**No**
G	**Male?**	**Yes**	**No**
	Total of "yes" Answers		

Use with Obstructive Sleep Apnoea in adults – Perioperative Management Guidance for GSTT 2019 – preoperative screening flow sheet

File this sheet in the patient notes