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NHS
Royal Cornwall Hospitals
NHS Trust

Peri-Operative Management of Adults with Obstructive Sleep Apnoea (OSA) Clinical Guideline

V2.0

July 2019

1. Aim/Purpose of this Guideline

1.1. To provide guidance in the peri-operative care of patients with diagnosed or suspected obstructive sleep apnoea (OSA). To guide decision making on whether the patients can be managed as day-case patients, and where they might be nursed post-operatively as in-patients.

1.2. Sleep apnoea can be central or obstructive in origin. These guidelines focus on *obstructive* sleep apnoea.

- Apnoea – cessation of air flow for more than 10 seconds
- Hypopnoea – reduction of air flow >50% for more than 10 seconds
- Apnoea/hypopnoea index (AHI) – number of either events per hour

1.3. This version supersedes any previous versions of this document.

1.4. **Data Protection Act 2018 (General Data Protection Regulation – GDPR) Legislation**

The Trust has a duty under the DPA18 to ensure that there is a valid legal basis to process personal and sensitive data. The legal basis for processing must be identified and documented before the processing begins. In many cases we may need consent; this must be explicit, informed and documented. We can't rely on Opt out, it must be Opt in.

DPA18 is applicable to all staff; this includes those working as contractors and providers of services.

For more information about your obligations under the DPA18 please see the 'information use framework policy', or contact the Information Governance Team rch-tr.infogov@nhs.net

2. The Guidance

2.1. Those at risk of OSA

2.1.1. Most common predisposing factors for OSA include obesity, male gender, alcohol, sedatives, anaesthetics and obstruction (nasal/pharyngeal e.g. enlarged tonsils, abscess).

2.1.2. Other factors include craniofacial abnormalities, neuromuscular disorders, endocrine disorders (e.g. Cushing's and acromegaly) and connective tissue and storage diseases (e.g. Marfan's and mucopolysaccharidoses).

2.2. STOP – Bang Screening Tool

2.2.1. In order to try and highlight those at risk of OSA one can use a screening tool which has been validated for use in perioperative management (it has high sensitivity but low specificity) (2).

- **S**nore (do they snore loudly – heard through doors/walls?)
- **T**ired (do they feel tired or fall asleep during the day?)
- **O**bserved apnoeas (anyone observed them stop breathing whilst asleep?)
- **P**ressure (do they have/ are they treated for hypertension?)
- **B**MI (>40)
- **A**ge (>40 years old)
- **N**eck circumference (>40cm)
- **G**ender (M)

2.2.2. Scoring >/= 5/8 suggests patients are at high risk of OSA

2.2.3. Depending on a more detailed history, the operation and the timescale one might consider referring them for formal sleep studies and review by respiratory physician. However, this is time consuming and costly they have sleep study then they will receive an “AHI” (apnoea/hypopnoea index).

2.2.4. Severity of OSA is graded by apnoea/hypopnoea index (AHI), i.e. the number of the events per hour of sleep. These can only be diagnosed during a formal sleep study, which would have been performed by respiratory department and reviewed by respiratory physician at RCH.

2.3. Classification of AHI

- AHI 0-5 is interpreted as “normal”
- AHI 5-15 “mild” OSA
- AHI 15-30 “moderate” OSA
- AHI >30 “severe” OSA

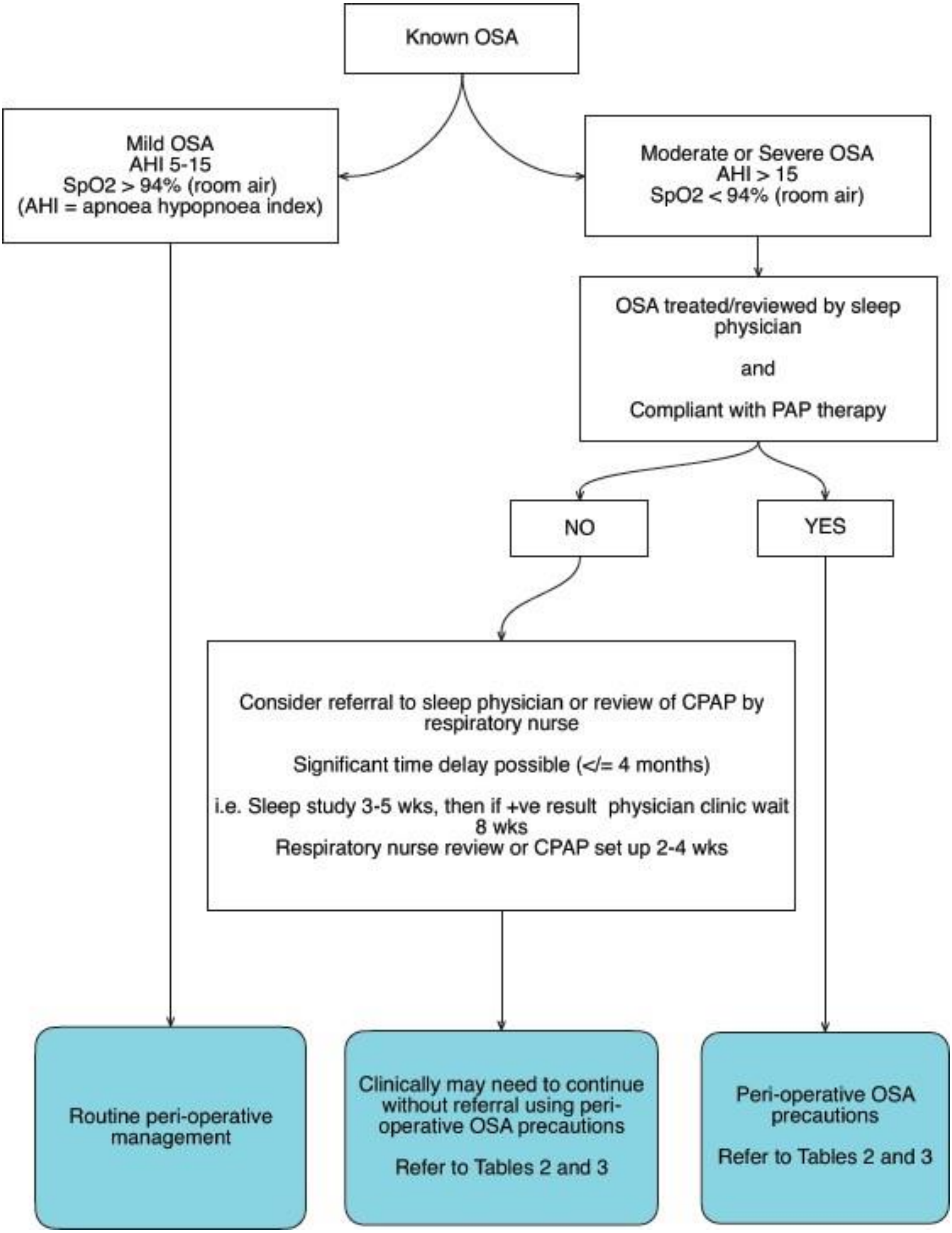
2.3.1. Depending on their symptoms and consequences secondary to OSA, they may or may not be started on CPAP by respiratory physicians. Some patients find it intolerable and do not use their CPAP.

2.4. OSA is worth highlighting and knowing about peri-operatively

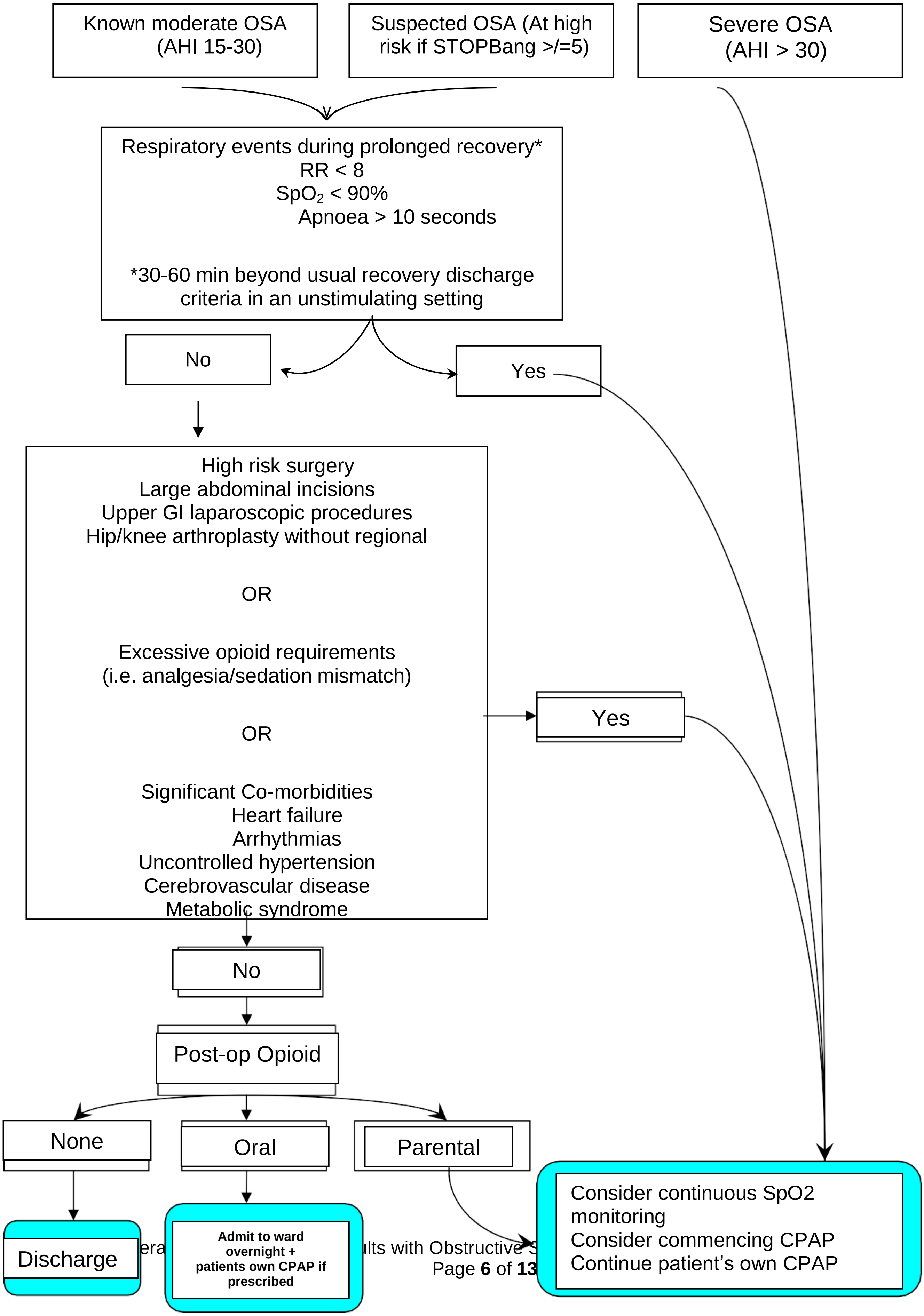
2.4.1. It can worsen following sedatives / anaesthesia / opioids.

2.4.2. It has consequences impacting on health of patient (e.g. hypertension, ischaemic heart disease, cerebrovascular disease, right heart failure, pulmonary hypertension) which may require further investigation.

2.5. Table 1: Peri-operative care for adults with known Obstructive Sleep Apnoea (OSA)



2.6. Table 2: Post-operative (GA) management of adults with known / suspected OSA



2.7. Table 3: Peri-operative precautions for adults with Obstructive Sleep Apnoea

Pre-operative preparation

- If patient uses CPAP at home ensure has own CPAP machine with them (can you work it?)
- Pre-medicate with simple analgesics
- Avoid sedative pre-medication
- Avoid general anaesthesia and sedation where possible

Per-operative guidelines

- If severe OSA, consider arterial line for ABG monitoring
- Anaesthetise in a ramped up position (SOBA guidelines)
- Pre-oxygenate with PEEP if necessary (e.g. SpO2 drop on lying in recumbent position)
- Use short acting anaesthetic agents and opioids
- Minimise opioid use
- Use regional / local anaesthetic where possible
- Ensure full muscle relaxant reversal verified prior to extubation

Post-operative guidelines

- **Nurse upright and mobilise early**
- Extended stay in PACU (observe for 30-60min beyond time usual discharge criteria met)
- Observe for following whilst unstimulated
  - Apnoeas (>10 seconds)
  - SpO2 < 90%
  - Resp rate < 8 breaths per min
- If above hypoventilation events occur - patient requires continuous post-operative monitoring overnight.

3. Monitoring compliance and effectiveness

Element to be monitored	Adherence to guideline
Lead	Dr Georgia Brooker
Tool	Audit/survey colleagues' use of guidelines
Frequency	3 yearly
Reporting arrangements	Report findings to anaesthetic/critical care as appropriate
Acting on recommendations and Lead(s)	Change guidelines accordingly
Change in practice and lessons to be shared	Share findings with Theatres/Anaesthetic department colleagues

4. Equality and Diversity

4.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the 'Equality, Inclusion & Human Rights Policy' or the Equality and Diversity website.

4.2. *Equality Impact Assessment*

The Initial Equality Impact Assessment Screening Form is at Appendix 2.

Appendix 1. Governance Information

<table>
<tr><td rowspan="1">Document Title</td><td colspan="4">Peri-Operative Management of Adults with Obstructive Sleep Apnoea (OSA) Clinical Guideline V2.0</td></tr>
<tr><td>Date Issued/Approved:</td><td colspan="4">24.01.19</td></tr>
<tr><td>Date Valid From:</td><td colspan="4">July 2019</td></tr>
<tr><td>Date Valid To:</td><td colspan="4">July 2022</td></tr>
<tr><td>Directorate / Department responsible (author/owner):</td><td colspan="4">Dr Georgia Brooker</td></tr>
<tr><td>Contact details:</td><td colspan="4">01872 258195</td></tr>
<tr><td>Brief summary of contents</td><td colspan="4">Peri-operative guidance to management of adults with obstructive sleep apnoea</td></tr>
<tr><td>Suggested Keywords:</td><td colspan="4">Sleep, Apnoea,</td></tr>
<tr><td rowspan="2">Target Audience</td><td>RCHT</td><td colspan="2">CFT</td><td>KCCG</td></tr>
<tr><td>✓</td><td colspan="2"></td><td></td></tr>
<tr><td>Executive Director responsible for Policy:</td><td colspan="4">Medical Director</td></tr>
<tr><td>Date revised:</td><td colspan="4">24.01.19</td></tr>
<tr><td>This document replaces (exact title of previous version):</td><td colspan="4">Clinical Guideline For Obstructive Sleep Apnoea (OSA) V1.0</td></tr>
<tr><td>Approval route (names of committees)/consultation:</td><td colspan="4">ATP Meeting</td></tr>
<tr><td>Care Group General Manager confirming approval processes</td><td colspan="4">Roberta Fuller</td></tr>
<tr><td>Name and Post Title of additional signatories</td><td colspan="4">Not Required</td></tr>
<tr><td rowspan="2">Name and Signature of Care Group/Directorate Governance Lead confirming approval by specialty and care group management meetings</td><td colspan="4">{Original Copy Signed}</td></tr>
<tr><td colspan="4">Name: Matt Body</td></tr>
<tr><td>Signature of Executive Director giving approval</td><td colspan="4">{Original Copy Signed}</td></tr>
<tr><td>Publication Location (refer to Policy on Policies – Approvals and Ratification):</td><td>Internet & Intranet</td><td>✓</td><td>Intranet Only</td><td></td></tr>
</table>

Document Library Folder/Sub Folder	Clinical/Anaesthesia
Links to key external standards	None
Related Documents:	1. Obstructive Sleep Apnoea. Williams JM, Hanning CD. CEACCP 2003 (3) 75-78. 2. Web resource - www.stopbang.ca
Training Need Identified?	No

Version Control Table

Date	Version No	Summary of Changes	Changes Made by *(Name and Job Title)*
06.01.16	V1.0	New Policy	Dr Georgia Brooker
24.01.19	V2.0	Reformatted to new Trust template	Dr Georgia Brooker

Appendix 2. Initial Equality Impact Assessment Form

<table>
<tr><td colspan="7">Name of the strategy / policy /proposal / service function to be assessed

Peri-Operative Management of Adults with Obstructive Sleep Apnoea (OSA) Clinical Guideline V2.0</td></tr>
<tr><td colspan="3">Directorate and service area:
Anaesthesia</td><td colspan="4">New or existing document:
Existing</td></tr>
<tr><td colspan="3">Name of individual completing assessment:
Georgia Brooker</td><td colspan="4">Telephone:
01872 258195</td></tr>
<tr><td>1. Policy Aim*

Who is the strategy / policy / proposal / service function aimed at?</td><td colspan="6">Peri-operative care clinicians (anaesthetists, recovery staff, nursing staff, surgical staff)</td></tr>
<tr><td>2. Policy Objectives*</td><td colspan="6">Guide staff on management of patients with (possible) OSA</td></tr>
<tr><td>3. Policy – intended Outcomes*</td><td colspan="6">More structured approach to care for patients with possible OSA</td></tr>
<tr><td>4. *How will you measure the outcome?</td><td colspan="6">Audit use of guidelines</td></tr>
<tr><td>5. Who is intended to benefit from the policy?</td><td colspan="6">Patients with suspected or known OSA</td></tr>
<tr><td rowspan="3">6a Who did you consult with

b). Please identify the groups who have been consulted about this procedure.</td><td>Workforce</td><td>Patients</td><td>Local groups</td><td>External organisations</td><td colspan="2">Other</td></tr>
<tr><td>X</td><td></td><td></td><td></td><td colspan="2"></td></tr>
<tr><td colspan="6">Please record specific names of groups

Anaesthetic and critical care department</td></tr>
<tr><td>What was the outcome of the consultation?</td><td colspan="6">Agreed</td></tr>
</table>

7. The Impact
Please complete the following table. **If you are unsure/don't know if there is a negative impact you need to repeat the consultation step**.

Are there concerns that the policy **could** have differential impact on:

Equality Strands:	Yes	No	Unsure	Rationale for Assessment / Existing Evidence
Age		X		
Sex (male, female, trans-gender / gender reassignment)		X		
Race / Ethnic communities /groups		X		
Disability - Learning disability, physical impairment, sensory impairment, mental health conditions and some long term health conditions.		X		
Religion / other beliefs		X		
Marriage and Civil partnership		X		
Pregnancy and maternity		X		
Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian		X		

You will need to continue to a full Equality Impact Assessment if the following have been highlighted:

- You have ticked "Yes" in any column above and
- No consultation or evidence of there being consultation- this excludes any *policies* which have been identified as not requiring consultation. **or**
- Major this relates to service redesign or development

8. Please indicate if a full equality analysis is recommended.	**Yes**		**No**	**X**

9. If you are **not** recommending a Full Impact assessment please explain why.

No negative impact.

Date of completion and submission	24.01.19	Members approving screening assessment	Policy Review Group (PRG) **APPROVED**

This EIA will not be uploaded to the Trust website without the approval of the Policy Review Group.

A summary of the results will be published on the Trust's web site.