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NHS
Royal Cornwall Hospitals
NHS Trust

Anaesthesia in the Obese Clinical Guideline

V4.0

August 2019

Summary

THE SOCIETY FOR OBESITY AND BARIATRIC ANAESTHESIA SUMMARY

ANAESTHESIA FOR THE OBESE PATIENT: BMI>35KG/M²

Preoperative Evaluation

S	**S**noring: Do you snore loudly (louder than talking or heard through a closed door?	
T	**T**ired: Do you often feel tired fatigued or sleepy during the daytime?	
O	**O**bserved: Has anyone observed you stop breathing during your sleep?	
P	Blood **P**ressure: Do you have or are being treated for high blood pressure	
B	**B**MI: BMI > 35kg/m²	
A	**A**ge: Age > 50	
N	**N**eck: Neck circumference >40cm (16 inches)	
G	**G**ender: Male	

Any of:
Poor functional capacity
Abnormal ECG
Uncontrolled BP/IHD
SpO_2 <94% on air
If Bicarb > 28 OHS Likely
Previous DVT/PE
STOP-BANG>5

Yes →

Consider:
Blood gases/Sleep Studies
Preoperative CPAP
Echocardiagram
Cardiorespiratory referral

Need experienced anaesthetic team
If major surgery consider HDU

No →

Maybe suitable as Day case surgery
SEE BELOW

Central Obesity (waist > half height)
Difficult airway /Ventilation problems more likely
Greater risk of CVS disease, thrombosis
↑ Risk of Metabolic syndrome:
Central Obesity plus Hypertension
Dyslipidaemia, Insulin resistance

Most weight is: Above the waist / Below the waist

Apple Body Shape vs. Pear Shape Body

Peripheral Obesity
(Fat outside body cavity)
Less co-morbidity

Intra Operative Management

Suggested Equipment
Suitable bed/trolley & operating table
Gel padding, wide strapping, table extensions/arm boards
Forearm cuff or large BP cuff
Ramping device, step for anaesthetist, difficult airway equipment, ventilator capable of PEEP and pressure modes. Hover mattress or equivalent.
Long spinal, regional and vascular needles.
Ultrasound machine.
Depth of anaesthesia and neuromuscular monitoring.
Enough staff to move patient.

Ramping
Ear level with sternum. Reduces risk of difficult laryngoscopy, improves ventilation.

Tragus level with sternum

Anaesthetic Technique
Consider premed antacid & analgesia, careful glucose control & DVT prophylaxis.
Self-position on operating table.
Preoxygenate & intubate in ramped position +/- CPAP.
Minimize induction to ventilation interval to avoid desaturation. Commence maintenance anaesthesia promptly.
Tracheal intubation is recommended.
Avoid spontaneous ventilation. Use PEEP.
Use short-acting agents e.g. desflurane or propofol infusion, short-acting opioids, multimodal analgesia.
PONV prophylaxis.
Ensure full NMB reversal.
Extubate and recover in head up position.

Drug dosing- what weight to use?
Induction agents: titrate to cardiac output- this equates to lean body weight in a fit patient.
Competitive muscle relaxants: use lean body weight.
Suxamethonium use total body weight
Neostigmine: Increase dose. Measure response
Opioids: Use Lean body weight. Care with obstructive apnoea!
TCI propofol: IBW plus 40% excess weight

If in doubt, titrate and monitor effect!

Lean Body Weight this exceeds Ideal body weight in the obese and plateaus ≈100kg for a man, ≈70kg for a woman.
Ideal Body Weight in Kg - Broca formula
Men: height in cm minus 100 Women: height in cm minus 105

Suggested dosing regimes for anaesthetic drugs

Lean Body Weight Up to Max-Males 100kg Females 70kg	Adjusted Body Weight Ideal plus 40% excess
Propofol induction	Propofol Infusion
Thiopentone	Alfentanil
Fentanyl	Neostigmine (max 5mg)
Rocuronium	Sugammadex (see package insert)
Atracurium	Antibiotics
Vecuronium	Low Molecular weight Heparin
Morphine	
Paracetamol	
Bupivacaine	
Lidocaine	

Post Operative Management

PACU discharge: Usual discharge criteria should be met. In addition, SpO_2 should be maintained at pre-op levels with minimal O_2 therapy, without evidence of hypoventilation.
OSA or Obesity Hypoventilation Syndrome: Sit up. Avoid sedatives and post-op opioids. Reinstate CPAP if using it pre-op. Additional time in recovery is recommended, only discharge to the ward if free of apnoeas without stimulation. Patients untreated or intolerant of CPAP who require postoperative opioids are at risk of hypoventilation and require continuous oxygen saturation monitoring. Level 2 care is recommended. Effective CPAP reduces this risk to near normal.
Ward care: Escalation to Level 1, 2 or 3 care may be required based on patient co-morbidity, the type of surgery undertaken and issues with hypoventilation discussed above. General ward care includes: multimodal analgesia, caution with long-acting opioids and sedatives, early mobilisation and extended thromboprophylaxis.

See www.SOBAuk.com for references Sept 2016 v1

https://www.sobauk.co.uk/downloads/single-sheet-guideline

Used as stated at source: **'This is an essential anaesthetic room guide or aide memoir is regularly updated by the two main authors on behalf of SOBA. In its 14th Edition - please download and distribute to all who may need this brilliant one page guide.'**

Please visit the page for more details and to download a high quality version of the guide.

1. Aim/Purpose of this Guideline

1.1. These are to guide anaesthetists in the management of obese patients. They include pre-operative evaluation, intra-operative and post-operative management with suggested dosing regimes for anaesthetic drugs.

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

1.3. **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. See above summary.

3. Monitoring compliance and effectiveness

This part must provide information on the processes and methodology for monitoring compliance with, and effectiveness of, the policy using the table below.

Element to be monitored	Inform the anaesthetic department that these national guidelines are available within the trust.
Lead	Dr Georgia Brooker
Tool	It is possible to audit the use of recommended pre-operative tools, positioning of the patients and drug dosing advice by auditing the anaesthetic charts.
Frequency	Three yearly.
Reporting arrangements	Present the audit results to the anaesthetic department.
Acting on recommendations and Lead(s)	Dr Georgia Brooker, Anaesthetic department.
Change in practice and lessons to be shared	Advise the anaesthetic department during their governance session that these guidelines are available. There are currently no changes to practice in these with relation to previous guidelines. The guidelines will be reviewed on a three yearly basis.

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

Document Title	Anaesthesia in the Obese Clinical Guideline V4.0			
Date Issued/Approved:	23/07/2019			
Date Valid From:	August 2019			
Date Valid To:	August 2022			
Directorate / Department responsible (author/owner):	Dr Georgia Brooker Consultant Anaesthetist			
Contact details:	01872 2581295			
Brief summary of contents	One sheet guidelines for anaesthesia in the obese. (Society Bariatric Anaesthesia UK)			
Suggested Keywords:	Anaesthesia, Bariatric, BMI, Obesity, Obese, Drug dosing			
Target Audience	RCHT	CFT	KCCG	
	✓			
Executive Director responsible for Policy:	Medical Director			
Date revised:	23/07/2019			
This document replaces (exact title of previous version):	Clinical Guideline For Anaesthesia in the Obese V3.0			
Approval route (names of committees)/consultation:	Anaesthetic Department, RCHT			
Care Group General Manager confirming approval processes	Roberta Fuller			
Name and Post Title of additional signatories	Not Required			
Name and Signature of Care Group/Directorate Governance Lead confirming approval by specialty and care group management meetings	{Original Copy Signed}			
	Name: Matt Body			
Signature of Executive Director giving approval	{Original Copy Signed}			
Publication Location (refer to Policy on Policies – Approvals and Ratification):	Internet & Intranet	✓	Intranet Only	
Document Library Folder/Sub Folder	Clinical / Anaesthetics			
Links to key external standards	None			
Related Documents:	SOBA Guidelines (SOBA UK)			

Training Need Identified?	No

Version Control Table

Date	Version No	Summary of Changes	Changes Made by *(Name and Job Title)*
01 Apr 15	V3	Updated Guidance	Dr Georgia Brooker Consultant Anaesthetist
July 2019	V4	Updated guidance by transferring to latest Trust template	Dr Georgia Brooker Consultant Anaesthetist

All or part of this document can be released under the Freedom of Information Act 2000

This document is to be retained for 10 years from the date of expiry.
This document is only valid on the day of printing

Controlled Document

This document has been created following the Royal Cornwall Hospitals NHS Trust Policy for the Development and Management of Knowledge, Procedural and Web Documents (The Policy on Policies). It should not be altered in any way without the express permission of the author or their Line Manager.

Appendix 2. Initial Equality Impact Assessment Form

<table>
<tr><td colspan="6">Name of the strategy / policy /proposal / service function to be assessed
Anaesthesia in the Obese Clinical Guideline V4.0</td></tr>
<tr><td colspan="3">Directorate and service area:
Anaesthesia</td><td colspan="3">New or existing document:
Existing</td></tr>
<tr><td colspan="3">Name of individual completing assessment:
Georgia Brooker</td><td colspan="3">Telephone:
Via Switch</td></tr>
<tr><td>1. Policy Aim*

Who is the strategy / policy / proposal / service function aimed at?</td><td colspan="5">Anaesthetists caring for patients with increased BMI (body mass index)</td></tr>
<tr><td>2. Policy Objectives*</td><td colspan="5">Make knowledge available on-line to all anaesthetists within trust</td></tr>
<tr><td>3. Policy – intended Outcomes*</td><td colspan="5">Consistent anaesthetic management of patients with increased BMI</td></tr>
<tr><td>4. *How will you measure the outcome?</td><td colspan="5">Management of patients with increased BMI – review +/- audit of their anaesthesia</td></tr>
<tr><td>5. Who is intended to benefit from the policy?</td><td colspan="5">Patients with increased BMI</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>Other</td></tr>
<tr><td>X</td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="5">Discussed with Anaesthetic department at governance meeting.</td></tr>
<tr><td>What was the outcome of the consultation?</td><td colspan="5">Acceptance of guideline</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 <u>excludes</u> 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.

Not indicated

Date of completion and submission	23/07/2019	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.