Patients undergoing Bariatric surgery with type 2 diabetes on antidiabetic drugs WITHOUT insulin, when starting liver shrinking diet: Guidance for GPs

Subject:	Patients with type 2 diabetes on antidiabetic drugs WITHOUT insulin, undergoing bariatric surgery when starting liver shrinking diet; Guidance for GPs
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Policy Executive Owner:	Medical Director (GP) Dr G Battle
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Version Control Sheet

Version	Date	Author	Status	Comment
1.0	May 2015	E Baker, Dr G Battle, Dr M Barnard Alice Connoly	Live	New guideline for GPs, ratified at May 20 CGC meeting.

- **Criteria for use - Adult Bariatric Patients with type 2 diabetes on antidiabetic tablets without insulin, requiring liver shrinking diet.**

Liver shrinking diet

Excess intra-abdominal fat and enlarged fatty livers make it challenging for the surgeon to obtain a safe view during laparoscopic procedures. This can lead to a prolonged surgical procedure, deviation from standard approaches and ultimately poorer outcomes. These risks can be reduced with a short pre-operative diet [1] .

Bariatric patients with a Body Mass Index of ≤ 50kg/m^2 are advised to follow a low calorie, low carbohydrate liquid diet for 2 weeks immediately prior to the surgery and are expected to lose approximately 4-6kg. Bariatric patients with a Body Mass index of ≥ 50kg/m^2 will commence a 6 week pre-operative liver shrinking diet under dietetic guidance.

The pre-operative liver shrinking diet is often lower in carbohydrates than a patient's usual diet and so the use of oral anti-diabetic medications may need to be reduced to lower the risk of hypoglycaemic events.

Guidelines for patients with type 2 diabetes on antidiabetic drugs WITHOUT insulin, undergoing Bariatric Surgery when starting liver shrinking diet.

All patients must be aware of signs and symptoms of hypoglycaemia. Patients should seek medical advice if signs and symptoms of hypoglycaemia occur

Pre-operation: Medication and testing

a) Medication

- If on Metformin:

Continue with Metformin. It is very unlikely that Metformin will cause hypoglycaemia. In rare occasions this may occur, e.g. if a patient is malnourished, has liver impairment or consumes excessive alcohol.

- If on Metformin plus other antidiabetic drugs:

Continue with Metformin as above and consider reducing the dose of the other anti diabetic drugs as these may cause hypoglycaemia

(See below box for guidance).

Based on a recent HbA1c result (within 12 weeks):

- If HbA1c ≤ 64 / 8.0%, stop other antidiabetic drugs.
- If HbA1c 65 -75 / 8.1% – 8.9%, halve the doses of other antidiabetic drugs. If patient has hypos on the diet, stop other anti diabetic drugs.
- If HbA1c ≥ 75 / 9.0%, continue with usual medication.

b)Testing (urine or blood)

- If on Metformin:

No need to test urine or blood for glucose.

- If on Metformin plus other antidiabetic drugs (during liver shrinking diet):

If HbA1c was ≤ 64 / 8.0%, other antidiabetic drugs should have been stopped (see box). Patients should start testing Capillary Blood Glucose (CBG) twice daily before their morning and evening meals/shakes, from the start of the liver shrinking diet.

Post- operation : Medication and testing

a) Medication:

- If on Metformin alone pre- operatively:

Continue Metformin (Liquid Form) and repeat HbA1c every 3 - 4 months post op for the first year to allow dose adjustment.

- If on Metformin and any other anti diabetic agents pre-operatively:

Continue with Metformin and stop all other antidiabetic drugs. Repeat HbA1c every 3 - 4 months post op for the first year, to allow dose adjustment.

b) Testing - Advice to patients post-operatively:

Post op testing can detect inadequate treatment or indicate possibility of infection.

- **If patient was on Metformin alone pre-operatively:**

First 3 weeks post op:

Patients should test urine twice daily, before their morning meals/shakes and before their evening meal/shakes.

Urine testing to detect glycosuria is adequate. If glucose detected at moderate or high levels patient should seek medical advice.

After week 3:

Patient can be advised to stop testing if clinically well and no significant glycosuria.

- **If patient was on Metformin and any other antidiabetic drugs pre-operatively (during the liver shrinking diet):**

First 3 week post op:

Patient must test CBG twice daily before their morning and evening meal/shake. *Aim for CBG 4-7. If any of CBG less than 4, or consistently above 10 (over 24 hours), patients should seek medical advice.*

After week 3:

Patient can be advised to stop /reduce number of testing if clinically well and CBG stable.

Please note that patients on insulin will be identified by the bariatric team pre liver shrinking diet, and referred to Diabetes Specialist nurse as per Whittington Health guidelines.

References

Alami RS, Morton JM, Schuster R, Lie J, Sanchez BR, Peters A, et al. Is there a benefit to preoperative weight loss in gastric bypass patients? A prospective randomized trial. Surg Obes Relat Dis. 2007 Mar–Apr;3(2):141–5; discussion 145–6.

Diabet Med 2011 June; 28(6): 628–642. - doi: 10.1111/j.1464-5491.2011.03306.x

Bariatric surgery: an IDF statement for obese Type 2 diabetes
J B Dixon, P Zimmet, K G Alberti, and F Rubino
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3123702/ [Full text]

Local Consensus

General Consensus – Diabetes and endocrine department

		Yes/No	Comments
1.	**Does the procedural document affect one group less or more favourably than another on the basis of:**		
	• Race	No	
	• Ethnic origins (including gypsies and travellers)	No	
	• Nationality	No	
	• Gender	No	
	• Culture	No	
	• Religion or belief	No	
	• Sexual orientation including lesbian, gay and bisexual people	No	
	• Age	No	
	• Disability - learning disabilities, physical disability, sensory impairment and mental health problems	No	
2.	**Is there any evidence that some groups are affected differently?**	No	
3.	**If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?**	No	
4.	**Is the impact of the procedural document likely to be negative?**	No	
5.	**If so can the impact be avoided?**	N/A	
6.	**What alternatives are there to achieving the procedural document without the impact?**	N/A	
7.	**Can we reduce the impact by taking different action?**	N/A	

If you have identified a potential discriminatory impact of this procedural document, please refer it to the Director of Human Resources, together with any suggestions as to the action required to avoid/reduce this impact.

For advice in respect of answering the above questions, please contact the Director of Human Resources.

Checklist for the Review and Approval of Procedural Document

To be completed and attached to any procedural document when submitted to the relevant committee for consideration and approval.

	Title of document being reviewed:	Yes/No	Comments
1.	**Title**		
	Is the title clear and unambiguous?	Yes	
	Is it clear whether the document is a guideline, policy, protocol or standard?	Yes	
2.	**Rationale**		
	Are reasons for development of the document stated?	Yes	
3.	**Development Process**		
	Is it clear that the relevant people/groups have been involved in the development of the document?	Yes	
	Are people involved in the development?	Yes	
	Is there evidence of consultation with stakeholders and users?	Yes	
4.	**Content**		
	Is the objective of the document clear?	Yes	
	Is the target population clear and unambiguous?	Yes	
	Are the intended outcomes described?	Yes	
5.	**Evidence Base**		
	Are key references cited in full?	Yes	
	Are supporting documents referenced?	Yes	
6.	**Approval**		
	Does the document identify which committee/ group will approve it?	Yes	
7.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?	Yes	
8.	**Document Control**		
	Does the document identify where it will be	Yes	

	Title of document being reviewed:	Yes/No	Comments
	held?		
9.	**Process to Monitor Compliance and Effectiveness**		
	Are there measurable standards or KPIs to support the monitoring of compliance with and effectiveness of the document?	Yes	
	Is there a plan to review or audit compliance with the document?	Yes	
10.	**Review Date**		
	Is the review date identified?	Yes	
	Is the frequency of review identified? If so is it acceptable?	Yes	
11.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for co-ordinating the dissemination, implementation and review of the document?	Yes	

Tool to Develop Monitoring Arrangements for Policies and guidelines

What key element(s) need(s) monitoring as per local approved policy or guidance?	Who will lead on this aspect of monitoring? Name the lead and what is the role of the multidisciplinary team or others if any.	What tool will be used to monitor/check/observe/Asses s/inspect/ authenticate that everything is working according to this key element from the approved policy?	How often is the need to monitor each element? How often is the need complete a report ? How often is the need to share the report?	What committee will the completed report go to?
Element to be monitored	**Lead**	**Tool**	**Frequency**	**Reporting arrangements**
Content of this guideline monitored via clinician and GP feedback	**Dr G Battle**	**Clinician feedback**	**Ongoing**	**To be determined from clinician comment.**