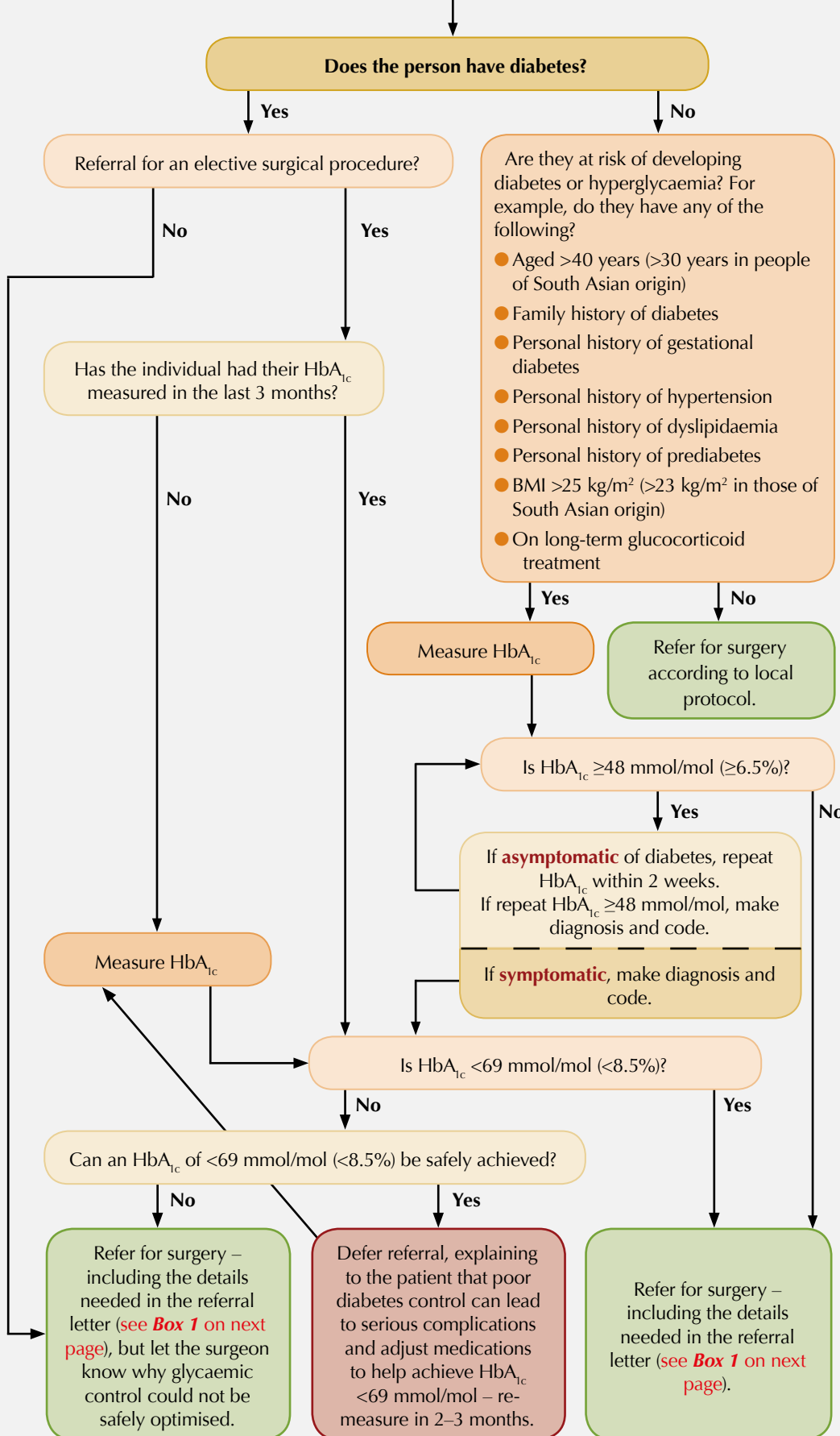




Preparing people with diabetes for surgery



About this series

The aim of the “How to” series is to provide readers with a guide to clinical procedures and aspects of diabetes care that are covered in the clinic setting.

What and why

- Hyperglycaemia in people undergoing surgery is associated with post-operative harm. These harms include post-operative infections, acute kidney injury, acute myocardial infarction or death.
- People referred for elective surgery should have an HbA_{1c} of <69 mmol/mol (8.5%) measured within 3 months prior to referral, if it is safe to achieve this.
- Those at risk of hyperglycaemia – in particular those not known to have diabetes but who are hyperglycaemic – are at particularly high risk. Thus, identifying them prior to referral is important.
- Communication is key. Informing the surgical team that someone has diabetes reduces delays to surgery and post-operative complications. Currently, this is not being done as often as it could be.

Citation: Dhatriya K (2018) How to prepare people with diabetes for surgery. *Diabetes & Primary Care* 20: 53–4

Author

Ketan Dhatriya, Consultant in Diabetes, Endocrinology and General Medicine, Elsie Bertram Diabetes Centre, Norfolk and Norwich University Hospitals NHS Foundation Trust, and Honorary Reader in Medicine, University of East Anglia



Box 1. When referring a patient for surgery/procedures, ensure referral letter contains:

- Duration and type of diabetes
- Usual diabetes care venue (primary or secondary care)
- Comorbidities
- Treatment:
 - for diabetes (oral agents/insulin doses and frequency)
 - for comorbidities
- Complications:
 - at-risk foot
 - renal impairment
 - cardiac disease
 - retinopathy
 - peripheral neuropathy
- Recent (within past 3 months) BMI, blood pressure, HbA_{1c} and eGFR measurements

Aims

- Ensure the potential effects of diabetes and the associated comorbidities on the outcome of surgery are considered **before** referral for elective procedures.
- Ensure the relevant medical information is communicated fully at the time of referral (see **Box 1**).
- Ensure that diabetes and comorbidities are optimally managed before the procedure.

HbA_{1c}

- Review HbA_{1c} measurement; repeat (after 3 months)
- Consider use of self-monitoring of blood glucose – it may help motivate the patient to improve his/her glycaemic control.
- Consider improving glycaemic control if the patient is on the elective surgery list, as many lists involve waits of several months.
- Repeat HbA_{1c} measurement prior to seeing specialist.

Smoking/smoking cessation advice

Provide **very brief advice** on smoking:

- **Ask** whether a patient (still) smokes tobacco and record smoking status.
- **Advise** on the benefits of quitting before surgery:
 - reduced risk of complications (particularly pulmonary, cardiac complications, delayed wound healing, surgical site infections)
 - reduced risk of/need for postoperative intensive care
 - shorter length of hospital stay
 - better outcomes
 - long-term benefits, including reduced risk of heart disease, stroke, cancer and premature death.
- **Advise** on the best way of quitting (a combination of medication and specialist support).
- **Act** on response:
 - build confidence
 - give information
 - refer to local NHS stop smoking service
 - prescribe nicotine-replacement therapy.

Surgery cancellations

- Advise patient to carry a form of glucose for their admission that they can take (e.g. a clear, sugar-containing drink) in case of symptoms of hypoglycaemia that could otherwise lead to cancellation.
 - If the patient is fasted, should the operation be postponed or cancelled, the drink can be used to help break the fast.
- Poorly controlled diabetes will often lead to the cancellation of elective surgery.

Key resources

Frisch A, Chandra P, Smiley D et al (2010) Prevalence and clinical outcome of hyperglycemia in the perioperative period in noncardiac surgery. *Diabetes Care* **33**: 1783–8

JBDS-IP (2016) *Management of adults with diabetes undergoing surgery and elective procedures: Improving standards*. Available at: <https://bit.ly/2uoLUQP> (accessed 22.05.18)

Kotagal M, Symons RG, Hirsch IB et al (2016) Perioperative hyperglycemia and risk of adverse events among patients with and without diabetes. *Ann Surg* **261**: 97–103

Kwon S, Thompson R, Dellinger P et al (2013) Importance of perioperative glycaemic control in general surgery: A report from the surgical care and outcomes assessment program. *Ann Surg* **257**: 8–14

National Centre for Smoking Cessation and Training. The clinical case for smoking cessation before surgery. Available at: www.ncsct.co.uk/ust/pub/interventions-in-secondary-care-june-10-surgical-patients-factsheet.pdf (accessed 24.05.18)

Pournaras DJ, Photi ES, Barnett N et al (2017) Assessing the quality of primary care referrals to surgery of patients with diabetes in the East of England: A multi-centre cross-sectional cohort study. *Int J Clin Pract* **71**: e12971

Recommendations

- Provide the relevant information in the referral letter (see **Box 1**)
- Optimise glycaemic control, aiming for an HbA_{1c} of <69 mmol/mol (<8.5%) before referral if possible and if it is safe to do so. High HbA_{1c} is an indication for intensive blood glucose control but it may not be realistic to delay referral.
- Consider referral to the diabetes specialist team for advice if HbA_{1c} is >69 mmol/mol (>8.5%) and it is felt that further optimisation is safely achievable.
- State in the referral letter if glycaemic control is as good as you think it could be and you judge the patient to be ready for the elective procedure.
- Patients with hypoglycaemic unawareness should be referred to the diabetes specialist team irrespective of HbA_{1c}.
- Optimise other diabetes-related comorbidities.
- Provide written advice to patients undergoing investigative procedures requiring a period of starvation.