- Inquire annually about the development of neuropathic symptoms, and discuss management and prognosis if such symptoms are present. If standard analgesic measures do not work, try a tricyclic drug and assess the response. If this does not provide effective pain relief, offer a trial of duloxetine, gabapentin, or pregabalin, with choice determined by current drug prices. If this too is not successful, consider trying another such drug or other strong analgesia or seek help from the local chronic pain management service.
- Consider the diagnosis of gastroparesis if blood glucose control is erratic without explanation or if gastric symptoms such as bloating occur. Consider a trial of metoclopramide, domperidone, or erythromycin if gastroparesis is suspected and problematic.
- Review the issue of erectile dysfunction annually. Offer a phosphodiesterase type-5 inhibitor if erectile dysfunction is a problem. Discuss the possibility of other management options (such as intracavernosal injections or referral to an andrology service) if phosphodiesterase type-5 inhibitors have been unsuccessful.
- Consider the possibility of contributory damage to the sympathetic nervous system for a person who loses the warning signs of hypoglycaemia. When using tricyclic antidepressants and antihypertensive medications in people with diabetes who might have autonomic neuropathy, be aware of the risk of orthostatic hypotension. Consider the possibility of autonomic neuropathy causing unexplained diarrhoea or unexplained bladder emptying problems (such as poor voiding or recurrent infections).

Overcoming barriers

Effective implementation of these recommendations depends on the training of the staff providing diabetes care in both primary and secondary care. Local provision of education services will be necessary to ensure that structured education programmes are available to all with type 2 diabetes and that support is available for insulin initiation, dose titration, and continued monitoring as endogenous insulin secretion worsens. Sufficient time must be available in each healthcare setting for the prevention and management of cardiovascular disease and microvascular disease by blood glucose control, blood pressure control, blood lipid management, and antithrombotic treatment; these all require both lifestyle management and medications. The need for annual review of complications is likely to be met only by structured care based on disease registers and recall. Self management requires time and resources to be devoted to explaining and agreeing the aims and methods of preventive management and developing and evolving individual care plans.

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Commentary: Controversies in NICE guidance on management of type 2 diabetes

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Publication of the original guidelines (in 2002) from the National Institute for Health and Clinical Excellence (NICE) for type 2 diabetes predated the wholesale change in the delivery of diabetes services in the England and Wales. As a consequence of the national service framework in 2001 and the new general practitioners' contract in 2003, primary care now delivers much more diabetes treatment, with fewer instances of insulin being started in secondary care. Consequently, the revised guidance[1] will now be judged much more on its relevance to general practice diabetes care, including the drive to hit targets on blood glucose control.

Initial management

It is reassuring that a trial of lifestyle intervention with education is still encouraged before a patient is started on metformin, rather than the immediate prescription of metformin at diagnosis as suggested in the consensus document from the American Diabetes

Association and the European Association for the Study of Diabetes.[2] The place of quality assured structured education programmes is rightly emphasised. However, the delivery of these close to the time of diagnosis represents a major logistical challenge to every primary care trust.

Targets for blood glucose control

HbA_{1c} target levels have remained much the same in the new guidance, with patients being encouraged to maintain their level below 6.5% and with insulin recommended if the level is above 7.4% after oral treatment has failed. However, the guidelines also note that "a single target figure is unhelpful." This both acknowledges the difficulties of target setting in the real world and reflects the controversy on pursuing low HbA_{1c} targets with the abandonment of the ACCORD study. This randomised, multicentre study of 10 251 patients with type 2 diabetes mellitus aimed to test the effects of intensive glycaemic control on major cardiovascular events.[3] Tight glycaemic control (aiming for HbA_{1c} <6.0%) increased the risk of death by 20% compared with the group randomised to a HbA_{1c} 7-7.9%. Although the cause of the excess mortality was unclear, concern was expressed that aggressive insulin treatment may have been implicated in the group receiving tight glycaemic control.

Another recent report highlights the difficulties of trying to optimise blood glucose levels in patients with poorly controlled type 2 diabetes. The 4T study was designed to investigate how to start insulin treatment in patients with type 2 diabetes who are already taking maximal dose metformin and a sulphonylurea.[4] It showed that prandial, premixed, or basal insulin resulted in similar HbA_{1c} levels (7.2%, 7.3%, and 7.6% respectively), but no regimen achieved the study's own (or NICE's) desired target of <6.5%. However, hypoglycaemia and weight gain were more frequent with the premixed and prandial regimens than with basal analogue insulin.

Currently it seems reasonable to aim for an HbA_{1c} level lower than 6.5% only if it is safe and feasible to do so—that is, if it is possible to attain target HbA_{1c} levels with diet, exercise, and conventional treatment but without intensive insulin treatment.[5]

Insulin treatment and new agents

Long acting analogue insulin glargine has long been marketed in primary care as a useful means of reducing hypoglycaemia. Whether insulin glargine or insulin determir (NICE has yet to appraise the role of the latter) unambiguously benefits most people with type 2 diabetes has been questioned.[6]

NICE has recommended intermediate acting human isophane insulin as the default basal insulin on economic grounds. This change may be difficult to implement in practices that are struggling with the rising numbers of patients with diabetes and trying to get to grips with the new agents affecting the incretin system, such as the glucose-like peptide-1 (GLP 1) analogue exenatide, and the gliptins (dipeptidyl peptidase IV (DPPIV) enzyme inhibitors such as sitagliptin and vildagliptin).

NICE also recommends continuing metformin and sulphonylurea treatment when insulin treatment is started, and also suggests that pioglitazone with insulin may be of value. With the increasing complexity of choice beyond traditional oral hypoglycaemic agents, only a careful integrated commissioning process by primary care trusts—engaging specialist diabetologists and nurses to work alongside primary care staff—is likely to fulfil these NICE recommendations and avoid a resurgence of secondary care referral.

NICE recommends thiazolidinedione treatment as second or third line oral treatment in patients in whom insulin is contraindicated and who are not at risk of heart failure or bone fractures. A 12 month trial of exenatide is also suggested as a third line option for obese patients with type 2 diabetes (body mass index >35) in whom insulin would otherwise be started and in whom high doses of insulin may be required. However, owing to the current controversy around possible cardiovascular risks associated with thiazolidinediones,[7] emerging data on the use of GLP-1 analogues, and the lack of guidance on gliptins, another revision of this document will probably rapidly become essential.

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Endpiece

A doctor who lacks doubt is not a doctor. He is an executioner.Hercule Poirot. In: Agatha Christie. *Poirot's Early Cases.* 1974

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