

Treating type 2 diabetes: Are we proactive enough?

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New recommendations for type 2 diabetes reported by Nathan et al (2006) seem to conflict with current trends in UK practice, particularly in regard to the timely initiation of insulin. The aim of this article is to discuss these recommendations in the light of current and potential future management of type 2 diabetes in the UK.

In August 2006, a joint consensus statement from the American Diabetes Association and the European Association for the Study of Diabetes on the management of hyperglycaemia in type 2 diabetes was published in *Diabetes Care* (Nathan et al, 2006). *Box 1* outlines the key recommendations from the consensus statement, and *Box 2* provides details of additional recommendations included with the consensus statement.

Background

The consensus guidelines were produced using existing clinical evidence regarding hyperglycaemia and type 2 diabetes. They focus on: preventing long-term complications by striving to diagnose people as early as possible and achieving tight glycaemic control from the outset by starting metformin at diagnosis and titrating up to the maximum effective dose (suggested as 850 mg twice daily) within 1–2 months of starting therapy, side effects permitting. The guidelines also recommend that HbA_{1c} levels should be checked every 3 months until the goal of <7% is achieved, at which point testing can be reduced to 6-monthly intervals.

The guidelines refer to the lack of data to support recommendations of one treatment over

another – therefore the authors have used how much each therapy is likely to reduce HbA_{1c} levels as the main criterion, but have also taken into account the side-effects, tolerability and cost of each therapy.

Current UK practice

Although the UK Prospective Diabetes Study (UKPDS Group, 1998) confirmed the need to tighten glycaemic control to reduce long-term complications in people with type 2 diabetes, practice in the UK has been slow to change. It can be argued that the relatively recent introduction of the Quality and Outcomes Framework points, 28 of which relate to improving HbA_{1c} levels (British Medical Association, 2006), may have been a more powerful catalyst for changes in practice than the UKPDS.

Looking at specific practice implications, recommendations in recent years have supported initially treating people with type 2 diabetes with healthy eating and physical activity only and to avoid the introduction of medication for at least 3 months. The aim of this approach is for people to learn the benefits of lifestyle change soon after diagnosis, so that they are more likely to maintain positive changes. In contrast, it was believed that if people view diabetes as a condition treated

Article points

1. HbA_{1c} levels in people with type 2 diabetes need to be tightly controlled.
2. There is often reluctance to initiate insulin therapy.
3. The 2006 guidelines from the American Diabetes Association and the European Association for the Study of Diabetes recommend lifestyle interventions plus metformin as first-line treatment.
4. Insulin therapy should be initiated or intensified if blood glucose targets are not achieved.
5. If the 2006 guidelines are adopted by the UK, health professionals will need to develop their skills in insulin initiation and management.

Key words

- Type 2 diabetes
- New recommendations
- Insulin treatment

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Box 1. Key recommendations for managing hyperglycaemia in people with type 2 diabetes (from Nathan et al, 2006).

Aim for as close to normoglycaemia as possible (HbA_{1c} at a maximum of 7%).

Treat initially with lifestyle intervention – promoting weight loss and increased physical activity, but without weight loss medications – plus metformin from diagnosis.

Introduce a second therapy within 2–3 months if not achieving HbA_{1c} targets (use either insulin, a sulphonylurea or a thiazolidinedione).

Start – or intensify – insulin therapy if not achieving targets. Alternatively, consider a third oral agent if HbA_{1c} is already below 8%.

Box 2. Additional recommendations for managing hyperglycaemia in people with type 2 diabetes (from Nathan et al, 2006).

Type 2 diabetes should be diagnosed as early as possible.

Insulin should be used at diagnosis if the blood glucose is >16.7 mmol/l, HbA_{1c} is >10% and further diabetes symptoms are present.

Insulin should be the second therapy added if the HbA_{1c} is >8.5% at the time.

‘Modest hypoglycaemia’ is an acceptable side-effect of insulin therapy.

Page points

1. In order to meet with the recommendations, health professionals would need additional training in behaviour modification.
2. If this algorithm is adopted, most people with type 2 diabetes will be taking two different types of medication within 3 months of diagnosis.
3. If healthcare staff have realistic and early discussions with people with type 2 diabetes about the likelihood of needing insulin, they will more readily accept it as the right medication and be willing to start taking it shortly after diagnosis.

with medication they might make less effort to make changes themselves. In the new guidelines, lifestyle changes are still recommended; however, they state that metformin should be started at diagnosis because the majority of people fail to lose weight or maintain any initial weight loss.

Nathan et al (2006) recommend training for health professionals in behaviour modification, and highlight registered dietitians as possibly the most appropriate people to initiate lifestyle interventions. In the UK, the shortage of registered dietitians means that even where access is possible, contact time with dietitians is likely to be fairly brief. It is, therefore, more likely that nurses, particularly practice nurses, will play a key role in lifestyle change, as they arguably spend the greatest time in consultation with people with type 2 diabetes following diagnosis. Whichever health professional takes on this role, current recommendations in the UK support the idea that health professionals should be trained in psychological interventions to facilitate behaviour change (Department of

Health, 2005). Widespread access to training courses and workshops is needed to achieve this.

The introduction of insulin

The next recommendation from Nathan et al, and possibly the one which differs most greatly from current practice in the UK, is the speed at which medications are titrated and new medications introduced. In general, pharmacotherapy is introduced and titrated slowly, to see whether beneficial effects on HbA_{1c} and other parameters can be achieved through lifestyle change and minimal medication. If this algorithm is adopted, most people with type 2 diabetes will be taking two different types of medication within 3 months of diagnosis. Additionally, if blood glucose and HbA_{1c} is high at diagnosis, or if HbA_{1c} is above 8.5% when the second medication is introduced, insulin is recommended as the choice of therapy to add.

The use of insulin therapy in type 2 diabetes is becoming increasingly common, but it is still seen as a medication to be used as a last resort rather than a proactive management choice. In many cases, individual preference is cited as one of the main reasons for delaying the initiation of insulin, and terms such as ‘psychological insulin resistance’ have come into common use in the past few years (Peyrot et al, 2003). However, curiously, this condition does not seem to exist in people with type 1 diabetes, where there is absolutely no debate about the need for insulin. It can be argued that psychological insulin resistance develops as a result of the way health professionals talk about insulin. *Box 3* gives an example of the type of discussions that might support the view that insulin use can be avoided. As can be seen in *Box 3*, insulin is never at any point discussed as a proactive choice of treatment, but instead is presented as something to use when all other therapies have failed.

In the author’s experience, when insulin is discussed at diagnosis as a treatment that will be required at some stage during the condition and the rationale behind this claim is explained, the response is often along the lines of: ‘Well, if I’m going to need it eventually, why don’t I start taking it now?’ This suggests that if health care

staff have realistic and early discussions with people with type 2 diabetes about the likelihood of needing insulin, they will more readily accept it as the right medication and be willing to start taking it shortly after diagnosis.

Within the guidelines, Nathan et al warn that 'modest hypoglycaemia' may occur, defined as hypoglycaemia that is easily treated with rapidly absorbed glucose and which rarely progresses to loss of consciousness or seizures. While this may be acceptable from a scientific point of view, it is not necessarily acceptable for the person with diabetes. It is well recognised that many people who take insulin choose to keep their blood glucose higher than the recommended levels purely to avoid hypoglycaemia. Thus, when trying to achieve normoglycaemia we need to consider that the person with diabetes is unlikely to regard hypoglycaemia as an acceptable side effect, and that inducing it through tighter glycaemic control with insulin may cause people to want to desire to keep their blood glucose levels higher.

Changes to UK practice

If this proposed algorithm were to be adopted in the UK, much earlier introduction of both oral medication and insulin would be the most dramatic change. Insulin would become the treatment of choice for the majority of people with type 2 diabetes. Additionally, it would be essential that health professionals caring for people with diabetes develop their skills in insulin initiation and management. Many education courses now exist in this area, for example the 'Insulin for Life' course, and the Masters' level accredited module 'The theory and practice of insulin initiation', both run by the University of Warwick Medical School. Courses in behaviour change are also available from In Balance Healthcare UK, for example. A multidisciplinary approach, using the skills of the GP, practice nurse and dietitian would provide a strong supportive framework for insulin initiation and would create a local specialist diabetes team, as has already happened in many areas in the UK.

The role of specialist care in this scenario would be to provide local support, guidance and expertise; to help develop local networks and expertise in insulin within the wider NHS team;

Box 3: Discussing insulin therapy with people with type 2 diabetes, which may support the view that insulin can be avoided.

PWD, person with diabetes HP, health professional.

At diagnosis:

PWD: 'Will I need insulin?'

HP: 'Oh no, we'll try and treat it with diet and we'll add tablets if that doesn't work.'

When medication is increasing:

HP: 'Well, your blood glucose is still not under control, but there is just one more tablet that we could try before we think about insulin.'
(PWD thinks: 'The health professional doesn't think insulin is a good idea.')

When no further changes can be made to oral medication:

HP: 'Well, I think the time has come when we need to consider starting insulin'

PWD: 'But I haven't been very good with my diet over the holidays – I'll get back on the straight and narrow now.'

HP: 'OK, we'll leave it another few months.'

At the next appointment:

HP: 'Your blood glucose still isn't very well controlled.'

PWD: 'No, I know, I need to pay more attention to what I'm eating – I'll make some changes.'

HP: 'OK. I'll see you again in 3 months.'

(PWD thinks: 'The health professional is happy for me not to have insulin, I'll just stay as I am.')

and to lead the development of best practice within the locality. If insulin is to become the usual treatment of type 2 diabetes shortly after diagnosis, it should be initiated and managed as a routine in primary care. ■

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