

# **Long-acting insulin analogues in type 2 diabetes mellitus**

## **Support for education and learning: Academic detailing aid**

2nd Edition August 2012

This 'Long-acting insulin analogues in type 2 diabetes mellitus' academic detailing aid is designed to be used by experienced prescribing and medicines management personnel to support discussions with prescribers on the key prescribing and medicines optimisation messages from the 'NPC Key Therapeutic Topics – medicines management options for local implementation' document. This academic detailing aid is not NICE guidance.

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Changes to the 2nd edition – materials revised to include findings of the ORIGIN Trial Investigators (2012). Basal insulin and cardiovascular and other outcomes in dysglycaemia. N Engl J Med June 11, 2012 (10.1056/NEJMoa1203858).

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Academic detailing aid: Long-acting insulin analogues in type 2 diabetes mellitus. March 2012

## Supporting notes for the use of NICE academic detailing aids:

### Long-acting insulin analogues in type 2 diabetes mellitus

- NICE academic detailing aids (ADAs) are designed to be used by experienced prescribing and medicines management personnel to support discussions with prescribers on the key prescribing and medicines optimisation messages from the 'NPC Key Therapeutic Topics – medicines management options for local implementation' document (available from [www.npc.nhs.uk/qipp/](http://www.npc.nhs.uk/qipp/)).
- Before using any NICE ADA, users must familiarise themselves with the content of the relevant QIPP Key Slides and accompanying notes (available to download from [www.npc.nhs.uk/qipp/](http://www.npc.nhs.uk/qipp/)).
- Users are also advised to access the QIPP comparator data on this topic and familiarise themselves with local and national prescribing variations at [www.nhsbsa.nhs.uk/PrescriptionServices/3334.aspx](http://www.nhsbsa.nhs.uk/PrescriptionServices/3334.aspx).
- The principles that support the use of academic detailing to improve clinical decision-making have been documented widely. As far back as 1990, Soumerai and Avorn described how ADAs had been used to reduce inappropriate prescribing as well as unnecessary health care expenditure<sup>1</sup>. The authors highlighted the following techniques as being particularly important to successful academic detailing:
  1. *Conducting interviews to investigate baseline knowledge and motivations for current prescribing patterns.*
  2. *Focusing programmes on specific categories of physicians as well as on their opinion leaders.*
  3. *Defining clear educational and behavioural objectives.*
  4. *Establishing credibility through a respected organisational identity, referencing authoritative and unbiased sources of information, and presenting both sides of controversial issues.*
  5. *Stimulating active physician participation in educational interactions.*
  6. *Using concise graphic educational materials.*

7. *Highlighting and repeating the essential messages.*
8. *Providing positive reinforcement to improved practices in follow-up visits.*

- The National Audit Office's 2007 publication, '**Influencing Prescribing Cost and Quality – a suggested communication plan for prescribing advisers**'<sup>2</sup>, suggests further ways to increase the impact of communication with clinicians. This includes sections on visiting clinicians, building a relationship, the relationship process, getting agreement, getting your plans adopted, and supporting activities, as well as follow up and monitoring.

Acronyms used in this ADA include:

**NPH:** neutral protamine Hagedorn (NPH insulin is also called isophane insulin)

**PCT:** primary care trust

**HbA1c:** glycated haemoglobin

**QALY:** quality adjusted life year

## **References:**

1. Soumerai SB. Avorn J. Principles of educational outreach ('academic detailing') to improve clinical decision making. JAMA 1990;263:549–56
2. The National Audit Office. Influencing Prescribing Cost and Quality – a suggested communication plan for prescribing advisers. National Audit Office. 2007

# Academic detailing aid

## Long-acting insulin analogues in type 2 diabetes mellitus

### Prescribing considerations

#### What are the issues here?

- Human NPH (isophane) insulin (e.g. Insulatard<sup>®</sup>, Humulin I<sup>®</sup> or Insuman<sup>®</sup> Basal) is the preferred first-choice insulin recommended by NICE for type 2 diabetes<sup>1</sup>.
- Prescribing data suggest that the long-acting insulin analogues, insulin glargine and insulin detemir, are increasingly being prescribed instead of human NPH insulin<sup>2</sup>.
- In the majority of PCTs, more than 80% of all intermediate or long-acting insulin items (excluding biphasic insulins) are now for the long-acting insulin analogues<sup>3</sup>.

#### Why is this important?

- For most people with type 2 diabetes, long-acting insulin analogues offer no significant advantage over NPH insulin<sup>4</sup>.
- Long-acting insulin analogues are more expensive than human NPH insulin and long-term safety and outcome data is limited<sup>1</sup>.

#### What would good practice look like?

- Metformin, a sulfonylurea and human NPH (isophane) insulin are the preferred hypoglycaemic drugs recommended by NICE for type 2 diabetes<sup>1</sup>.
- Long-acting insulin analogues have a role in some patients, and can be considered for those who fall into specific categories including<sup>1</sup>:
  - those who require assistance from a carer or healthcare professional to administer their insulin injections
  - those with problematic hypoglycaemia
  - those who would otherwise need twice daily NPH insulin plus oral hypoglycaemic drugs to control their diabetes
  - those who can not use the device to inject NPH insulin.

#### What can we do?

- Review and, where appropriate, revise prescribing of long-acting insulin analogues in type 2 diabetes mellitus to ensure that it is in line with NICE guidance<sup>1</sup>.

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# Prescribing long-acting insulin analogues in type 2 diabetes mellitus

## *A framework for decision-making*

### **Efficacy**

- In terms of HbA1c lowering, there is no difference between long-acting insulin analogues and NPH insulin<sup>1</sup>.
- Compared with NPH insulin, long-acting insulin analogues result in lower rates of any hypoglycaemia and nocturnal hypoglycaemia, but **not** severe hypoglycaemia<sup>1</sup>.
- Robust evidence that long-acting insulin analogues improve patient-orientated outcomes (morbidity and mortality) is not currently available.

### **Safety**

- The long-term safety of the long-acting insulin analogues, insulin glargine and insulin detemir, is not as well established as for isophane insulin.

### **Cost**

- A health economic analysis by NICE found that the cost-effectiveness of long-acting insulin analogues was not favourable<sup>1</sup>.
- The incremental cost-effectiveness ratio per QALY (compared with NPH insulin) was greater than £100,000 in all scenarios, and in some scenarios in excess of £400,000<sup>1</sup>.
  - This is much greater than the £20,000 to £30,000 per QALY threshold usually considered in a NICE cost-effectiveness evaluation<sup>5</sup>.

### **Patient factors**

- The main benefits of long-acting insulin analogues over NPH insulin relate to:
  - Their lower rates of hypoglycaemia (but see efficacy section)<sup>1</sup>.
  - Their once daily use (but NPH insulin can also be used once daily).

### **References:**

1. [NICE. Type 2 diabetes: The management of type 2 diabetes. Clinical guideline 87. May 2009](#)
2. [The NHS Information Centre, Prescribing Support and Primary Care Services. Prescribing for Diabetes in England: 2005/6 to 2010/11. August 2011](#)
3. [NHS Business Services Authority Prescription Services. QIPP Charts and Data](#)
4. [Drug and Therapeutics Bulletin. Which insulin, regimen and device in type 2 diabetes? DTB 2010;48\(12\):134–38](#)
5. [Improving outcomes in type 2 diabetes. MeReC Bulletin Vol 21, No 5. June 2011](#)

**Related NICE guidance:**

- Type 2 diabetes: The management of type 2 diabetes. NICE clinical guideline 87 (2009). Available from <http://guidance.nice.org.uk/CG87>
- Diabetes in pregnancy. NICE clinical guideline 63 (2008). Available from <http://guidance.nice.org.uk/CG63>