

# Rationale for combining basal insulin with a GLP-1 RA

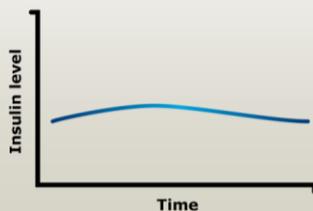
## Glucagon-like peptide-1 receptor agonists (GLP-1 RAs)

People with type 2 diabetes who do not respond to oral anti-diabetic therapies, which are used to initially control blood glucose levels, may be offered basal insulin injections or treatments such as GLP-1 RAs if their blood glucose levels remain uncontrolled.<sup>1</sup>

GLP-1 RAs are treatments for type 2 diabetes that mimic a hormone (GLP-1), a type of incretin. Incretins are released in the intestines and stimulate a reduction in blood glucose, which is reflected by measuring the HbA<sub>1c</sub> in the long term.<sup>1</sup> Incretins also slow emptying of the stomach and the flow of nutrients in the body can create the sensation of fullness.

### Basal insulin

Controls blood glucose levels in between meals (fasting glycaemic control)<sup>1</sup>



### Glucagon-like peptide-1 receptor agonist (GLP-1 RA)

Controls blood glucose levels during and in-between meals (postprandial and fasting glycaemic control)<sup>1</sup>



## Importance of preventing complications

Control of HbA<sub>1c</sub> is a crucial target in diabetes management. In the United Kingdom (UK), the Quality and Outcomes Framework has set the HbA<sub>1c</sub> target as 58mmol/mol or less ( $\leq 7.5\%$ ).<sup>2</sup> Nearly three quarters of people with type 2 diabetes on basal insulin regimens in the UK fail to reach HbA<sub>1c</sub> of 58mmol/mol or less ( $\leq 7.5\%$ ) and are therefore at a greater risk of medical complications.<sup>3-6</sup>

A reduction in HbA<sub>1c</sub> can provide both a huge personal benefit but also a significant cost saving through the reduction of diabetes-related complications. A one percentage point drop in HbA<sub>1c</sub> can lead to a 37% reduction in microvascular complications, a 14% reduction in myocardial infarctions and a 21% reduction in overall diabetes-related mortality.<sup>5</sup>

Target

$\leq 7.5\%$

HbA<sub>1c</sub> level<sup>2</sup>

25%

achieved<sup>3</sup>



Another challenging complication is hypoglycaemia, which occurs when the concentration of glucose in the blood falls to an abnormally low level. Episodes can have a significant impact on a person living with diabetes as symptoms can range from trembling, sweating, poor sleep and nightmares<sup>7</sup> to night-time convulsions and, in severe cases, coma and death.<sup>8</sup>

Insulin is an effective diabetes treatment, but it is often underutilised due to the risk or fear of hypoglycaemia - and also possible weight gain.<sup>9</sup> These two factors can be a major barrier to insulin initiation and optimising the use of insulin.<sup>10,11</sup>

## Benefits for combining basal insulin with GLP-1 RA<sup>12,13</sup>

**There may be important benefits associated with using basal insulin with a GLP-1 RA:**

- Improvements in blood glucose levels overall
- A lower risk of hypoglycaemia compared to taking a higher dose of insulin
- Using basal insulin and a GLP-1 RA together may lower insulin-associated weight gain and may achieve weight loss

Improves blood glucose levels overall<sup>12,13</sup>



May lower risk of hypoglycaemia compared to a basal insulin alone<sup>12,13</sup>



Lowers insulin-associated weight gain or even results in weight loss<sup>12,13</sup>



## References

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