Insulin Aspart (Fiasp®)

Background Information	Fiasp is a mealtime insulin used to treat diabetes mellitus in adults by administration up to 2 minutes before the start of the meal, with the option to administer up to 20 minutes after starting the meal. Fiasp® is available as a 100units/mL solution for injection in vials, Penfill® cartridges, FlexTouch® pre-filled pens and PumpCart®.
BNF therapeutic class	Insulin Aspart (Rapid acting Insulin)
Indication	Diabetes mellitus in adults
Dosage and administration	Fiasp® can be administered by subcutaneous injection, or by intravenous infusion, or by continuous subcutaneous infusion. Dosing with Fiasp is individual and determined in accordance with the needs of the patient. Fiasp given by subcutaneous injection should be used in combination with intermediate-acting or long-acting insulin given at least once a day. In a basal-bolus treatment regimen approximately 50% of this requirement may be provided by Fiasp and the remaining by intermediate-acting or long-acting insulin. The duration of action will vary according to the dose, injection site, blood flow, temperature and level of physical activity. The potency of insulin analogues, including Fiasp, is expressed in units. One (1) unit of Fiasp corresponds to 1 international unit of human insulin or 1 unit of other fast-acting insulin analogues. Patients on basal-bolus treatment who forget a mealtime dose are advised to monitor their blood glucose level to decide if an insulin dose is needed. Patients should resume their usual dosing schedule at the next meal. <u>Patients with type 1 diabetes mellitus</u> The recommended starting dose in insulin naïve patients with type 1 diabetes is approximately 50% of the total daily insulin dose and should be divided between the meals based on the size and composition of the meals. The remainder of the total daily insulin dose should be administered as intermediate-acting or long-acting insulin. As a general rule, 0.2 to 0.4 units of insulin per kilogram of body weight can be used to calculate the initial total daily insulin dose in insulin naïve patients with type 1 diabetes. <u>Patients with type 2 diabetes mellitus</u> Suggested initial dose is 4 units at one or more meals. Number of injections and subsequent titration will depend on individual glycaemic target and the size and composition of the meals. Dose adjustment may be considered daily based on self-measured plasma glucose (SMPG) on the previous day(s) according to **Table 1.** • Pre-breakfast dose should be adjusted according to the pre-lunch SMPG the previous day • Pre-lunch dose should be adjusted according to the pre-dinner SMPG the previous day • Pre-dinner dose should be adjusted according to the bedtime SMPG the previous day

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Table 1 Dose adjustment

SMPG (see above)		**Dose adjustment**
mmol/L	mg/dL	Unit
<4.0	<71	-1
4.0–6.0	71–108	No adjustment
>6.0	>108	+1

Considerations in specific populations:

- Elderly patients 65 years old: The safety and efficacy of Fiasp® has been established in elderly patients aged 65-75 years.
- Renal and hepatic impairment: Renal or hepatic impairment may reduce the patient's insulin requirements. Glucose monitoring should be intensified and the dose adjusted on an individual basis.
- Paediatric population: Fiasp® can be used in adolescents and children from the age of 1 year. There is no clinical experience with the use of Fiasp® in children below the age of 2 years.
- Pregnancy: Fiasp® can be used in pregnancy.
- Breast Feeding: There are no restrictions on treatment and there is no risk to the baby. However, the dosage may need to be adjusted.

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<tr><td>**Cautions and Contraindication**</td><td>Hypersensitivity to the active substance or to any of the excipients

Cases of congestive heart failure have been reported when thiazolidinediones were used in combination with insulin, If the combination is used, patients should be observed for signs and symptoms of congestive heart failure, weight gain and oedema. Thiazolidinediones should be discontinued if any deterioration in cardiac symptoms occurs.</td></tr>
<tr><td>**Adverse Drug Reactions**</td><td>Hypoglycaemia (Very Common)
Allergic skin manifestations (Common)
Injection/infusion site reactions (Common)</td></tr>
<tr><td>**Monitoring**</td><td>Monitor blood glucose</td></tr>
<tr><td>**Interactions**</td><td>The following substances may reduce insulin requirement:

Oral antidiabetics, monoamine oxidase inhibitors (MAOIs), beta-blockers, angiotensin converting enzyme (ACE) inhibitors, salicylates, anabolic steroids, sulphonamides and GLP-1 receptor agonist

The following substances may increase insulin requirement:

Oral contraceptives, thiazides, glucocorticoids, thyroid hormones, sympathomimetics, growth hormone and danazol.

Beta-blocking agents may mask the symptoms of hypoglycaemia.</td></tr>
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***Amber with Guidance**= To be initiated and titrated to a stable dose by a specialist prescriber with follow up prescribing and monitoring by primary care where deemed appropriate.*

	Octreotide/lanreotide may either increase or decrease the insulin requirement. Alcohol may intensify or reduce the hypoglycaemic effect of insulin.

Contact names and details

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References

- British National Formulary. Available at: www.medicinescomplete.com/mc/bnf/current/
- Summary of Product Characteristics. Available at: https://www.medicines.org.uk/emc/product/2447/smpc
- NICE (NG17) Type 1 diabetes in adults. Available at: https://www.nice.org.uk/guidance/ng17
- NICE (NG28) Type 2 diabetes in adults: Management. Available at: https://www.nice.org.uk/guidance/ng28
- Novo Nordisk Pharmaceuticals UK Ltd. Available at: https://www.fiasppro.com/content/dam/novonordisk/fiasppro/Downloads/Fiasp_Patient_Brochure.pdf

Development Process

This guideline was developed following an Amber-G classification of Insulin Aspart (Fiasp®). This guideline has been subject to consultation and endorsement by the Area Prescribing Committee on 11th November 2020.