

able to monitor their blood-glucose concentration, and have expert training, advice and supervision from an experienced healthcare team. Some insulin preparations are not recommended for use in subcutaneous insulin infusion pumps—may precipitate in catheter or needle—consult product literature.

- ▶ With intravenous use For *intravenous infusion*, dilute to a concentration of 1 unit/mL with Sodium Chloride 0.9% and mix thoroughly; insulin may be adsorbed by plastics, flush giving set with 5 mL of infusion fluid containing insulin. For *intravenous infusion in neonatal intensive care*, dilute 5 units to a final volume of 50 mL with Sodium Chloride 0.9% and mix thoroughly; an intravenous infusion rate of 0.1 mL/kg/hour provides a dose of 0.01 units/kg/hour.
- **PRESCRIBING AND DISPENSING INFORMATION** A sterile solution of insulin (i.e. bovine or porcine) of human insulin; pH 6.6–8.0.

● NATIONAL FUNDING/ACCESS DECISIONS

NICE decisions

- ▶ **Continuous subcutaneous insulin infusion for the treatment of diabetes mellitus (type 1) (July 2008) NICE TA151** Continuous subcutaneous insulin infusion is recommended as an option in adults and children 12 years and over with type 1 diabetes:
 - who suffer repeated and unpredictable hypoglycaemia, whilst attempting to achieve optimal glycaemic control with multiple-injection regimens, or
 - whose glycaemic control remains inadequate (HbA_{1c} over 8.5% [69 mmol/mol]) despite optimised multiple-injection regimens (including the use of long-acting insulin analogues where appropriate).
 Continuous subcutaneous insulin infusion is also recommended as an option for children under 12 years with type 1 diabetes for whom multiple-injection regimens are considered impractical or inappropriate. Children on insulin pumps should undergo a trial of multiple-injection therapy between the ages of 12 and 18 years.

www.nice.org.uk/guidance/TA151

- **MEDICINAL FORMS** There can be variation in the licensing of different medicines containing the same drug. Forms available from special-order manufacturers include: solution for injection, solution for infusion

Solution for injection

- ▶ **Humulin R** (Imported (United States))
 - Insulin human 500 unit per 1 ml Humulin R 500units/ml solution for injection 20ml vials | 1 vial [PoM] ☒
 - Humulin R KwikPen 500units/ml solution for injection 3ml pre-filled pens | 2 pre-filled disposable injection [PoM] ☒
- ▶ **Actrapid** (Novo Nordisk Ltd)
 - Insulin human (as Insulin soluble human) 100 unit per 1 ml Actrapid 100units/ml solution for injection 10ml vials | 1 vial [PoM] £7.48 DT = £15.68
- ▶ **Humulin S** (Eli Lilly and Company Ltd)
 - Insulin human (as Insulin soluble human) 100 unit per 1 ml Humulin S 100units/ml solution for injection 10ml vials | 1 vial [PoM] £15.68 DT = £15.68
 - Humulin S 100units/ml solution for injection 3ml cartridges | 5 cartridge [PoM] £19.08 DT = £19.08
- ▶ **Hypurin Porcine Neutral** (Wockhardt UK Ltd)
 - Insulin porcine (as Insulin soluble porcine) 100 unit per 1 ml Hypurin Porcine Neutral 100units/ml solution for injection 10ml vials | 1 vial [PoM] £34.43 DT = £34.43
 - Hypurin Porcine Neutral 100units/ml solution for injection 3ml cartridges | 5 cartridge [PoM] £51.64 DT = £51.64
- ▶ **Insuman Infusafast** (Sanofi)
 - Insulin human 100 unit per 1 ml Insuman Infusafast 100units/ml solution for injection 3.15ml cartridges | 5 cartridge [PoM] £250.00 DT = £250.00
- ▶ **Insuman Rapid** (Sanofi)
 - Insulin human (as Insulin soluble human) 100 unit per 1 ml Insuman Rapid 100units/ml solution for injection 3ml cartridges | 5 cartridge [PoM] £17.50 DT = £19.08

Insulin aspart

(Recombinant human insulin analogue—short acting)

16-Dec-2019

● INDICATIONS AND DOSE

FIASP®

Diabetes mellitus

- ▶ BY SUBCUTANEOUS INJECTION
 - ▶ Child 1-17 years: Administer immediately before meals or when necessary shortly after meals, according to requirements
- ▶ BY SUBCUTANEOUS INFUSION, OR BY INTRAVENOUS INFUSION, OR BY INTRAVENOUS INJECTION
 - ▶ Child 1-17 years: According to requirements

NOVORAPID®

Diabetes mellitus

- ▶ BY SUBCUTANEOUS INJECTION
 - ▶ Child: Administer immediately before meals or when necessary shortly after meals, according to requirements
- ▶ BY SUBCUTANEOUS INFUSION, OR BY INTRAVENOUS INFUSION, OR BY INTRAVENOUS INJECTION
 - ▶ Child: According to requirements

- **UNLICENSED USE** Not licensed for use in children under 1 year.
- **INTERACTIONS** → Appendix 1: insulins
- **SIDE-EFFECTS**
 - ▶ **Common or very common** Skin reactions
 - ▶ **Uncommon** Refraction disorder
- **PREGNANCY** Not known to be harmful—may be used during pregnancy.
- **BREAST FEEDING** Not known to be harmful—may be used during lactation.
- **DIRECTIONS FOR ADMINISTRATION** Short-acting injectable insulins can be given by continuous subcutaneous infusion using a portable infusion pump. This device delivers a continuous basal insulin infusion and patient-activated bolus doses at meal times. This technique can be useful for patients who suffer recurrent hypoglycaemia or marked morning rise in blood-glucose concentration despite optimised multiple-injection regimens. Patients on subcutaneous insulin infusion must be highly motivated, able to monitor their blood-glucose concentration, and have expert training, advice and supervision from an experienced healthcare team.
 - ▶ With intravenous use For *intravenous infusion*, dilute to a concentration of 0.05–1 unit/mL with Glucose 5% or Sodium Chloride 0.9% and mix thoroughly; insulin may be adsorbed by plastics, flush giving set with 5 mL of infusion fluid containing insulin.
- **NATIONAL FUNDING/ACCESS DECISIONS**

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