Insulin Aspart

【INORAP】NovoRapid FlexPen® 300 IU/3mL/FlexPen *ATC Code：A10AB05*

中 文 名： 諾和瑞諾易筆 «諾和諾德»

適 應 症： 糖尿病。

藥理分類： **Insulin, Rapid-Acting.**

用法用量： **Administration: SubQ, continuous SubQ infusion, IV Infusion**

Note:

1. administered **SubQ** as a premeal component of the insulin regimen or as a **continuous SubQ infusion** and should be used with intermediate- or long-acting insulin.
2. When compared to insulin regular, insulin aspart has a more rapid onset and shorter duration of activity.
3. In carefully controlled clinical settings with close medical supervision and monitoring of blood glucose and potassium, insulin aspart may also be administered **IV Infusion**.

Dosage regimen:

Diabetes mellitus, type 1:

Initial total insulin dose:

0.2 to 0.6 units/kg/day in divided doses. Conservative initial doses of 0.2 to 0.4 units/kg/day are often recommended to avoid the potential for hypoglycemia. A rapid-acting insulin may be the only insulin formulation used initially.

Usual maintenance range:

0.5 to 1 units/kg/day in divided doses. An estimate of anticipated needs may be based on body weight and/or activity factors as follows:

Nonobese: 0.4 to 0.6 units/kg/day.

Obese: 0.8 to 1.2 units/kg/day.

Pubescent Children and Adolescents: During puberty, requirements may substantially increase to > 1 unit/kg/day and in some cases up to 2 units/kg/day (IDF-ISPAD 2011).

Diabetes mellitus, type 2: SubQ:

General considerations for insulin use in type 2 diabetes:

Timing of initiation:

1. The goal of therapy is to achieve an HbA1c < 7%.
2. Dual therapy (metformin + a second antihyperglycemic agent) is recommended in patients with type 2 diabetes who fail to achieve glycemic goals after ~3 months with lifestyle interventions and metformin monotherapy (unless contraindications to metformin exist).
3. Preference is not given for adding insulin or a noninsulin agent as the second antihyperglycemic agent (drug choice should be individualized based on patient characteristics). However, insulin should be considered as part of a combination regimen when hyperglycemia is severe, particularly if patient is symptomatic or has catabolic features (eg, weight loss, ketosis).
4. If insulin is selected, the addition of basal insulin with a long-acting insulin (ie, glargine or detemir [not insulin aspart]) is recommended. If HbA1c target not achieved after ~3 months of dual therapy, may proceed to triple therapy (Inzucchi 2015).

Intensification of therapy:

1. If HbA1c target has not been met, despite titrating basal insulin (ie, long-acting insulin) to provide acceptable fasting blood glucose concentrations, intensification of therapy should be considered to cover postprandial glucose excursions.
2. Options include: adding a GLP-1 receptor agonist (eg, exenatide, liraglutide) or adding a mealtime insulin (1 injection of a rapid-acting insulin analog [lispro, aspart, glulisine]) initiated at a dose of 4 units or 0.1 units/kg or 10% basal dose before largest meal; may progress to "basal-bolus" dosing of 3 injections of a rapid-acting insulin analog [lispro, aspart, glulisine] per meal or dose by adding up the total current insulin dose, and provide one-half of this amount as basal and one-half as mealtime insulin (split evenly between 3 meals).
3. Alternatively, although less studied, may transition from basal insulin (ie, long-acting insulin) to a twice daily premixed (or biphasic) insulin analog (70/30 aspart mix, 75/25 or 50/50 lispro mix) (Inzucchi 2015).

不良反應： 低血糖、注射部位反應(疼痛、泛紅、起疹、發炎、瘀傷、腫以及搔癢)。

注意事項： 1. NovoRapid®以皮下注射方式注射在腹壁、大腿、上臂、 三角肌或臀部。如果必要，可以靜脈內注射。**不可肌肉注射。**可以用於輸注幫浦系統(CSII)
2. 病人應隨身攜帶糖果，避免造成低血糖如冒冷汗、饑餓感、心跳加快。

懷 孕 期： 1. NovoRapid®可以在懷孕期間使用。來自兩組隨機分配臨床試驗的資料顯示，相較於可溶性人類 胰島素，insulin aspart 對於懷孕或胎兒/新生兒的健康上並未出現不良反應(參見藥效學性質)。
2. 對於患有糖尿病之懷孕婦女，建議於整個懷孕期間和計劃懷孕時建議密集控制和監測血糖。胰島素需求量通常在前 3 個月會下降，隨後在第 4~9 個月則逐漸增加。分娩後，胰島素需求量會正常地並快速地回復到懷孕前的需求量。

授 乳 期： 授乳期間使用 NovoRapid®治療並無限制。授乳母親接受胰島素治療對嬰兒並無風險。然而，NovoRapid®劑量可能需要調整。

儲 存： 1. 開封前：貯藏於冷藏室(2˚C- 8˚C)，遠離冷卻裝置。
2. **使用中或攜帶作為備品：存放於 30˚C 以下之環境中，或存放在冰箱中(2˚C-8˚C)，可保存四星期。請勿冷凍。**
3. 不使用時應將 NovoRapid®筆蓋蓋上以避光，避免接觸過多的熱與光。