Insert: 2010-490x210-016 Current 2

Clear White Hands

Colour: PMS 280C + PMS 151C

NovoRapid[®] FlexPen[®] 100 U/ml solution for injection in pre-filled pen

Qualitative and quantitative composition ml of the solution contains 100 U of insulin aspart* equivalent to 3.5 mg). 1 pre-filled pen contains 3 ml equivalent to 300 U sulin aspart is produced by recombinant DNA technology in

80 mm

Pharmaceutical form

Clear, colourless, aqueous solution for injection in pre-filled per FlexPen®.

Therapeutic indications Treatment of diabetes mellitus in adults, adolescents and children aged 1 year and above.

~

~

Posology NovoRapid[®] is a rapid-acting insulin analogue. NovoRapid[®] dosage is individual and determined in accordance with the needs of the patient. It should normally be used in combination with intermediate-acting or long-acting insulin given at least once a day. Blood glucose monitoring and insulin dose adjustr are recommended to achieve optimal glycaemic control. The individual insulin requirement in adults and children is usually between 0.5 and 1.0 U/kg/day. In a basal-bolus treatment regimen, 50–70% of this requirement may be provided by NovoRapid® and the remainder by intermediate-acting or long-acting insulin. Adjustment of dosa intermediate-acting or iong-acting insulin. Adjustment of dosac may be necessary if patients undertake increased physical activity, change their usual diet or during concomitant illness. NovoRapid® has a faster onset and a shorter duration of action than soluble human insulin. Due to the faster onset of action, NovoRapid® should generally

be given immediately before a meal. When necessary NovoRapid[®] can be given soon after a meal. Due to the shorter duration, NovoRapid[®] has a lower risk of octurnal hypoglycaemic epis

Special populations As with all insulin products, in elderly patients and patients wit

renal or hepatic impairment, glucose monitoring should be ified and the insulin aspart dosage adjusted on an individual basis.

the injection might be beneficial, for example, in the timir the injections in relation to meals. The safety and efficacy of NovoRapid® in children below 1 year of age have not been established. No data are available.

necessary.

in products, subcutaneous injection in the abdom with all in wall ensures a faster absorption than other injection sites. The duration of action will vary according to the dose, injectio Site, blood flow, temperature and level of physical activity. However, the faster onset of action compared to soluble human insulin is maintained regardless of injection site. NovoRapide FlexPen[®] is a pre-filled pen designed to be used with NovoFine[®] or NovoTwist[®] disposable needles up to a length

of 8 mm. ovoRapid[®] ElexPen[®] is colour-coded and accompanied by a

package leaflet with detailed instructions for use to be foll Continuous Subcutaneous Insulin Infusion (CSII): NovoRapid[®] may be used for Continuous Subcutaneous Insulir

Infusion (CSII) in pump systems suitable for insulin infusion. CSI should be administered in the abdominal wall. Infusion sites should be adminis should be rotated

8-9670-00-014-1

8-9670-00-014-1_v1-3.indd 1

Code end, Code: 100% Direction, Length: Max. 29 mm (100%)

When used with an insulin infusion pump, NovoRapid® should not be mixed with any other insulin products. Patients using CSII should be comprehensively instructed in the use of the pump. The infusion set (tubing and cannula) should be changed in accordance with the instructions in the product information curveling with the infusion set.

irmation supplied with the infusion set. ients administering NovoRapid® by CSII must have alternati ilin delivery method available in case of pump system failur

Intravenous use: If necessary, NovoRapid[®] can be administered intravenously by

For intravenous use, infusion systems with NovoRapid® 100 U/n at concentrations from 0.05 U/ml to 1.0 U/ml insulin aspart in

% dextrose including 40 mmol/l potassium chloride using ypropylene infusion bags, are stable at room temperature

Ithough stable over time, a certain amount of insulin will be

persensitivity to the active substance or any of the excipier

nadequate dosing or discontinuation of treatment, especially i ype 1 diabetes, may lead to hyperglycaemia and diabetic

consequence of the pharmacodynamics of rapid-acting insu A consequence of the pharmacodynamics of rapid-acting inst inalogues is that if hypoglycaemia occurs, it may occur earlie fifer an injection when compared to soluble human insulin. Since NovoRapid® should be administered in immediate relation o a meal, the rapid onset of action should be considered in white the intervent discusses and intervention when

nts with concomitant diseases or medication where a

comitant illness, especially infections and feverish condi

Incomitant liness, especially infections and revensin conditions ually increases the patient's insulin requirements. Concomitar seases of the kidney, liver or affecting the adrenal, pituitary or yroid gland can require changes in the insulin dose. hen patients are transferred between different types of insuli

oducts, the early warning symptoms of hypoglycaemia may

ansferring a patient to another type or brand (e.g. strength or anufacturer) of insulin should be done under strict medical

ervision and may require a change in dosage or number o v injections from that used with their usual insulin product

n adjustment is needed, it may occur with the first dose or ring the first few weeks or months.

A swith any insulin therapy, injection site reactions may occur and include pain, redness, hives, inflammation, bruising, welling and itching. Continuous rotation of the injection site within a given area reduces the risk of developing these eactions. Reactions usually resolve in a few days to a few

ecome less pronounced than those experienced with their

aved absorption of food might be expected.

Transfer from other insulin products

Injection site reactions

of a meal or unplanned, strenuous physical exercise

Special warnings and precautions for use Before travelling between different time zones, the patient should seek the doctor's advice since this may mean that the patient has to take the insulin and meals at different times.

itially adsorbed to the infusion bag. Monitoring of blood

infusion fluids 0.9% sodium chloride, 5% dextrose o

ation supplied with the infusion set.

physicians or other healthcare staff if applicable.

glucose is necessary during insulin infusion.

Contraindications

Hyperglycaemia

Hypoglycaemia

Front

weeks. On rare occasions, injection site reactions may require discontinuation of NovoRapid[®]. Combination of thiazolidinediones and insulin medicinal

products ases of congestive heart failure have been reported when

ables of congestive hear training have been reported when iazolidinediones were used in combination with insulin, specially in patients with risk factors for development of ongestive heart failure. This should be kept in mind if treatment ith the combination of thiazolidinediones and insulin medicin adult in development of the second seco oducts is considered. If the combination is used, patients should be observed for signs and symptoms of congestive hear failure, weight gain and oedema. Thiazolidinediones should be ontinued if any deterioration in cardiac symptoms occur

Avoidance of accidental mix-ups/medication errors tients must be instructed to always check the insulin labe before each injection to avoid accidental mix-ups between NovoRapid[®] and other insulin products

Insulin antibodies

sulin administration may cause insulin antibodies to form. I rare cases, the presence of such insulin antibodies may ecessitate adjustment of the insulin dose in order to correct a tendency to hyper- or hypoglycaemia

Interaction with other medicinal products and other forms of interaction

A number of medicinal products are known to interact with the ucose metabolism

The following substances may reduce the patient's insulin

requirements: Oral antidiabetic products, monoamine oxidase inhibitors (MAOIs), beta-blockers, angiotensin converting enzyme (ACE) inhibitors, salicylates, anabolic steroids and sulfonamides.

The following substances may increase the patient's insulin

tives, thiazides, glucocorticoids, thyroid ones, sympathomimetics, growth hormone and danazol. Beta-blocking agents may mask the symptoms of

anreotide may either increase or decrease the insulir

Alcohol may intensify or reduce the hypoglycaemic effect of

Pregnancy NovoRapid® (insulin aspart) can be used in pregnancy. Data from o randomised controlled clinical trials do not indicate any dverse effect of insulin aspart on pregnancy or on the health e foetus/newborn when compared to soluble human insulir

the foetus/newborn when compared to soluble human insulin (see *Pharmacodynamic properties*). Intensified blood glucose control and monitoring of pregnant women with diabetes are recommended throughout pregnancy and when contemplating pregnancy. Insulin requirements usual fall in the first trimester and increase subsequently during the second and third trimesters. After delivery, insulin requirements rmally return rapidly to pre-pregnancy values

Lactation

ere are no restrictions on treatment with NovoRapid® during reast-feeding. Insulin treatment of the nursing mother presents o risk to the baby. However, the NovoRapid® dosage may need be adjusted

Effects on ability to drive and use machines

he patient's ability to concentrate and react may be impaired as result of hypoglycaemia. This may constitute a risk in situation: here these abilities are of special importance (e.g. driving a car operating machinery)

operating inactinety). ents should be advised to take precautions to avoid oglycaemia while driving. This is particularly important in se who have reduced or absent awareness of the warning gns of hypoglycaemia or have frequent episodes of oglycaemia

Undesirable effects

a. Summary of the safety profile

Adverse reactions observed in patients using NovoRapid® are mainly due to the pharmacologic effect of insulin. he most frequently reported adverse reaction during treatment hypoglycaemia. The frequencies of hypoglycaemia vary with patient population, dose regimens and level of glycaemic control, please see section c below. At the beginning of the insulin treatment, refraction anomalies, oedema and injection site reactions (pain, redness, hives, nflammation, bruising, swelling and itching at the injection sit may occur. These reactions are usually of transitory nature. Fast pent in blood alucose control may be associated with acute painful neuropathy, which is usually reversible. Intensification of insulin therapy with abrupt improvement in glycaemic control may be associated with temporary worsening f diabetic retinopathy, while long-term improved glycaemic ontrol decreases the risk of progression of diabetic retinopath b. Tabulated list of adverse reactions Adverse reactions listed below are based on clinical trial data and classified according to MedDRA System Organ Class ency categories are defined according to the following interval > 1/100 to <

۲

convention: very common (\geq 1710); common (\geq 1710) to < 1710 uncommon (\geq 1/1,000 to < 1/100); rare (\geq 1/10,000 to < 1/1,00 very rare (< 1/10,000); not known (cannot be estimated from the available data).

nune system disorders	Uncommo eruptions
	Very rare -
tabolism and rition disorders	Very com
vous system disorders	Rare – Per (painful n
disorders	Uncommo
	Uncommo
n and subcutaneous ue disorders	Uncommo
neral disorders and ninistration site	Uncommo reactions
iditions	Uncommo
e section c	

Eye

c. Description of selected adverse reactions

Anaphylactic reactions The occurrence of generalised hy (including generalised skin rash, itching, sweating, gastrointestinal upset, angioneurotic oedema, difficulties in breathing, palpitation and reduction in blood pressure) is very rare but can potentially be life threatening.

e most frequently reported adverse reaction is hypoglycae t may occur if the insulin dose is too high in relation to the ulin requirement. Severe hypoglycaemia may lead to consciousness and/or convulsions and may result in ten reperture of the second emor, anxiousness, unusual tiredness or weakness, confusion difficulty in concentration, drowsiness, excessive hunger, vision anges, headache, nausea and palpitation In clinical trials, the frequency of hypoglycaemia varied with patient population, dose regimens and level of glycaemic control. During clinical trials the overall rates of hypoglycaemia did not differ between patients treated with insulin aspart mpared to human insulin. .ipodystrophy

ipodystrophy is reported as uncommon. Lipodystrophy may occur at the injection site

Overdose A specific overdose for insulin cannot be defined, how

doses relative to the patient's requirements are admin

containing products.

۲

Paediatric population

NovoRapid[®] can be used in children and adolescents aged 1 yea and above in preference to soluble human insulin when a rapid

nay lead to hypoglycaemia. specially in children, care should be taken to match insulin loses (especially in basal-bolus regimens) with food intake, hysical activities and current blood glucose level in order to mise the risk of hypoglycaemia. oglycaemia may occur if the insulin dose is too high in on to the insulin requiremen

Plation to the insulin requirement. atients whose blood glucose control is greatly improved, e.g. ntensified insulin therapy, may experience a change in their sual warning symptoms of hypoglycaemia, and should be dvised accordingly. Usual warning symptoms may disappear in atients with longstanding diabetes.

Transfer from other insulin products

roducts, adjustment of t NovoRapid[®] dose and the dose of the basal insulin may be

Method of administration

NovoRapid® is administration NovoRapid® is administered subcutaneously by injection in the abdominal wall, the thigh, the upper arm, the deltoid region or the gluteal region. Injection sites should always be rotated within the same region in order to reduce the risk of lipodystrophy. As

non – Urticaria, rash.

- Anaphylactic reactions nmon – Hypoglycaemia*

ripheral neuropathy (ropathy)

on – Refraction disorders on – Diabetic retinopathy non – Lipodystrophy*

non – Injection site

on – Oedema

oglycaemia may develop over sequential stages if too high Mild hypoglycaemic episodes can be treated by oral administration of glucose or sugary products. It is therefore recommended that the diabetic patient always carries sugar Severe hypoglycaemic episodes, where the patient has become unconscious, can be treated with glucagon (0.5 to 1 mg) given intramuscularly or subcutaneously by a trained person, or with glucose given intravenously by physicians or other healthcare staff if applicable. Glucose must be given intravenously if the patient does not respond to glucagon within 10 to 15 minutes. ciousness administration of oral bohydrate is recommended for the patient in order to prevent a relapse.

Pharmacodynamic properties

harmacotherapeutic group: Drugs used in diabetes. Insulins and analogues for injection, fast-acting. ATC code A10AB05.

<u>Mechanism of action</u> NovoRapid[®] produces a more rapid onset of action compare soluble human insulin, together with a lower glucose concentration, as assessed within the first four hours after a meal. NovoRapid® has a shorter duration of action compare o soluble human insulin after subcutaneous injection Vhen NovoRapid[®] is injected subcutaneously, the onset of action will occur within 10 to 20 minutes of injection. The maximum effect is exerted between 1 and 3 hours after injection. The duration of action is 3 to 5 hours. ulin aspart is equipotent to soluble human insulin on a mola

Adults: clinical trials in patients with type 1 diabetes have Adults: clinical trials in patients with type 1 diabetes have demonstrated a lower postprandial blood glucose with NovoRapid® compared to soluble human insulin. In two long-term open label trials in patients with type 1 diabetes comprising 1,070 and 884 patients, respectively, NovoRapid® reduced glycated haemoglobin by 0.12 percentage points and we 0.15 by 0.15 percentage points compared to soluble human insulir difference of limited clinical significance.

Clinical trials in patients with type 1 diabetes have demonstrat a reduced risk of nocturnal hypoglycaemia with insulin aspart compared to soluble human insulin. The risk of daytime hypoglycaemia was not significantly increased.

Elderly: in a PK/PD trial the relative differences in the PD properties between insulin aspart and soluble human insulin in the elderly patients with type 2 diabetes were similar to those een in healthy subjects and younger patients with diabetes. Children and adolescents: when given to children. NovoRapid owed similar long-term glucose control compared to soluble

n clinical trials for children and adolescents aged 2 to 17, the sharmacodynamic profile of insulin aspart in children was simile o that seen in adults.

he efficacy and safety of NovoRapid® given as bolus insulin ir nation with either insulin detemir or insulin degludec as asal insulin have been studied for up to 12 months in two sed controlled clinical trials in adolescents and childre andomised controlled clinical trials in adolescents and childre ged 1 to less than 18 years (n=712). The trials included 67 children aged 1–5 years, 260 aged 6–11 and 285 aged 2–17. The observed improvements in HbA_{1c} and the safety rofiles were comparable between all age groups.

regnancy: a clinical trial comparing safety and efficacy of insu spart vs. soluble human insulin in the treatment of pregnant men with type 1 diabetes (322 exposed pregnancies) did no dicate any adverse effect of insulin aspart on pregnancy or o alth of the foetus/nev

addition, the data from a clinical trial including 27 women vith gestational diabetes randomised to treatment with insulir spart vs. soluble human insulin showed similar safety profiles ween treatments as well as a significant improvement in storandial glucose control in the insulin aspart treated group

Pharmacokinetic properties

In NovoRapid[®] substitution of amino acid proline with aspartic acid at position B28 reduces the tendency to form hexamers as observed with soluble human insulin. NovoRapid[®] is therefore re rapidly absorbed from the subcutaneous layer of uble human insulin ncentration is, on average, half of that

e time to maximum concentration is, on average, half of soluble human insulin. A mean maximum plasma ncentration of 492 pmol/l was reached 40 minutes after subcutaneous dose of 0.15 U/kg bodyweight in type 1 diabetic atients. The insulin concentrations returned to baseline about 4 to 6 hours after dose. The absorption rate was somewhat

slower in type 2 diabetic patients, resulting in a lower C_{max} (352 ± 240 pmol/l) and later t_{max} (60 minutes). The intra-individuation variability in time to maximum concentration is significantly less for NovoRapid® than for soluble human insulin, whereas the intra-individual variability in C_{max} for NovoRapid® is larger. *Children and adolescents:* the pharmacokinetic and

armacodynamic properties of NovoRapid® were investigated children and adolescents with type 1 diabetes. Insulin aspar was rapidly absorbed in both age groups, with similar t_{max} as in adults. However, C_{max} differed between the age groups, stressing the importance of the individual titration of NovoRapid®

Elderly: the relative differences in pharmacokinetic properties een insulin aspart and soluble human insulin in elderly tients with type 2 diabetes were similar to those observed althy subjects and in younger patients with diabetes A decreased absorption rate was observed in elderly patients esulting in a later t_{max} (82 minutes), whereas C_{max} was simila that observed in younger patients with type 2 diabetes and lightly lower than in patients with type 1 diabetes.

Hepatic impairment: in patients with hepatic impairment, t_m was delayed to about 85 min. (50 min. in subjects with norm hepatic function) while AUC. Cmax and CL/E were similar.

Renal impairment: a single dose pharmacokinetic study of insul aspart in 18 subjects with normal to severely impaired renal spart in a subjects with normal to severely impared terral function was performed. No apparent effect of creatinine clearance values on AUC, C_{max}, CL/F and t_{max} of insulin asparl was found. Data were limited in patients with moderate and severe renal impairment. Patients with renal failure necessitat dialysis treatment were not investigated.

Preclinical safety data

special hazard for humans based or inical data reveal no special hazard for humans based intional studies of safety pharmacology, repeated dose icity, genotoxicity or toxicity to reproduction in vitro tests, including binding to insulin and IGF-1 recentor

sites and effects on cell growth, insulin aspart behaved in manner that closely resembled human insulin. Studies also lemonstrate that the dissociation of binding to the insulin eceptor of insulin aspart is equivalent to human insulin. List of excipients

erol, phenol, metacresol, zinc chloride, disodium phosphate vdrate, sodium chloride, hydrochloric acid/sodium hydroxid or pH adjustment) and water for injections.

ncompatibilities

stances added to NovoRapid® may cause degradation of ulin aspart product must not be diluted or mixed with other products cept infusion fluids as described in section *Posology*.

Special precautions for storage

effore opening: Store in a refrigerator (2°C – 8°C). Keep away

Join the cooling element. Juring use or when carried as a spare; Store below 30°C. Can be stored in a refrigerator ($2^{\circ}C - 8^{\circ}C$). Use within 4 weeks.

eep the pen cap on NovoRapid[®] FlexPen[®] in order to protect

voRapid[®] must be protected from excessive heat and light. ne expiry date is printed on the label and cartor

Nature and contents of container

ml solution in cartridge (type 1 glass) with a plunger romobutyl) and a rubber closure (bromobutyl/polyiso tained in a pre-filled multidose disposable pen made of

ck sizes of 1, 5 and 10 pre-filled pens. Not all pack sizes may

Special precautions for disposal and other handling Needles and NovoRapid® FlexPen® must not be shared. Th dae must not be refilled

Rapid® must not be used if it does not appear clear and rless or if it has been frozen.

patient should be advised to discard the needle after each

voRapid[®] may be used in an infusion pump system (CSII) as described in section *Method of administration*. Tubings in whice the inner surface materials are made of polyethylene or polyolefin have been evaluated and found compatible with

n case of emergency in current NovoRapid® users (hospitalisation or insulin pen malfunction), NovoRapid® can be withdrawn with an U100 insulin syringe from FlexPen®.

Produced by o Nordisk A/S, Novo Allé, DK-2880 Bagsværd, Denmark

INSTRUCTIONS FOR USE FOR THE PATIENT Do not use NovoRapid®

- If you are allergic (hypersensitive) to insulin aspart or any of the other ingredients in NovoRapid[®].
 If you suspect hypoglycaemia (low blood sugar) is starting.
 If FlexPen[®] is dropped, damaged or crushed.
 If the an ot been stored correctly or if it has been frozen.
 If the insulin does not appear clear and colourless.

- Before using NovoRapid[®] ► Check the label to make sure it is the right type of insuli Always use a new needle for each injection to preven
- Needles and NovoRapid[®] FlexPen[®] must not be shared.

Method of administration

NovoRapid[®] is for injection under the skin (subc or for continuous infusion in a pump system. NovoRapid® may also be given directly into a vein (intravenously) by physicians o ther healthcare staff if applicable. Never inject your insulin

ctly into a muscle (in Always vary the sites you inject within the same region t reduce the risk of developing lumps or skin pitting. The best olaces to give yourself an injection are: the front of your waist (abdomen); the upper arm or the front of your thighs. The nsulin will work more quickly if injected into the waist. You hould measure your blood sugar regularly.

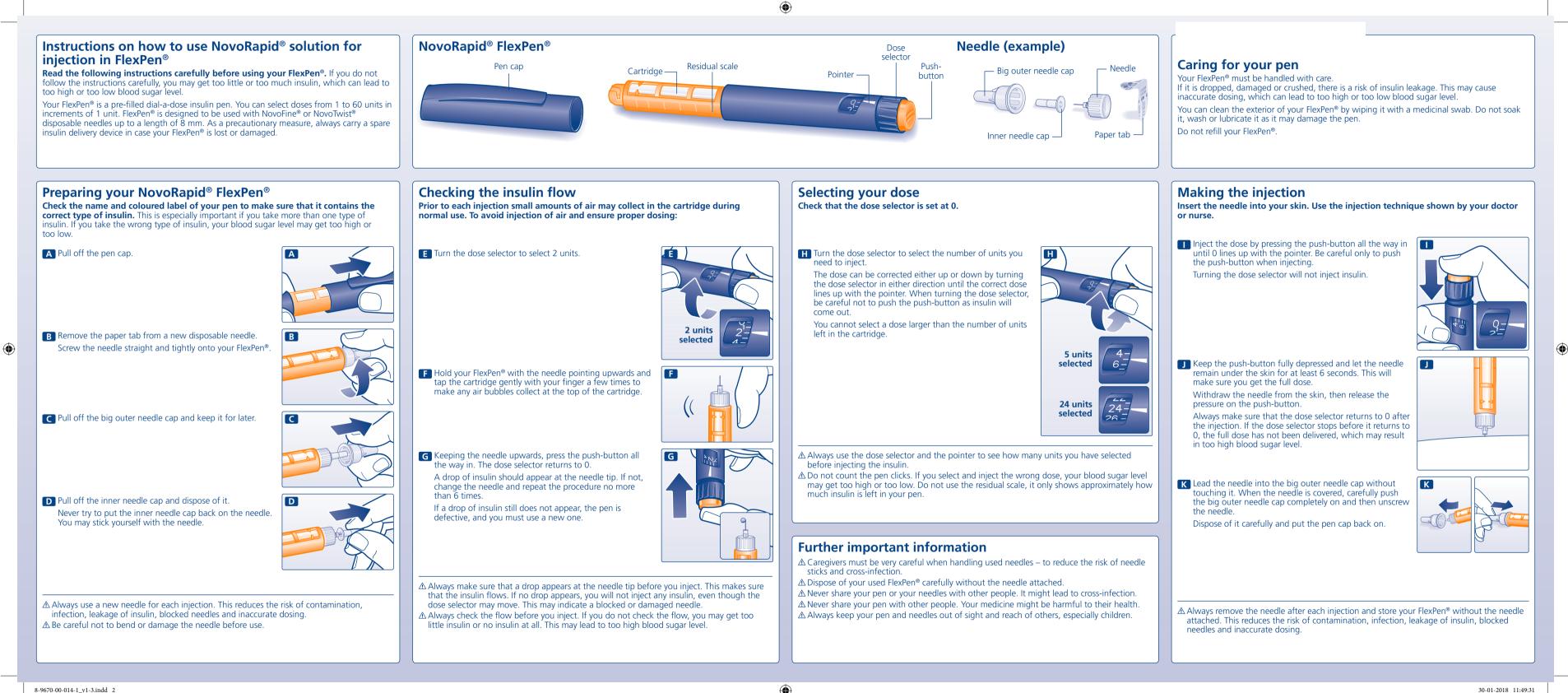
How to handle NovoRapid® FlexPen®

Read the included 'Instructions on how to use NovoRapid® solution for injection in FlexPen®' carefully. You must use the pe as described in the instructions on how to use NovoRapid®





30-01-2018 11:49:04



8-9670-00-014-1_v1-3.indd 2

Commodity no.: 8-9670-00-014-1

Version: 1.3

Documentum ObjectID: 0911b604825a6422

This is a representation of an electronic record that was signed electronically and this page is the manifestation of the electronic signature.

Document signed by:		
Initials	Full Name	
Capacity	Reason	Date and time of Signature (Server Time)
GFOG Affiliate	Gitte Iele Johansen 2nd Proof reader	2018/02/21 06:10:31
YUBL Affiliate	Yulia Blond 1st Proof reader	2018/02/21 09:13:11
SRPD Graphics	Srinivasulu P D 1st Approver	2018/02/26 11:37:27
JRTC Quality Assurance	Jurate Clausen 1st Approver	2018/02/26 16:14:22

8-9670-00-014-1

Version: 1.3