

## Sunderland Diabetes Network - Recommendations for safe prescribing of insulin.

### **Note:**

High strength insulins and biosimilar insulins are for specialist initiation only. They should not be initiated in primary care. After initiation, they may need to be prescribed by GPs and this document provides guidance to support patient safety when they are prescribed and dispensed.

At the time of publication, high strength insulins, and biosimilar insulins are non-formulary products within Sunderland.

A number of new insulin products have recently become available:

- The first **biosimilar** insulin
- An increased number of **high strength** insulin products, containing 200 units/ml, 300units/ml or 500units/ml.
- Remember that standard strength comes as 100 units/ml
- A new injectable insulin combination product

This memo has recommendations for prescribing insulin to help reduce the risk of medication errors. Further information can be found in the regional guidance produced by NECS - *High Strength, Fixed Combination and Biosimilar Insulin Products: Minimising the Risk of Medication Error.*

### **Recommendations for ALL insulin prescribing**

#### **1. Avoid hand-writing prescriptions for insulin**

Computer generated prescriptions are standardised, clearer and therefore safer.

#### **2. Prescribe all insulins by brand name**

This will ensure that a biosimilar product is not dispensed instead of the original product, and also help reduce the risk of an incorrect strength product being given.

#### **3. Prescribe the “right insulin, right strength, right device and right dose at the right time”.**

Include on the prescription:

- Brand name followed by generic name
- Insulin type
- Insulin strength 100units/ml, 200units/ml, 300units/ml, 500units/ml
- Device used (cartridge/pen/vial)
- Dose – in units; with “units” written in full.
- Time that dose is to be administered

e.g. *Humulin I<sup>®</sup> 100units/ml 3ml cartridges. Dose 24 units at midday*

e.g. *Lantus<sup>®</sup> Insulin Glargine 100units/ml 3ml solostar pen device. Dose 56 units at 22.00*

#### **4. Carefully check the strength of the insulin selected on the picking list of the clinical system.**

5. For all new initiations of insulin, give the patient an insulin passport; and explain how to use it – see Appendix 1
6. Ensure that patients and carers are adequately informed about how to use their insulin
7. If the patient needs insulin to be administered by a district nurse, must write up the administration chart - including all details in point 3 above.
8. Refresh your knowledge about insulin safety

Complete the free e-learning 'The Six Steps to Insulin Safety', recommended by Diabetes UK, and developed by the Primary Care Diabetes Society and TREND-UK. This is available to all healthcare professionals and aims to reduce insulin errors in clinical practice. Access at [www.diabetesonthenet.com](http://www.diabetesonthenet.com)

### Additional recommendations for HIGH STRENGTH insulins

1. Always include the dose - in units of insulin, written in full as “units” – on the prescription
2. Ensure that you, and the patient, understand any dose conversion that is required when switching between standard and high strength insulin products
3. Tell patients that any insulin supplied in a pre-filled pen and should only be used with this device.  
Healthcare professionals must never use a syringe to withdraw insulin from a pre-filled pen otherwise overdose can result.
4. Tell patients to closely monitor their blood glucose levels when starting a high-strength insulin and in the weeks after

High strength insulin products have been developed for patients with large daily insulin requirements. The product details are in the table below.

| Brand name | Active substance | Strength                                      | Administration devices   | Formulary status |
|------------|------------------|-----------------------------------------------|--------------------------|------------------|
| Humalog®   | Insulin lispro   | 200units/ml                                   | Kwikpen prefilled pen;   | Non-formulary    |
|            |                  | <i>Also available as 100units/ml</i>          |                          | <i>Green</i>     |
| Tresiba® ▼ | Insulin degludec | 200units/ml                                   | FlexTouch prefilled pen; | Non-formulary    |
|            |                  | <i>Also available as 100units/ml</i>          |                          | <i>Green +</i>   |
| Toujeo®    | Insulin glargine | 300units/ml                                   | SoloSTAR prefilled pen   | Non-formulary    |
|            |                  | <i>Lantus is insulin glargine 100units/ml</i> |                          | <i>Green</i>     |

## Dose

These products all are in a prefilled pen device to prevent extraction via syringe. Despite the strength being higher than the standard 100 units/ml – the dosing method is identical.

For Toujeo<sup>®</sup>, Tresiba<sup>®</sup> and Humalog<sup>®</sup> (all strengths):

The numerical value prescribed is the numerical value dialled up on the pen device.

The pens all have a window showing the number of units of insulin that will be administered

## Switching between standard and high strength insulin products

### Humalog<sup>®</sup> and Tresiba<sup>®</sup>

There is no need for dose conversion when transferring patients from standard to high strength versions of these insulins.

### Toujeo<sup>®</sup>

Although Toujeo<sup>®</sup> (300units/ml) and Lantus<sup>®</sup> (100units/ml) both contain insulin glargine, the manufacturers state that they are **not** bioequivalent and **not** directly interchangeable. See manufacturer's summary of product characteristics for further information.

## BIOSIMILAR insulins

A biosimilar medicine is a biological medicine that is similar, in terms of safety, efficacy and quality, to a medicine that has already been authorised to be marketed in the EU (the biological reference medicine)

| Brand name               | Active substance | Strength    | Administration devices                                         | Formulary status     |
|--------------------------|------------------|-------------|----------------------------------------------------------------|----------------------|
| Abasaglar <sup>®</sup> ▼ | Insulin glargine | 100units/ml | Kwikpen prefilled pen; cartridge for use in Lilly reusable pen | <b>Non-formulary</b> |

Abasaglar is a biosimilar insulin glargine.

It has been shown to be equivalent to Lantus<sup>®</sup> in its pharmacokinetic and pharmacodynamics properties, however blood glucose should be closely monitored as some dose adjustment may be needed for some patients.

For further information see the manufacturer's summary of product characteristics.

## **Appendix 1 – Implementation of the NPSA insulin passport in Sunderland CCG**

The National Patient Safety Agency (NPSA) advises that healthcare professionals who prescribe insulin must issue patients with a NPSA insulin passport and support them in its use and in keeping it up to date.

### **Information in the insulin passport**

- details of the patient's insulin product(s) – including brand name and strength
- emergency information informing others that a patient has diabetes and injects insulin;
- information for others that tells them what to do if a patient is found ill or has lost consciousness;
- contact names and telephone numbers;
- other medication that the patient is using.

### **How the insulin passport should be used.**

Patients should be asked to:

- Know the details of their insulin product(s) and to keep this information up-to date in their insulin passports;
- Carry their Insulin Passport with them so that the information is available in an emergency
- Show the insulin passport to health professionals to confirm details of their current insulin when they are collecting a prescription or their medicines dispensed from the pharmacy.
- Make sure that they receive the correct insulin product(s) by checking all prescriptions and dispensed insulin against the information in their Insulin Passport.
- Question any changes, as the names of insulin products can look and sound very similar and that can result in errors;
- Make sure that they know, and anyone administering insulin to them knows, the correct dose and frequency of their insulin therapy (this information is not included in the Insulin Passport);

The NPSA patient information booklet '*Diabetes: insulin, use it safely*' can be used to support patients in the use of the passport. It directs patients to show the Insulin Passport to healthcare professionals during the prescribing and dispensing process and provides further information for patients about safe use of insulin.

**All health professionals are responsible for checking the information in the insulin passport before prescribing, dispensing or administering insulin.**

**Any discrepancies between the information held by the health professional and that in the insulin passport, must be reconciled before proceeding with prescribing, dispensing or administration.**

Factors beyond the control of patients or healthcare professionals may mean it is not possible to use a patient's Insulin Passport for the purposes of validating the correct insulin product(s). While every effort should be taken to confirm the accuracy of prescribing and dispensing, the risks in this situation should be acknowledged and all actions to promote patient safety recorded.

## Appendix 2 – Example prescriptions

### Example 1

|                                                      |                                                                                                                  |                                                                                   |    |                |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----|----------------|
| Pharmacy Stamp                                       | Age<br>55<br>D.o.B                                                                                               | Name (including forename) and address<br>John Smith<br>22 Front Street<br>Anytown |    |                |
| By not to stamp over age box                         | Dispenser's endorsement                                                                                          | Number of days' treatment<br>N.B. Ensure dose is stated                           | NP | Pricing Office |
| Pack & quantity                                      | Humulin I 100units/ml<br>suspension for injection<br>3ml cartridges<br><br>Dose as directed<br><br>Supply 10x3ml |                                                                                   |    |                |
| Signature of Doctor<br>Dr Jones                      |                                                                                                                  | Date<br>7/7/16                                                                    |    |                |
| For dispenser<br>No. of<br>Prescrs.<br>on form       | Dr Jones      123456789<br>Anytown Medical Centre<br>Anytown<br>AN7 TWN                                          |                                                                                   |    |                |
| <b>NHS</b> PATIENTS – please read the notes overleaf |                                                                                                                  |                                                                                   |    |                |

## Example 2

|                                                      |                                                                                                                           |                                                                                   |                |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------|
| Pharmacy Stamp                                       | Age<br>62<br>D.o.B.                                                                                                       | Name (including forename) and address<br>Julie Brown<br>14 Second Road<br>Anytown |                |
| By not to stamp over age box                         | Number of days' treatment<br>N.B. Ensure dose is stated                                                                   | NP                                                                                | Pricing Office |
| Pack & quantity                                      | Tresiba FlexTouch<br>200units/ml solution for<br>injection 3ml pre-filled pen<br><br>Dose as directed<br><br>Supply 5x3ml |                                                                                   |                |
| Signature of Doctor<br>Dr Jones                      | Date<br>7/7/16                                                                                                            |                                                                                   |                |
| For dispenser<br>No. of<br>Prescrs.<br>on form       | Dr Jones      123456789<br>Anytown Medical Centre<br>Anytown<br>AN7 TWN                                                   |                                                                                   |                |
| <b>NHS</b> PATIENTS – please read the notes overleaf |                                                                                                                           |                                                                                   |                |

### Example 3

|                                                      |                                                                                                                              |                                                                |    |                |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|----|----------------|
| Pharmacy Stamp                                       | Age<br>36                                                                                                                    | Name<br>Kate Simpson<br>The Cottage<br>Jeffers Farm<br>Anytown |    |                |
| By not to stamp over age box                         | Dispenser's endorsement                                                                                                      | Number of days' treatment<br>N.B. Ensure dose is stated        | NP | Pricing Office |
| Pack & quantity                                      | Toujeo 300units/ml<br>solution for injection 1.5ml<br>pre-filled SoloSTAR pen<br><br>Dose as directed<br><br>Supply 10x1.5ml |                                                                |    |                |
| Signature of Doctor<br>Dr Jones                      | Date<br>7/7/16                                                                                                               |                                                                |    |                |
| For dispenser<br>No. of<br>Prescs.<br>on form        | Dr Jones      123456789<br>Anytown Medical Centre<br>Anytown<br>AN7 TWN                                                      |                                                                |    |                |
| <b>NHS</b> PATIENTS – please read the notes overleaf |                                                                                                                              |                                                                |    |                |

## Example 4

|                                            |                                                                         |                                                                                                                        |                                                                                   |    |                |
|--------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----|----------------|
| Pharmacy Stamp                             |                                                                         | Age<br>47<br>D.o.B.                                                                                                    | Name (including forename) and address<br>Doug Green<br>411 Bell Street<br>Anytown |    |                |
| By not to stamp over age box               |                                                                         | Dispenser's endorsement                                                                                                | Number of days' treatment<br>N.B. Ensure dose is stated                           | NP | Pricing Office |
| Pack & quantity                            |                                                                         | Abasaglar Kwikpen<br>100units/ml solution for injection 3ml pre-filled pen<br><br>Dose as directed<br><br>Supply 5x3ml |                                                                                   |    |                |
| Signature of Doctor<br>Dr Jones            |                                                                         |                                                                                                                        | Date<br>7/7/16                                                                    |    |                |
| For dispenser<br>No. of Prescs.<br>on form | Dr Jones      123456789<br>Anytown Medical Centre<br>Anytown<br>AN7 TWN |                                                                                                                        |                                                                                   |    |                |
| NHS                                        |                                                                         | PATIENTS - please read the notes overleaf                                                                              |                                                                                   |    |                |

### Appendix 3 – Credit card information

In secondary care, some patients may be issued with credit card information produced by the manufacturer regarding the insulin they use. Below are several examples:  
(NB Secondary care will update insulin passports when treating patients).



**Lantus® SoloStar®**  
100 units/ml  
solution for injection in a pre-filled pen  
insulin glargine  
Subcutaneous use  
5 pens of 3 ml  
sanofi aventis

Name:

Date of Birth:

SANOFI DIABETES 

**I have diabetes and use  
Lantus® SoloSTAR®  
(Insulin glargine)**

NHS Number:

Other Insulins:

Emergency Contact:

24/7 Sanofi Diabetes Care Line Freephone 08000 35 25 25  
If your insulin prescription is changed, please destroy this card  
and collect a replacement.

Date of preparation: December 2011      PRO19462    GBIE.DIA.11.12.08



**Insuman® Comb 15**  
100 IU/ml  
suspension for injection in a cartridge  
Insulin human  
17% dissolved insulin,  
83% crystalline protamine insulin  
5 cartridges of 3 ml  
sanofi aventis

Name:

Date of Birth:

SANOFI DIABETES 

**I have diabetes and use  
Insuman® Comb 15 Cartridges  
(human Insulin)**

NHS Number:

Other Insulins:

Emergency Contact:

24/7 Sanofi Diabetes Care Line Freephone 08000 35 25 25  
If your insulin prescription is changed, please destroy this card  
and collect a replacement.

Date of preparation: December 2011      PRO19467    GBIE.DIA.11.12.08e



**Insuman® Basal SoloStar®**  
100 IU/ml  
suspension for injection in a pre-filled pen  
Insulin human

Subcutaneous use  
5 pens of 3 ml

sanofi aventis

Name:

Date of Birth:

SANOFI DIABETES 

**I have diabetes and use  
Insuman® Basal SoloSTAR®  
(human Insulin)**

NHS Number:

Other Insulins:

Emergency Contact:

24/7 Sanofi Diabetes Care Line Freephone 08000 35 25 25  
If your insulin prescription is changed, please destroy this card  
and collect a replacement.

Date of preparation: December 2011 PRO19472 GBIE.DIA.11.12.08f



**Apidra® SoloStar®**  
100 Units/ml  
Solution for injection in a pre-filled pen  
Insulin glulisine

Subcutaneous use  
5 pens of 3 ml

sanofi aventis

Name:

Date of Birth:

SANOFI DIABETES 

**I have diabetes and use  
Apidra® SoloSTAR®  
(Insulin glulisine)**

NHS Number:

Other Insulins:

Emergency Contact:

24/7 Sanofi Diabetes Care Line Freephone 08000 35 25 25  
If your insulin prescription is changed, please destroy this card  
and collect a replacement.

Date of preparation: December 2011 PRO19465 GBIE.DIA.11.12.08c

**Appendix 4: Sample Community Drug Therapy record**

**DRUG THERAPY RECORD**

COMMUNITY NURSING RECORDS



NHS South of Tyne and Wear

|                                                       |                                               |
|-------------------------------------------------------|-----------------------------------------------|
| Patient's Name: JOHN SMITH                            | Allergies: PENICILIN - ANAPHYLAXIS            |
| Date of Birth: 18.08.1961      NHS Number: 1234567890 |                                               |
| Address: 22 FRONT STREET<br>ANYTOWN                   | G.P.: DR JONES                                |
| Telephone No.: 0191 1234567                           | G.P. Address: ANYTOWN MEDICAL CENTRE, ANYTOWN |
| Other Cards in use:                                   | G.P. Telephone No.: 0191 7654321              |

All drugs and changes of drug therapy to be recorded before administration by nursing staff

**Regular Prescriptions**

| Date     | Drug Name, Strength and Preparation | Dose     | Route | Frequency | Additional Instructions | PGD | Prescriber's Name (PRINT) and Signature | Date Discontinued |
|----------|-------------------------------------|----------|-------|-----------|-------------------------|-----|-----------------------------------------|-------------------|
| 18.08.16 | HUMULIN I 100UNITS/ML CARTRIDGES    | 25 UNITS | SC    | OD        | AT MIDDAY (NOON)        |     | Dr JONES JONES                          |                   |
|          |                                     |          |       |           |                         |     |                                         |                   |
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|          |                                     |          |       |           |                         |     |                                         |                   |

**Once Only Medication / Vaccination**

| Date | Drug Name, Strength and Preparation | Dose | Route | Frequency | Additional Instructions | PGD | Prescriber's Name (PRINT) and Signature | Date Discontinued |
|------|-------------------------------------|------|-------|-----------|-------------------------|-----|-----------------------------------------|-------------------|
|      |                                     |      |       |           |                         |     |                                         |                   |
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