

## Policy for Safe Administration of Insulin for Residents in a Care Home

Version No: 1

Next Review Date: July 2022

### 1. SUMMARY

Insulin is a hormone which lowers blood glucose levels. In people with Type 1 diabetes mellitus it is prescribed because their bodies do not produce any insulin. It is also prescribed for people with Type 2 diabetes mellitus in addition to other medicines for diabetes.

It is imperative that insulin is given by the resident (if applicable) or competent staff at the right dose, right frequency, right timing in relation to meals, by the right method, and the regime tailored to the resident. Safety and effectiveness go hand in hand.<sup>1</sup>

### 2. PURPOSE

To ensure the safe and effective administration of insulin for residents with diabetes in care homes via:

- Self-administration of insulin using a disposable pen device or pen and cartridge by the resident
- Safe administration of insulin using a disposable pen device or pen and cartridge by care home nursing staff, with the aim to reduce medication errors and needle stick injury to staff.
- Safe administration of insulin from a vial using the appropriate insulin syringe and needle by care home nursing staff. This practice is being discontinued and no new patients will be initiated on insulin from a vial.

Staff and resident have had the training, understanding and have been deemed competent to carry out the task.

If the resident lacks capacity or is unable to self-administer their treatment, this should be administered in the resident's best interests by suitably trained and competent Care Home nursing staff in line with [NICE SC1 1.17](#)<sup>2,3</sup>

This is usually a registered nurse within the care home if it is registered to accept nursing patients. If it is a residential setting this would usually be the district nurse.

The EU directive 2010, "Prevention of sharps injuries in the hospital and healthcare sector" requires all healthcare organisations to implement mandatory safety standards to protect healthcare staff.

### 3. SCOPE

This policy covers all adult residents in Care Homes within Greater Preston and Chorley and South Ribble CCGs with diabetes mellitus requiring the administration of insulin and is to be read in conjunction with the blood glucose monitoring in Care Homes SOP.

#### 4. RESPONSIBILITIES

##### Policy Implementation

It is the responsibility of the registered manager to ensure staff are aware of this policy and have the correct training, competence and support to undertake the administration of insulin.

##### Diabetes Care Plan

- If the resident is self-caring, a care plan is provided within the policy and can be adapted by a health professional, GP or Advanced Nurse Practitioner from the patient's practice.
- For residents who are not self-caring and in a residential home the care plan will be devised by the district nurses.
- For residents who are registered as requiring nursing care, the registered nurses within the care facility are responsible for the care plan.

#### 5. DEFINITION OF A HOME

1. Rest home – this is not a home which has trained nurses
2. Registered home – home which supports residential residents without nurses
3. Registered home with nursing – a home which supports residents who need 24-hour nursing care
4. Dual registered homes – which support residential residents and nursing residents

**Please see the CQC registration certificate for clarification of the home and type of residents and the regulated activities they have been registered for.**

[https://www.cqc.org.uk/sites/default/files/20151230\\_100001\\_Scope\\_of\\_registration\\_guidance\\_updated\\_March\\_2015\\_01.pdf](https://www.cqc.org.uk/sites/default/files/20151230_100001_Scope_of_registration_guidance_updated_March_2015_01.pdf)

### Important information regarding the safe use of insulin pens

- **DO NOT UNDER ANY CIRCUMSTANCES** withdraw insulin from a pre-filled pen or refill cartridge with an insulin syringe. This is a **NEVER EVENT**. This practice can have fatal consequences for the resident. A patient safety alert<sup>5</sup> was issued in 2016 to warn of the risk of severe harm and death if an insulin needle and syringe is used to administer insulin withdrawn directly from a pen device or refill cartridge. ([NHS England » Risk of severe harm and death due to withdrawing insulin from pen devices](#)).
- It is recommended that all patients using the durable pen which requires 3ml cartridges have a spare device available in the event of breakage or loss.
- When using high strength insulin in a pen device the dose dialled is the dose delivered
- Insulin pen devices must be clearly labelled with the resident's name, DOB, date of use and must never be used for other residents
- All residents requiring subcutaneous therapy to control their diabetes should have their blood glucose levels checked and recorded as directed by medical staff and their personal care plan
- Staff should be competent with any insulin pen device before administering insulin to residents. To be shadowed or signed off for competency.
- All pen needles are for single use only
- Insulin not in use should be stored in the fridge. Disposable pen devices and cartridges not in use should be stored in the main part of the fridge at 2-8c. They should not be stored at the back of the fridge or be allowed to freeze.
- Insulin in use should be stored at room temperature for up to 30 days, or as per manufacturer's instructions
- Durable (cartridge) pen devices (e.g. Novopen 5, Savvio pen, Klikstar, Allstar) that hold 3ml cartridges should not be stored in the fridge.
- If staff are administering the insulin a safety pen needle should always be used, if the patient is self-administering a regular pen needle should be used

## **Self-administration of insulin by the resident**

### **Equipment Required:**

- Resident's own prescribed insulin pen device or insulin vial
- Resident's own prescribed pen needle or insulin syringe
- Resident's MAR chart (indicating the insulin prescription's details; time of the insulin dose; if available space to record the blood glucose levels and information about the normal range of the blood sugars for the resident) and diabetes care plan
- Small sharps bin
- Secure storage as per care home's policy

### **Method for self-administration of insulin by the resident:**

The resident's injection technique must be assessed prior to self-injection and at regular intervals to ensure the medication is correctly and safely administered and that the resident understands their medication regimen.

Residents must be capable of applying, removing and disposing of their usual pen needle or pen device safely directly into a sharps bin. A new pen needle MUST be used each time.

1. Ensure the correct resident has been identified by verbally confirming their name and date of birth (DOB) and ensuring all details correspond with the resident's prescription chart and insulin prescription/blood glucose monitoring chart. Check the resident's picture on the MAR chart and on the care plan if the resident is unable to communicate or lack capacity.
2. Make the resident aware of the need for an insulin injection
3. Resident to wash hands or use alcohol gel
4. Resident to confirm the insulin preparation and dosage with member of staff which should correspond with dosage and treatment type prescribed on the MAR chart, diabetes care plan and blood glucose monitoring chart.
5. The MAR chart must be complete, correct and legible with the resident's name, date of birth (DOB), drug, dose, time and date included. Check that the insulin has not already been administered.
6. Always check the expiry date of the disposable pen device or cartridge. Spare pens should be stored in the fridge. The pen device in use should be stored at room temperature, dated when first used and discarded according to manufacturers' instructions.
7. Resident to attach their usual pen needle to the pen device.
8. If the insulin is cloudy, it should be re-suspended adequately by rolling the pen device between the hands and turning the pen up and down until the insulin is uniform. It should not be used if it appears discoloured or lumpy.
9. A 2 - 4 unit air shot should be performed before every insulin injection to ensure a small amount of fluid flows through the end of the needle. If necessary repeat until this occurs.
10. Resident to self-administer treatment subcutaneously using a 90 degree angle and resident's usual technique for supporting the skin.
11. Recommended sites are abdomen, buttocks, upper outer thighs, and upper outer/back of arms. Rotation of sites should be encouraged and observed for lumps/inflammation/bruising prior to injection. Insulin should not be injected into area with any of these problems.
12. A ten second wait following delivery of insulin should be maintained before removing the needle from the skin to ensure full dose delivery and prevent leakage from the site.
13. The resident must remove the pen needle and place it directly into a sharps bin.
14. Make a clear and immediate record of administration on the resident's MAR chart and diabetes care plan
15. Ensure the resident will have something to eat at an appropriate time.

## **Administration of insulin by Care Home nursing staff using an insulin pen device**

### **Equipment required for administration of insulin by Care Home nursing staff using a pen device:**

- Resident's usual insulin pen device
- Gluco Rx safety pen needle 5mm ([instructions for use](#))<sup>5</sup> are the first-line option in the [local formulary](#). The second-line option is Neon Verifine safety needles 5mm should Gluco Rx safety pen needles be unavailable. Safety pen needles have a front automatic safety shield cover which protects the needle tip after use, helping to prevent accidental needle stick injury to the member of staff during injection / disposal and reduces the risk of cross infection.
- Resident's MAR chart and diabetes care plan together with their blood glucose monitoring chart
- Small sharps bin

### **Method for administration of insulin by Care Home nursing staff using a pen device:**

1. Ensure correct resident has been identified by verbally confirming their name and DOB and ensuring all details correspond with the resident's prescription chart and insulin prescription/blood glucose monitoring chart.
2. Confirm insulin preparation and dosage corresponds with dosage and treatment type prescribed on prescription chart and insulin prescription/BG monitoring chart.
3. Make the resident aware of the need for an insulin injection and obtain verbal consent.
4. Attach a Gluco Rx or Neon Verifine safety pen needle 5mm to the pen device
5. If the insulin is cloudy, re-suspend the insulin adequately by rolling the pen device between the hands and turning the pen up and down until the insulin is uniform. It should not be used if the insulin appears discoloured or lumpy.
6. A 2 - 4 unit air shot should be performed before every insulin injection to ensure a small amount of fluid flows through the end of the needle. If necessary repeat until this occurs.
7. Correct insulin dosage should be dialled and rechecked against resident's prescription prior to administration
8. Best practice is for two members of staff to check the dose and type of insulin is as prescribed before administering to the resident.
9. The recommended sites for injection of insulin are the abdomen, buttocks, upper outer thighs, and upper outer arms. Sites should be rotated and observed for lumps/inflammation/bruising prior to injection. Insulin should not be injected into area with any of these problems
10. Maintain a 10 second wait following delivery of insulin before removing the needle from the skin to ensure full dose delivery and leakage from the site.
11. Remove the safety pen needle and place directly into a sharps bin
12. Make a clear and immediate record of administration on the resident's MAR chart and diabetes care plan
13. Dispose of any waste.
14. Ensure the resident will have something to eat at an appropriate time.

### **Important information regarding the safe use of insulin vials**

1. All insulin syringes are single use only.
2. Only BD SafetyGlide insulin syringe with 8mm needles are to be used
3. Insulins must not be mixed together.
4. Insulin should be stored as per manufacturer's instructions. Prior to first use, insulin vials should be stored in the main part of the refrigerator at 2-8c, not at the back of the fridge or in the door shelf. They must not be allowed to freeze.
5. All residents requiring insulin therapy should have their blood glucose levels checked and recorded pre-meals on a daily basis.

**Administration of insulin by Care Home nursing staff using insulin vials and syringes (This practice is being discontinued and no new patients will be initiated on insulin vials)****Equipment Required**

Resident's insulin vial

BD SafetyGlide insulin syringe (8mm) with needle

Resident's MAR chart and diabetes care plan together with their blood glucose monitoring chart

Sharps bin

**Method**

1. Gather equipment together as detailed above
2. Wash hands or use alcohol gel
3. The insulin vial in use must be stored at room temperature and should be discarded according to manufacturer's instructions routinely after 28 days. Always check the vial of insulin before use for the manufacturer's expiry date. The vial must be labelled with a patient ID label and must include the date of opening
4. Check the MAR/blood glucose monitoring chart is complete, correct and legible with the resident's name, DOB, insulin type, dose, time and date included
5. Check that the insulin has not already been administered
6. Ensure the correct resident has been identified by verbally confirming their name and DOB and that all details correspond with the resident's insulin prescription/blood glucose monitoring chart
7. Best practice is for two members of staff to check the dose and type of insulin is as prescribed before administering to the resident
8. If the insulin is cloudy, roll the vial gently between your hands ten times in order to mix it completely
9. Place the vial upright on a stable surface
10. Remove the insulin syringe from the packet and pull back the plunger to measure an amount of air, which is equivalent to the dose of insulin required. This will facilitate easier withdrawal of the insulin
11. Carefully remove the needle cap
12. Insert the needle through the membrane of the insulin vial and push the plunger down
13. Turn the vial upside down making sure the point of the needle inside the vial is well beneath the surface of the insulin. Pull back the plunger until you have measured slightly more than the correct dose
14. Remove the needle out of the vial, then, check and remove any air bubbles
15. Check the dose is correct. Repeat steps 8, 9 and 10 if the required dose is not achieved using a new insulin syringe
16. If the needle bends whilst drawing up the insulin, do not straighten it. You must activate the safety arm to make the needle safe. Dispose of this syringe directly into a sharps bin and start again with a new syringe
17. Perform the subcutaneous injection using a 90 degree angle with a lifted skin fold. Recommended sites are abdomen, buttocks, upper outer thighs, upper outer arms. Sites should be rotated and observed for lumps/inflammation/bruising prior to injection. Insulin should not be injected into area with any of these problems
18. Once the plunger is fully depressed keep the needle in place for 5 seconds before removing from skin this is to ensure full dose delivery and prevent insulin leakage at the site.
19. On removal of the syringe activate the safety arm to make needle safe
20. Dispose of used syringe directly into the sharps bin
21. Dispose of waste
22. Wash hands or use alcohol gel
23. Place insulin vial back into secure storage as per care home's policy. Vials should also be stored at room temperature for 28 days
24. Staff to make a clear and immediate record on the resident's MAR chart and diabetes care plan.

## References

1. Diabetes UK Care Homes Report 2012 accessed 17/05/21 [Care Homes Report JCJ08 FRONT.qxd \(diabetes.org.uk\)](#)
2. NICE Social Care Guideline 1 (2014) Managing Medicines in Care Homes accessed 21/05/21 [NICE SC1 1.17](#)
3. CQC Guidance Self-administered Medicines in Care Homes accessed 21/05/21 <https://www.cqc.org.uk/guidance-providers/adult-social-care/self-administered-medicines-care-homes#:~:text='Self%20administration'%20is%20when%20a,risk%20to%20them%20or%20others>
4. Instructions for use of GlucoRx Safety Pen Needles [GlucoRx Safety Pen Needles.pdf \(tawk.link\)](#)
5. NHS Improvement Patient Safety Alert (2016) accessed 21/05/21 [Patient Safety Alert - Withdrawing insulin from pen devices.pdf \(england.nhs.uk\)](#)

## Acknowledgments

Thank you to the Diabetes Specialist Nurses at Lancashire Teaching Hospitals NHS Trust and Lancashire and South Cumbria Foundation NHS Trust for their considerable input and sharing of documents.

Thank you to all members of the diabetes task and finish group (CCG, LTHTr, LSCFT, GP practice, Care Home and Lancashire County Council) for their input and support in putting together the policy.

## Appendix 1

### Template for Diabetes Care Plan for use in Residential/Nursing Homes

**Patient's name:**

**DOB:**

**NHS number:**

**Date:**

#### Aims

No hypoglycaemia; no diabetic ketoacidosis (DKA); no symptoms of hyperglycaemia

1. Target blood glucose level \_\_\_\_\_
2. Check blood glucose levels before breakfast daily and as required during the day
3. If there is ANY hypoglycaemia or regular hypoglycaemia, increase blood glucose (BG) monitoring
4. Ensure BG test is at least 2 hours since last eaten to prevent frequency of 'false' high readings
5. Administer insulin as prescribed as per most recent drug authorisation
6. Staff to administer patient's insulin using appropriate device (PLEASE SPECIFY). This should be given at a similar time each day
7. Instigate a 6 monthly HbA1c, U&Es, LFTs blood test to monitor long term diabetes control via GP
8. Ensure patient is kept up to date with all other diabetes annual screening, foot check, retinal screening and blood tests. Liaise with GP practice to ensure these are done annually
9. If BG is below 4mmols (hypoglycaemia) **TREAT** (see below) and **REPORT** to prevent further instances

#### 1. Hypoglycaemia (Blood glucose levels consistently below 4 mmols/l)

##### Symptoms

- Feeling shaky
- Hunger
- Blurred vision
- Headaches
- Going pale
- Sweating
- Tiredness
- Lack of concentration
- Feeling tearful or mood swings

##### Risk factors

- Reduced carbohydrate intake, missed meal or snack, missed supper
- Vomiting
- Increased physical activity (physio input)
- Increased wandering or activity levels due to dementia, particularly during the night
- Insulin administered at an inappropriate time, wrong dose given, inadequate suspension of a mixed insulin.
- Injecting into areas of lipohypertrophy/lipoatrophy
- NG/PEG feed problems, blockage of tube, delay in feed start time,
- Severe hepatic dysfunction
- Deterioration in renal function



**Treatment** 15 – 20 g sugary carbohydrate for example

- 200mls regular Lucozade
- 1 bottle of Lift Juice shots (60ml)
- 3 – 5 dextrose/glucose tablets
- 1 tube of Glucogel
- 5 Jelly Babies
- 200mls of any available sugary drink (not diet)

Wait 15 mins and recheck the patient's blood glucose level, if still below 4.0 mmols/l repeat the administration of a sugary carbohydrate again, for up to three cycles.

This should be followed up with some starchy carbohydrate when the blood glucose level is above 4mmols/l:

- Meal if due
- Piece of toast
- 2 plain biscuits
- Piece of fruit
- Glass of milk

If the patient is unable to tolerate oral fluids or is unconscious, contact 999.

Glucagon should only be given if the patient is unable to swallow anything by mouth.

**2. Blood glucose levels consistently below target (less than 6 mmols/l)**

While at this level \_\_\_\_\_, the patient is not at immediate risk as it is not classed as hypoglycaemia. If it is happening more than twice a week a review of the insulin dose should be considered as if something were to change such as the patient becoming ill, this could lead to hypoglycaemia.

**3. Hyperglycaemia**

If symptomatic (see below) or blood glucose is consistently above 15 mmols/l, check for ketones in patients with Type 1 diabetes mellitus and follow the plan. Refer to the diabetes specialist nurse or GP/Primary Care urgently or liaise with them if they are involved.

**Symptoms**

- Increased thirst
- Increase in passing urine
- Blurred vision
- Dry/crusty mouth/skin
- Hot flush
- Increased confusion

**Risk factors**

- Refusing insulin
- Missed or late dose of insulin
- Increase oral intake
- Rebound from hypoglycaemia earlier that day
- Infection/illness
- Steroids
- Change in NG/PEG feed regimen

Appendix 2 –LSCFT Leaflet for Nursing Homes for Insulin Injection Technique Using Pen Device & Safety Needle

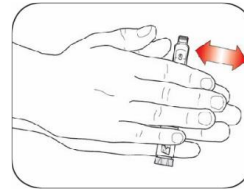
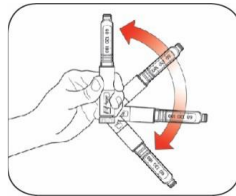
## INSULIN INJECTION TECHNIQUE USING PEN DEVICE AND SAFETY NEEDLE

**THESE INSTRUCTIONS CAN BE USED ACROSS ALL DISPOSABLE PEN DEVICES - PLEASE CHECK EXPIRY DATE AND ENSURE CORRECT INSULIN IS BEING ADMINISTERED**

**NEVER WITHDRAW INSULIN FROM A PEN DEVICE USING A SYRINGE**

**NEVER SHARE INSULIN PENS BETWEEN RESIDENTS**

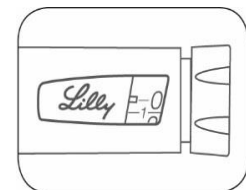
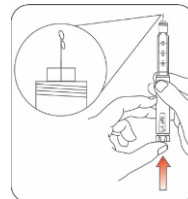
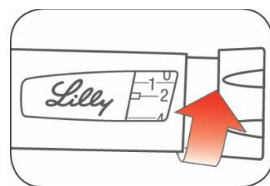
1. IF THE INSULIN IS CLOUDY, GENTLY ROLL THE PEN TEN TIMES AND INVERT THE PEN 10 TIMES



2. IS THE RESIDENT SELF-ADMINISTERING THEIR INSULIN? IF NOT, PLEASE USE A SAFETY NEEDLE

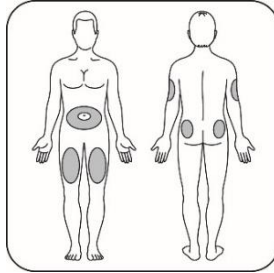


3. PLACE A NEW NEEDLE ONTO THE PEN AND TWIST THE NEEDLE UNTIL TIGHT - REMOVE CAPS
4. PRIME THE PEN - TO DO THIS DIAL 2 UNITS, AND WHILST HOLDING THE PEN UPWARDS (NEEDLE POINTING UPWARDS), PUSH THE DOSE KNOB UNTIL "0" IS SEEN IN THE WINDOW - YOU SHOULD SEE INSULIN AT THE TIP OF THE NEEDLE - IF NOT SEEN THEN REPEAT STEP 3 AND IF CONTINUES ATTEMPT A NEW NEEDLE

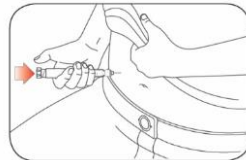


5. DIAL THE DOSE (SEE PATIENTS INSULIN AUTHORISATION SHEET) - TURN THE DOSE KNOB TO SELECT THE NUMBER OF UNITS YOU NEED TO INJECT (THE KNOB CAN BE DIALLED BOTH UPWARDS AND DOWNWARDS)

6. ROTATE THE INJECTION SITES



7. INSERT THE NEEDLE AT 90° ANGLE AND PUSH THE DIAL KNOB UNTIL IT READS "0" ON THE WINDOW - COUNT FOR 10 SECONDS BEFORE REMOVING THE NEEDLE



8. CAREFULLY REMOVE THE PEN NEEDLE AND DISPOSE OF IN A YELLOW SHARPS BIN - USED INSULIN PEN CAN BE STORED AT ROOM TEMPERATURE (28°C) FOR 28 DAYS - UNUSED INSULIN MUST BE STORED IN THE FRIDGE (2-5°C)

## Appendix 3

How the Care Home can obtain an Emergency stock of  
GlucoRx safety pen needles 5mm/30g from the Community  
Pharmacy



### Contact your Community Pharmacy

Make a request to **purchase** GlucoRX safety pen needles 5mm/30g (1 pack of 100 pen needles). The supply is given at the decision of the community pharmacist and the pharmacy may ask you the reason for purchase. *"For use as an emergency supply for all Diabetic residents on insulin."*

### Make a **CLEAR record** of this emergency stock and store in line with your Medicines Care Home Policy

It is important to educate all staff that this stock is for **EMERGENCY USE ONLY** and **MUST NOT** be used regularly.

An individual prescription must be obtained for each resident for regular use from the GP practice during opening hours.