

Guidance on the cost-effective prescribing of disposable pen needles

INTRODUCTION

There are currently a wide variety of disposable pen needles available to be prescribed for patients using insulin and glucagon like peptide-1 (GLP-1) analogue pens, with prices ranging from £2.49 to £23 per pack ([Drug tariff](#), June 2023).

This guidance sets out recommendations for prescribers to support the safe and cost-effective prescribing of needles in line with national guidance.

[NHSE 2019 Guidance on items which should not routinely be prescribed in primary care](#) included pen needles and made the following recommendations:

- prescribers in primary care should not initiate insulin pen needles that cost >£5 per 100 needles for any patients living with diabetes;
- prescribers should be supported in deprescribing insulin pen needles that cost >£5 per 100 needles and, where appropriate ensure the availability of relevant services to facilitate this change.

The recommended pen needles have been selected based on the cost and compatibility with all insulin pen devices. **As the majority of compatible pen needles per 100 now cost under £4.50, the recommended needles for use across NHS NEL ICB have been selected on the cost being equal or less than £4.50 per 100 needles** (Table 2). All pen needles are for single use only.

1. NEEDLE SIZE

- Pen needles are available in a variety of sizes from 4mm to 12mm, which is a description of how long the needle is.
- The gauge size denotes needle thickness; the lower the gauge number the thicker the needle. Gauges range from 29 (thickest) to 32 (thinnest).
- [FIT UK](#) advise that needles of shorter length and highest gauge minimises pain on injection.
- 4mm needles inserted perpendicularly at 90 degrees are considered to be the safest pen needle for subcutaneous injection for adults and children regardless of age, gender and Body Mass Index (BMI), with little risk of intramuscular injection.
- The 4mm pen needle may be used safely and effectively in all obese patients but 5mm may be acceptable if patients prefer.
- Extremely thin adults (BMI <19) and very young children (6-years old and under) should use the 4mm needle by lifting a skin fold and inserting the needle perpendicularly into it.
- Using needles of a shorter length helps to prevent intramuscular injection of insulin, avoiding the risk of unpredictable blood glucose levels and severe hypoglycaemia.
- Where longer pen needles (over 4mm) are required (e.g. where presumed skin surface to muscle distance is less than the needle length), it is crucial to use the correctly lifted skin fold to avoid intramuscular injection (FIT UK).

Prescribing recommendations:

- ✓ For patients currently using longer pen needle lengths, it is advisable to change to a shorter cost effective 4mm pen needle.
- ✓ For adults there is no clinical justification for recommending pen needles longer than 8mm.
- ✓ For children and adolescents there is no clinical reason for using needles longer than 6mm.
- ✓ Changes to a shorter needle length should only be done after the patient has a discussion with a healthcare professional, considering individual patient needs and consent and ensuring advice on the correct injection technique is provided.

2. SAFE DISPOSAL

- Every person who injects insulin/GLP-1 analogue should be provided with the correct means of safe disposal of their sharps, i.e. pen needles, syringes and lancets.
- Needles should be safely disposed of immediately after use and not left attached to the pen.
- Pen needles need to be removed from pens to prevent the entry of air (or other contaminants) into the cartridge as well as the leakage of medication out of the cartridge, which can affect subsequent dose accuracy.

Prescribing recommendations:

- ✓ Patients requiring pen needles should be prescribed a Sharpsguard/Sharpsafe yellow 1 litre sharps disposable container, to safely dispose of used needles (and lancets).
- ✓ A 1 litre sharps bin is most suitable for those who are testing their blood glucose and have lancets or a short course of injections to dispose of.
- ✓ A 5 litre sharps bin is most suitable for those who have lancets, insulin pen needles, syringes and insulin pump tubing & cannulas to dispose of.
- ✓ Local councils are responsible for collecting and disposing of clinical waste including sharps e.g. syringes from patients' homes. Collection of clinical waste by local councils will only be done via **prior** arrangement. Please click [here](#) for more information.

Table 1: Local council details for clinical waste collection	
Borough	Contact
Barking and Dagenham	Local Council: Tel: 0330 122 4220
City and Hackney	Local council: Email: hygieneservicesupport@hackney.gov.uk Tel: 020 8356 6688
Havering	Local council: Apply online here Tel: 01708 434343 (general enquiries)
Newham	Local council: Tel: 020 8430 2000
Redbridge	Local council: Tel: 020 8554 5000
Tower Hamlets	GP to refer to local council. Details here .
Waltham Forest	Local council: Online - details here or via GP

3. KEY PRESCRIBING MESSAGES

- Patients who are currently prescribed needles that cost **more than £4.50 per 100 needles** should be reviewed with a view to switch to a cost-effective brand where clinically appropriate.
- For patients currently using longer pen needle lengths, it is advisable to change to a shorter, cost-effective 4mm needle, if acceptable.
- Ensure the quantity prescribed is appropriate to the nearest whole pack size and in line with frequency of administration.
- Needles should be prescribed by brand to avoid confusion.
- Advice regarding monitoring of blood glucose levels following a change to a shorter needle should be given.
- Any existing needles that the patient has should be used up before the patient changes to their new needles, to reduce wastage.
- Patients should be reminded that all pen needles are for single use only and a new needle should be used for each injection.
- If leakage of insulin occurs with shorter needles, injection technique should be reviewed. The individual should count slowly to 10 seconds before withdrawing the needle. If doses of more than 60 units are to be given, the dose could be split and given at different sites.
- If patients occasionally experience sharp pain on injection they should be reassured that the needle may have touched a nerve ending which happens randomly and will not cause any damage.
- For GLP-1 analogue pens, the once a week preparation such as exenatide prolonged release (Bydureon®) and dulaglutide (Trulicity®), contain their own pen needles, hence no additional needles are needed.

NEL Recommended cost-effective pen needles

Table 2: Recommended cost-effective pen needles (prices based on June 2023 Drug Tariff)								
All needle options are universal fitting and compatible with all major insulin pens.								
Pen Needle	Cost (pack size 100)*	4mm			5mm		6mm	
		31G	32G	33G	31G	32G	31G	32G
4SURE	£3.95	✓	✓		✓	✓	✓	✓
BD Viva	£3.59 * (pack size 90)		✓		✓		✓	
GlucoRx CarePoint	£2.75	✓			✓		✓	
GlucoRx CarePoint Ultra	£2.75		✓					
GlucoRx FinePoint	£4.50	✓			✓		✓	
GlucoRx FinePoint Ultra	£4.50		✓					
GreenFine (formerly CareFine)	£2.75		✓		✓		✓	
Insupen Original	£2.49		✓	✓	✓		✓	✓
Klinion Soft Fine Plus	£3.49		✓		✓	✓	✓	✓
Microdot Max	£2.74		✓				✓	
Mylife Penfine Classic	£3.61		✓		✓			✓
Neon Verifine	£4.50	✓			✓		✓	
Neon Verifine Ultra	£4.50		✓					
PROFine	£3.80		✓		✓		✓	
TriCare	£4.05		✓		✓		✓	

Prescribe **shorter needles** costing ≤ £4.50. Also see section 1- Needle length.

Where longer (over 4mm) pen needles are required, clinical justification should be documented in the patient's notes.

4. SAFETY PEN NEEDLES

- Safety pen needles are medical sharps which incorporate automatic safety lock mechanisms to prevent or minimise the risk of accidental injury
- Safety pen needles should NOT be prescribed by GP for patient(s) who have their injectable medicine(s) administered to them by a clinical or non-clinical worker e.g. district nurses, school staff or social care worker.
- Where the use of safety pen needles is required for the benefit of any worker to avoid needle stick injury, it is the responsibility of the relevant employer (occupational health) to provide and ensure that workers have access to and use safer sharps under current Health and Safety regulations.

Prescribing recommendations:

- ✓ Safety pen needles which incorporate automatic safety locks should NOT be routinely prescribed by GP practices.
- ✓ Prescribing of safety pen needles should only be considered for patient(s) who have their injectable medicine administered to them by family or friends
- ✓ Patients where this exception applies should also be prescribed a normal formulary choice pen needle for use at home where appropriate.
- ✓ The use of safety pen needles should be reviewed and healthcare professionals should discuss with patients about switching to the recommended needles.
- ✓ The most cost-effective product should be prescribed, as below (table 3).

Table 3: Preferred safety pen needles:		
Safety pen needle	Cost per 100 pack	Sizes available
Apollo Pro-Shield Safety Pen needles	£9.95	5mm/30G
Microdot Max Safety Pen needles	£12.89	5mm/30G
GlucRx Safety Pen needles	£12.95	5mm/30G

References:

NHS England (2019) Items which should not routinely be prescribed in primary care: Guidance for CCGs <https://www.england.nhs.uk/wp-content/uploads/2019/08/items-which-should-not-routinely-be-prescribed-in-primary-care-v2.1.pdf>

PrescQIPP (2015) Bulletin 103: Insulin needles www.prescqipp.info/our-resources/bulletins/bulletin-103-insulin-needles

NHS Business Services Authority, Drug Tariff: June 2023 <https://www.nhsbsa.nhs.uk/sites/default/files/2023-05/Drug%20Tariff%20June%202023.pdf>

Forum for Injection Technique UK, The UK Injection and Infusion Technique Recommendations (2016) http://www.fit4diabetes.com/files/4514/7946/3482/FIT_UK_Recommendations_4th_Edition.pdf

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