

# HOW INFORMED ARE PATIENTS ABOUT THEIR INSULIN PEN NEEDLES?

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## INTRODUCTION

- 3.2 million people live with diabetes in the UK, and, approximately, 800,000 are on injectable therapies<sup>1</sup>.
- With insulin pens replacing syringes, the need for effective education regarding the safe use and disposal of insulin pen needles arises.
- This study assessed patient awareness and practices of insulin pen needle use as recommended by the 'Forum for Injection Techniques (FIT)<sup>2</sup>. This is the first set of guidelines used in the UK for injection technique.
- Recommendations include: Injecting regimen, choice and management of the devices used, self-examination of injection sites, correct injection techniques, complications and safe sharps disposal.
- Patient education regarding self-injection techniques is essential to achieve optimal glycaemic control and to avoid long-term complications.

## METHODS

An anonymous questionnaire focusing on insulin pen needle use and safe disposal was completed by a total of 100 patients attending secondary care diabetes clinics in Queen Elizabeth Hospital Birmingham, University Hospitals Birmingham NHS Foundation Trust.

The questionnaire was based on recommendations made by FIT.

### Data collection:

- Patients were approached whilst in the waiting room, and only individuals on insulin pen needle therapy were eligible to complete the 16-point questionnaire.
- Patient awareness regarding insulin pen needle use and disposal was assessed.
- 6 patients did not speak English as their first language.

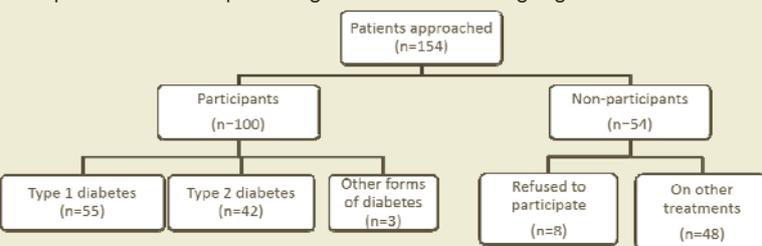


Fig. 1 Flowchart to show patient population

### FIT Recommendations

- Injection sites: thighs, abdomen, buttocks, arms
- Injection site care: inspect and palpate site before injecting
- Rotation of injection sites
- Look for signs of infection, inflammation, oedema, lipodystrophy
- Correct use of pen devices:
  - Single person and single use
  - Priming
  - Discourage injection through clothing
  - Withdraw needle after 10 seconds
- Disposal: immediate disposal into sharps bin

## RESULTS

- The age group of the participants ranged from 30-70 years.

### Injection technique:

- 17% did not prime needles
- 11% injected through their clothes
- 44% were not aware of leaving the needle in place for 10 seconds
- 37% did not lift their skin fold before injecting.

### Re-use of insulin pen needles:

- 25% participants re-used their needles, and, of these, 64% had type 1 diabetes
- 56% of participants re-using had been diagnosed with type 1 diabetes for more than 10 years
- Most common reason for re-use was due to convenience
- 2 out of 3 re-users experienced pain.

### Safe disposal of insulin pen needles:

- A third of participants did not dispose sharps in a sharps bin.

Fig 2. Reasons of reuse of insulin needles

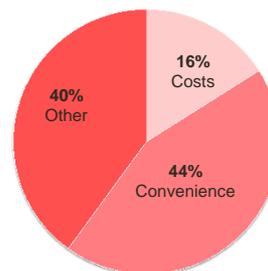
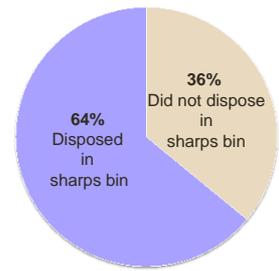


Fig 3. Needle disposal



## CONCLUSION

### Injection technique:

- Information about injection technique should be reinforced regularly, to ensure safe and adequate delivery of insulin
- Implementation of correct technique were hindered by practical difficulties
- Language barrier may play a role in patient education.

### Re-use of insulin pen needles:

- Inconvenience played a large role in re-use of needles, despite patients being aware of its consequences. Altruistic economic reasons also contributed to re-use
- Most participants experienced pain, which can be attributed to re-use
- Participants who had been diagnosed with type 1 diabetes for more than 10 years may require re-education.

### Safe disposal of insulin pen needles:

- Participants were aware of safe disposal methods but adherence was still low.

## LIMITATIONS

- Small patient population
- Language barrier limited patient participation.

## PLAN OF ACTION

1. Present our findings at the Diabetes departmental meeting to raise awareness regarding importance of safe insulin needle use
2. Encourage healthcare professionals to reinforce injection technique and disposal in their consultations
3. Re-audit in 1 year to assess for improvement

### References:

1. Diabetes: facts and stats (2014), How common is diabetes. <https://www.diabetes.org.uk/Documents/About%20Us/Statistics/Diabetes-key-stats-guidelines>

2. FIT (2014): The Forum for Injection Technique (FIT) — The First UK Injection Technique Recommendations, 2<sup>nd</sup> edition. <http://www.trend-uk.org/documents/FIT%20Recommendations%20Page%20view.pdf>

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