

FIT recommendations aim to create a culture of good injection technique

The Forum for Injection Technique (FIT) is an international initiative with boards in the UK, Canada, India and Ireland. The FIT UK Board was the first to launch and it comprises experienced specialist diabetes nurses who are dedicated to establishing and promoting best practice in injection technique for everyone involved in the care of people with diabetes. FIT aims to raise awareness of emerging and existing research relating to injection technique and the impact this may have on health outcomes.

FIT UK's best practice recommendations are laid out in the comprehensive document *The First UK Injection Technique Recommendations, 2nd edition* (Hicks et al, 2011). This comment will concentrate on the document's recommendations that are particularly relevant to children, young people and all those involved in the management of children's diabetes.

There can be no doubt of the importance of good injection technique. Frid (2006) has highlighted that subcutaneous tissue is the recommended site for insulin injections. Hofman et al (2007) have explained that injecting into subcutaneous tissue allows the insulin to be absorbed at a more predictable rate and results in better glycaemic control. Poor technique, such as using the incorrect needle length, can lead to insulin not being absorbed in a predictable manner as shown by the study by Birkbaek et al (2008). Recent research by Lo-Presti et al (2012) has identified that children and young people have minimal subcutaneous fat and consequently there is a strong case for using 4 mm pen needles (with a lifted skin fold for children under 6 years old) in order to avoid intramuscular injections, which can result in unpredictable glucose levels.

Polak et al (1996) and Birkebaek et al (2008) report that the negative outcomes of incorrect injection technique can include hypoglycaemia and/or hyperglycaemia. Other potential problems,

such as lipohypertrophy as well as bruising and bleeding at the injection site, are also highlighted by Vardar and Kizilci (2007).

We must instil a culture of best practice for injection technique among children with diabetes as soon as they are diagnosed to avoid these potential negative consequences. NICE (2011) recommends that this should include monitoring injection sites at each clinic (every 3 months). The FIT Board are aware that many children and young people experience lipohypertrophy, which further enforces the urgent need to improve injection technique and the way it is taught. Incorporating opportunities for children, young people and their families to refresh their injection technique skills as part of their annual review may help to ensure that skills-based training is not a one-off event at diagnosis.

Healthcare professionals also have a responsibility to maintain their own continuing professional development and ensure that they are familiar with best practice recommendations for optimal injection techniques for people with diabetes. Every patient contact must be viewed as an opportunity for sharing this information to ensure ongoing delivery of the highest quality care.

It is FIT's belief that educators in diabetes care should be supported in this so that they can reliably pass on their knowledge to patients. It is hoped that the latest edition of the *First UK Injection Technique Recommendations* will provide a useful resource to help achieve this aim.

The recommendations will be updated at regular intervals to include new research evidence as it emerges. Each recommendation is followed by both a letter and number (e.g. A2). The letter indicates the weight a recommendation should have in daily practice and the number is the degree of support in medical literature. The most relevant publications that support a recommendation are also cited. There are few randomised clinical trials in the field of injection technique (compared, for example,



Carole Gelder

Children's Diabetes Nurse Specialist, St James's University Hospital, Leeds; Lecturer, University of York; and member of the Forum for Injection Technique (FIT) UK Board

with blood pressure control), so judgements such as “strongly recommended” versus “recommended” are based on a combination of the weight of clinical evidence, the implications for patient therapy and the judgement of the group of experts.

An example of the type of area covered by the document is the psychological challenges presented by injections and ways to help children and young people cope with any distress the injections may cause them. The recommendations suggest that children may benefit from distraction techniques or play therapy (such as pretending to inject a soft toy), while older children may respond to cognitive behavioural therapies (CBT). CBT includes relaxation training, guided imagery, graded exposure, active behavioural rehearsal, modelling and reinforcement, as well as incentive scheduling.

Helping to refresh healthcare professionals’ knowledge and skills in diabetes care along with the development of age-appropriate educational tools will, in turn, help children and young people with diabetes manage their insulin therapies in the best possible way. FIT believes that optimising injection technique for people with diabetes can be achieved by developing and implementing the

suggestions in *The First UK Injection Technique Recommendations, 2nd edition* with supporting educational programmes for both people with diabetes and healthcare professionals. ■

The recommendations are available to download at: <http://www.fit4diabetes.com/united-kingdom/>

Birkebaek NH, Solvig J, Hansen B et al (2008) A 4mm needle reduces the risk of intramuscular injections without increasing backflow to skin surface in lean diabetic children and adults. *Diabetic Care* **31**: e65

Frid A (2006) Fat thickness and insulin administration, what do we know? *Infusystems International* **5**: 17–19

Hicks D, Kirkland F, Pledger J, Down S (2011) *The First UK Injection Technique Recommendations* (2nd edition). Available at: <http://bit.ly/10gLscp> (accessed 08.07.13)

Hofman PL, Lawton SA, Peart JM et al (2007) An angled insertion technique using 6mm needles markedly reduces the risk of intramuscular injections in children and adolescents. *Diabet Med* **24**: 1400–5

Lo Presti D, Ingegnosi C, Strauss K (2012) Skin and subcutaneous thickness at injecting sites in children with diabetes: ultrasound findings and injecting recommendations. *Pediatr Diabetes* **13**: 525–33

NICE (2011) *CG15 Type 1 Diabetes in Children and Young People: Full Guideline*. Available at: <http://guidance.nice.org.uk/CG15/Guidance/Children/pdf/English> (accessed 08.07.13)

Polak M, Beregszaszi M, Belarbi N et al (1996) Subcutaneous or intramuscular injections of insulin in children: are we injecting where we think we are? *Diabetes Care* **19**: 1434–6

Vardar B, Kizilci S (2007) Incidence of lipohypertrophy in diabetic people with diabetes and a study of influencing factors. *Diabetes Res Clin Pract* **77**: 231–6

“Helping to refresh healthcare professionals’ knowledge and skills in diabetes care along with the development of age-appropriate educational tools will, in turn, help children and young people with diabetes manage their insulin therapies.”