

## New Clinical Recommendations for Insulin Injection and Infusion; Published in Mayo Clinic Proceedings from FITTER (Forum for Injection Technique and Therapy Expert Recommendations)



As a leader in insulin delivery, BD Diabetes Care has a long history of advancing the science of insulin injection technique and has again reaffirmed this commitment by partnering with global diabetes experts to lead the development of new insulin injection, infusion, and safety recommendations.

Proper injection remains critical to the delivery of diabetes care. While many diabetes patients may experience more than 60,000 injections throughout their lifetimes to treat their disease<sup>1</sup>, numerous studies have shown that patients often lack a full understanding of proper injection technique. Poor technique can be associated with diminished glucose control, affecting health outcomes and leading to increased healthcare costs.

To help correct this unmet need, BD sought to understand the full scope of the issue by supporting the largest-ever survey of insulin injection practices – including more than 13,000 patients from 42 countries – to chart the epidemiological profiles for major insulin injection parameters. Data from this global injection technique survey was shared during the Forum for Injection Technique and Therapy: Expert Recommendations (FITTER) congress, comprised of 183 physicians,



nurses, educators and allied healthcare professionals from 54 countries. Based on their findings, these leading experts drafted a new, comprehensive list of insulin delivery recommendations and an associated set of “Golden Rules” that detailed their practical implementation.

Select key findings from the new FITTER recommendations include:

- Use the shortest available pen needle (currently 4mm) or syringe needle (currently 6mm) for all injecting patients, regardless of age, sex, or body size. The shortest needle length possible is less painful, has higher patient acceptance, and gives comparable glucose control. By contrast, excessively long needles increase a patient’s risk for intramuscular (IM) injections, which can accelerate insulin uptake and action, increasing glucose variability and risk of hypoglycemia.
- Correct rotation of injection sites can reduce the frequency of lipohypertrophy. Such reductions should improve glucose control and clinical outcomes, reduce insulin consumption and thereby lower healthcare costs.
- Limit use of pen needles and syringes to one-time, as reusing needles is not an optimal injection practice because they are no longer sterile after use.

The FITTER congress also highlighted the importance of insulin infusion, infusion set innovations and best practices as it pertains to optimizing insulin delivery through infusion sets. Similar to injection and safety, specific “Golden Rules” were developed around insulin infusion to help patients and healthcare providers with implementation on a daily basis. These recommendations reflect BD’s commitment to the scientific understanding of all aspects of delivering insulin safely and effectively: injection, infusion and safety considerations. FITTER Insulin Delivery Recommendations were recently published in the September issue of Mayo Clinic Proceedings and are available at [mayoclinicproceedings.org](http://mayoclinicproceedings.org).<sup>2-4</sup>

- 1) *Recent Challenges In Insulin Delivery Systems: A Review*. Al-Tabakha MM and Arida AI, Indian Journal of Pharmaceutical Sciences 2008;70(3):278-286.
- 2) *Worldwide Injection Technique Questionnaire Study: Population Parameters And Injection Practices*. Frid AH, Hirsch LJ, Menchior AR, Morel DR, Strauss KW. Mayo Clin Proc. 2016;91(9):1212-1223.
- 3) *Worldwide Injection Technique Questionnaire Study: Injecting Complications And Role Of The Professional*. Frid AH, Hirsch LJ, Menchior AR, Morel DR, Strauss KW. Mayo Clin Proc. 2016;91(9):1224-1230.
- 4) *New Insulin Delivery Recommendations*. Frid AH, Kreugel G, Grassi G, et al. Mayo Clin Proc. 2016;91(9):1231-1255.