

# Evolution of Insulin Injection Devices: A Century of Innovation

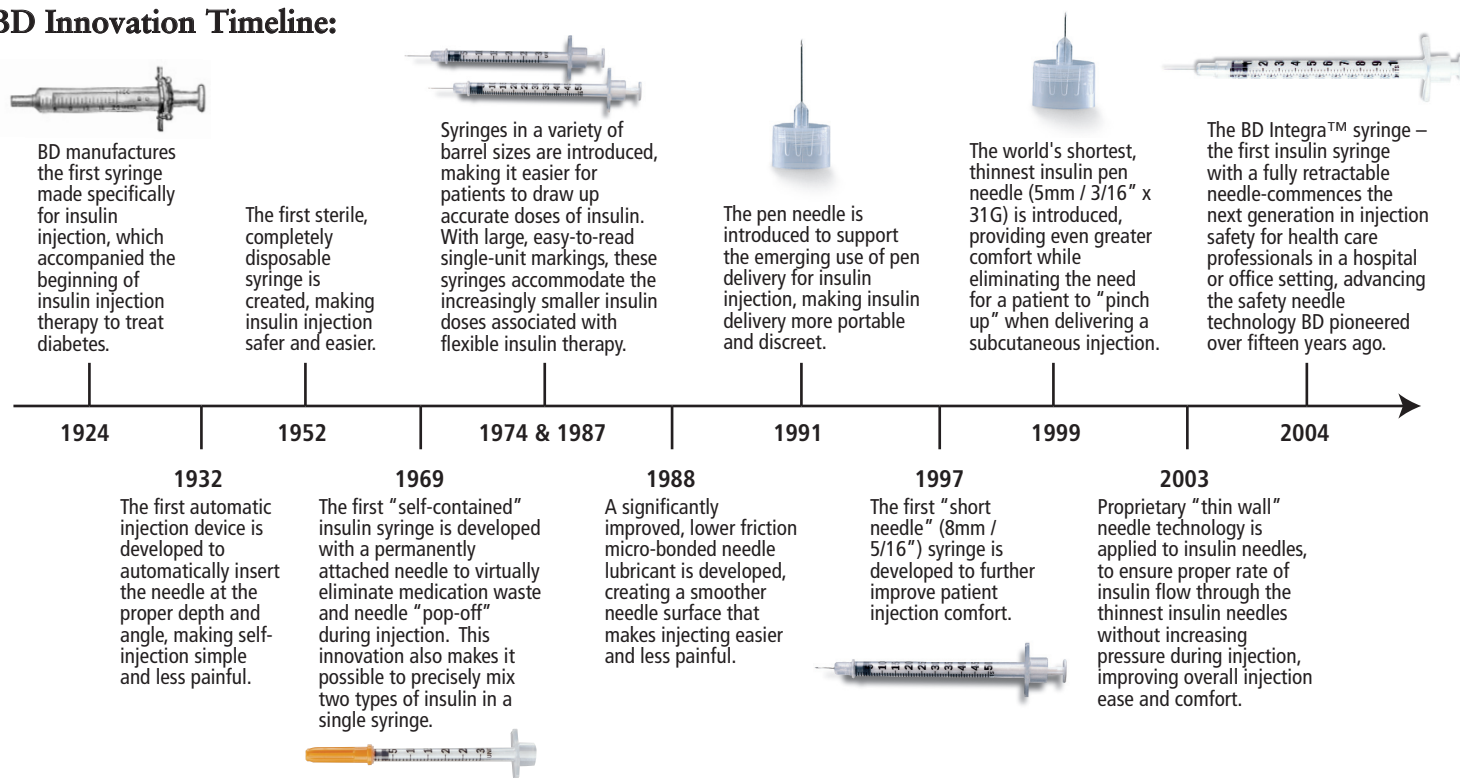


Helping all people live healthy lives

Insulin injection devices and needles have evolved in design, diameter and shape over the past century to improve the efficacy of insulin dosing as well as make injection more pain free. Thanks to state-of-the-art technology, insulin delivery devices have evolved from the first reusable glass syringe introduced in 1924, to today's lightweight, portable and disposable devices designed for easy and virtually pain free administration of insulin.

Ongoing innovations in needle engineering have also made insulin syringe and pen needles increasingly thinner and shorter over the years. These developments, along with concurrent advancements in needle lubrication technology and metal polishing have significantly improved comfort, and inspired tighter patient compliance by putting better blood glucose control in the patient's hand.

## BD Innovation Timeline:

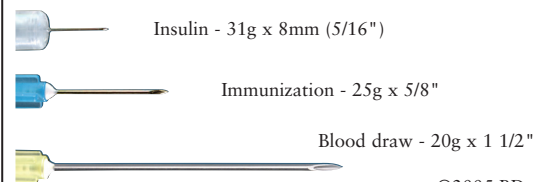


Since 1924, when BD manufactured its first syringe made specifically for insulin injection, BD has been on the forefront of innovation in insulin delivery. Today's insulin syringe and pen needle products are the result of an on-going commitment to innovation and continuous improvement. BD's insulin syringe needles are almost as thin as an eyelash and have a much smaller gauge than needles commonly used for immunization or blood drawing. This means they are significantly thinner and more comfortable. BD is continuing to develop new insulin needles that will be even thinner; less obtrusive, easier to use and more comfortable.

*"I had it in my mind that it would be painful and it wasn't. I was expecting a pinch - sometimes I feel it, sometimes I don't."*  
 Female patient with diabetes, age 55. Has injected insulin for one year.

### What is a needle gauge?

Needles are measured by their gauge. The higher the gauge, the thinner the needle. The first insulin syringe needle gauge was in the mid-20s. The current state-of-the-art insulin needle is 31 gauge, significantly thinner than needles commonly used to inject flu vaccine or to draw a patient's blood.



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