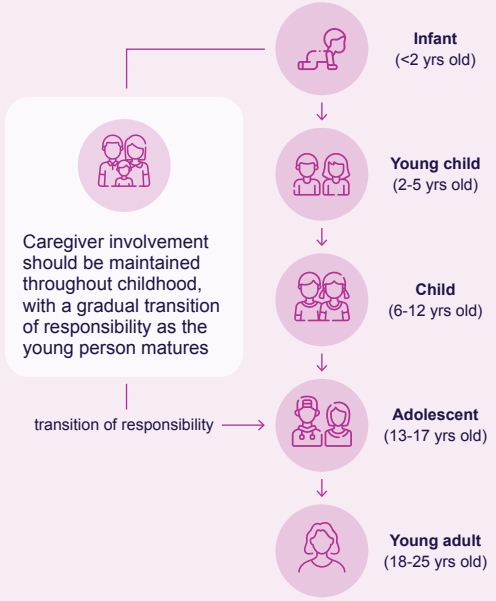
# Recommendations for proper injection technique for Youth with Diabetes (YWD)

## Emotional, Social, and Development Needs and Considerations

**Individualize guidance according to the age, developmental stage, and emotional needs.**

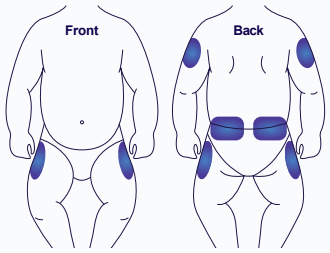
- Recognize that diabetes distress, stigma, and fear of injections may affect youth with diabetes and their caregivers at different stages of development
- YWD may experience **fear of needles, concerns about pain,** and **reluctance to rotate injection sites**



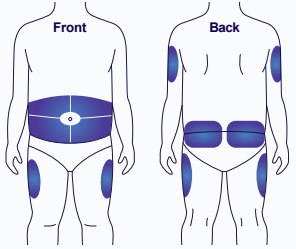

## Individual Physiology

**Consider individual physiology when recommending injection technique for youth with diabetes.**

Infants and children typically have less subcutaneous tissue and fewer available injection sites than adolescents and adults, which may influence site selection and rotation strategies.




**Infant < 2 years old***

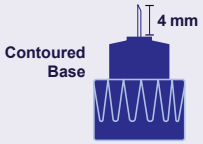



**Young children (2-5 years old)***
**Children (6-12 years old)***

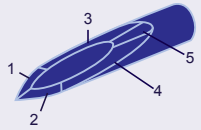
## Device Selection

**Individualize device selection, recognizing that preferences may change as the YWD ages.**

Device characteristics such as **needle length, gauge, needle base design, and needle tip geometry** can influence perceived pain and overall injection experience.




A 4 mm needle with a contoured base can reduce the risk of intramuscular injection




5-bevel needle tips are sharper and can reduce perceived pain




(needle cross-section, not to scale)

32G needles reduce pain without being too fragile
Ultra-thin walls allow for faster flow rate

## Injection Technique

**Advise the use of the 4mm pen needle length to minimize the risk of intramuscular injection.**

A 4-mm pen needle inserted at 90° is appropriate for youth with diabetes regardless of age or BMI. A skin lift may be recommended for children ≤6 years or with BMI below the 5th percentile.

