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Patient Care + Research + Clinical Trials

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# Independent Diabetes Self-Care for People Who Are Completely Blind

**Key message:** Blindness changes how diabetes information is accessed and how insulin doses are measured, but it does not prevent safe, independent diabetes self-management. With strong cognition, good manual dexterity, accessible technology, and appropriate training, a completely blind person can manage diabetes without routine reliance on sighted assistance.

### 1. Talking Smartphones and Screen Readers

A smartphone can serve as the central access point for diabetes care. Built-in screen readers such as VoiceOver on iPhone or TalkBack on Android allow the user to navigate diabetes apps through speech and haptic feedback. Continuous glucose monitoring (CGM) is especially important because glucose readings, trend arrows, and alerts can be spoken aloud rather than read visually. The same phone can support carbohydrate logging, reminders, data review, and communication with the healthcare team.

### 2. Automated Insulin Delivery (AID)

AID systems connect a CGM, insulin pump, and dosing algorithm. The system can automatically increase, decrease, or pause background insulin in response to real-time glucose data, reducing the burden of constant manual adjustment and improving safety. Accessible app design allows meal carbohydrate entry, alarms, and key system information to be managed using speech output, voice input, or accessible gestures. Open-source systems such as Loop and commercially cleared systems may both support meaningful independence when appropriately configured.

### 3. Audible and Tactile Insulin Pens

When injections are used, modern insulin pens are well suited to non-visual dosing. Unlike syringes, pens do not require visual measurement of insulin in a barrel. The dose dial produces distinct tactile and audible clicks, commonly one click per unit, allowing the user to count the intended dose. If the user loses count, the pen can be dialed back and restarted. With good dexterity and training, insulin pens provide a reliable backup or primary method of insulin delivery.

**Bottom line:** Modern diabetes care can be made accessible through speech, touch, vibration, alarms, and automation. For a cognitively capable person with adequate hand function, blindness does not eliminate personal autonomy in diabetes management; it requires the right tools, training, and safety planning. Short URL = https://bit.ly/4abxi9e