Why use computerized medication dispensers?

Poor adherence to medications can undermine patients' treatment outcomes. Computerized dispensers can help to ensure that patients take the right medication in the right amount at the right time. For rural patients who often live at great distances from their health care provider, this type of dispenser may also support their ability to receive longer durations of medication supplies from their provider. This can reduce the frequency of required doctor visits, which translates to reduced burdens on both patients and providers.

What is the e-pill Med-O-Wheel Secure?

A portable device that securely stores patients' medication for up to 28 days, with each day's dose made available for a 3-hour window. It includes locks and alarms to prevent tampering and access to medication outside the preset window.

Setting Up the Device

1. Unlock device, pulling out lock, rotate cover 30 degrees counterclockwise, and lift off.
2. Press and hold button 1 for 3 seconds until the device emits an audible signal and the time and yellow indicator light blink. Upon completion of each below step, press button 1 to advance to the next.
   a. Time of Day: Press button 2 to increase the hour (HH) and press button 3 to increase the minute (mm). [Note: The time is set in military time; device does NOT automatically adjust for Daylight Savings.]
   b. Size of Medication Cassette: Press button 3 to select cassette (e.g., C28 for 28 doses).
   c. Alarm Sound: The volume can be adjusted from L0-L15. The default is L10 and should remain at default unless patient requests a change.
   d. Dosage Alarm Time: Only set Alarm-1. The alarm should be set for the requested dosing time. The number on the left side of the display represents the number of the daily dose for the time you are setting. Press button 2 to increase the hour (HH) and press button 3 to increase the minute (mm). Alarm-2, -3, and -4 should remain at blank position (----).
3. Once settings are complete, press and hold button 1 for 3 seconds to accept settings. Device returns to normal operating mode. Replace cover; offset 30 degrees from lock position. Rotate cover clockwise 30 degrees. Insert lock into device, turn the key to lock, remove key and store in secure location.

Inserting Medication Cassette

1. Unlock device, pulling out lock, rotate cover 30 degrees counterclockwise, and lift off.
2. Cassette should be filled prior to inserting into the dispenser.
3. Remove dust cover and dosage calendar and then place the cassette into the device so that the zero position (Addoz logo) aligns with the teeth of the black rotating ring. Avoid forcing the dosage cassette into the dispenser or rotating the cassette in the dispenser by hand.
4. Each time a cassette is replaced, the start point must be reset by sending the device to its home position.
   a. Press and hold button 3 for three seconds, until SI-HO appears on the display.
   b. Press button 2 to rotate dispenser to home base.
   c. Press and hold button 3 for three seconds to return to normal mode.
   Replace cover; offset 30 degrees from lock position. Rotate cover clockwise 30 degrees. Insert lock into device, turn the key to lock, and remove key. 6. Important: When only removing a single dose (e.g., patient missed dosing window), the device should NOT be reset.
5. Replace cover; offset 30 degrees from lock position. Rotate cover clockwise 30 degrees. Insert lock into device, turn the key to lock, and remove key.
6. Important: When only removing a single dose (e.g., patient missed dosing window), the device should NOT be reset.

Filling Medication Cassette

1. Dosage Calendar: Guides which dose of medication is put in which compartment. Use dosage calendar 1 time per day.
2. Medication can be distributed with or without the dust cover in place. The dust cover allows for only one compartment to be open at a time to prevent pills from dropping into the wrong compartment.
3. Always double check that each compartment holds the correct medication.
4. Patient ID #s can be written on the cassette stickers and placed on the bottom of each filled cassette.

Changing Batteries

1. Use the Torx wrench to remove the screw from the battery compartment. Replace with AA batteries.
2. Note: With the old batteries taken out of the device, push the button on top of the device until the battery indicator fades and the clock on device display resets.

Cleaning the Cassettes and Devices

1. Cassettes: Remove ID stickers before washing. Cassettes may be hand-washed in a bleach solution and thoroughly rinsed or placed in the top shelf of a dishwasher.
2. Device: The device itself is electronic and should not be exposed to moisture. It may be wiped clean with a damp cloth and mild detergent.

Dose Availability, Alarms and Security Features

1. Each scheduled dose will be available starting at 60 minutes prior to the schedule dosing time.
2. At the programmed dose time: 10 long beeps, repeated 3 times at 1-minute intervals followed by a subsequent reminder signal (3 short beeps, repeated at 15-minute intervals).
3. Dose is requested during dosing window by pressing button. The device will rotate to make the correct dose available for 5 minutes, after which it will return to the locked position. Note: Pressing the clear button will deactivate further alarms for the current dosing window.
4. At 120 minutes post-dose time: The dose (if not taken) will return to a locked position inside the device. Thus, failure to take dose during the dosing window will result in missed dose for the day.
5. The Med-O-Wheel SECURE also includes a tamper detection feature, whereby attempts to rotate the cassette inside the device using force will prompt a red tamper light to appear on the bottom of the device. Activation of this light will cause the device to lock down (not provide any more doses) and can only be turned off by the provider who has the device's key.

Providers can reach out to uvmcora@uvm.edu for consultation on the Med-o-Wheel free of charge.