

OPTICAL PILL VERIFICATION (OPV)

Optical Pill Verification (OPV) uses advanced software on the Eyecon 9430™ to analyze pills in real-time during the fill. Every pill is checked by size, shape, color, and printed markings when trained—instantly alerting staff to potential mismatches before they reach the patient.

ACTIVATE OPV SUBSCRIPTION

On your web browser, navigate to the Eyecon Portal to manage your subscriptions:

<https://portal.eyeconvpc.com/login>

After logging in, select **Manage Devices**. You will now see list of all Eyecon devices and subscriptions associated with your device.

Multiple subscriptions can be managed using the **Bulk Actions** tool or managed individually using the Renew Subscription link for each device.

Device Name	SN	Location	Eyecon Expiration Date	OPV Expiration Date	Actions
Eyecon Pharmacy	EG200000001	Fairmont, MN	02/28/2026	01/01/2025	Download Update Download Update Procedure Renew Subscription Edit
Eyecon Pharmacy	EG200000002	Fairmont, MN	02/28/2026	01/01/2025	Download Update Download Update Procedure Renew Subscription Edit
Eyecon Pharmacy	EF200000003	Fairmont, MN	02/28/2026		Download Update Download License Download Update Procedure Renew Subscription

When renewing subscriptions individually or in bulk, the following screen will provide an overview of the Subscription renewal order. Note that the OPV option is only available for Eyecon 9430 devices. The Serial Number for these devices will begin with "EG".

Device	Subscription	Current Expiration Date	Prorated Renewal Amount
Eyecon Pharmacy <small>SN: EG2000000002</small>	Eyecon	02/28/2026	\$329.00
	OPV <input checked="" type="checkbox"/>	01/01/2025	\$240.00
Expiration Date After Renewal: <input type="text" value="02/28/2027"/> <input type="button" value="Update"/>			Annual Subscription 329.00 200.00 (Prorated)
			<small>New Synced Expiration date OPV subscription prorated from current date to Synced Expiration Date (14.5 months)</small>
			Subtotal: \$569.00
			Sales Tax: \$59.75
			Total: \$688.50

The Eyecon Portal will assign a default Expiration Date After Renewal. This date will default to 12 months from the current Annual Subscription date. The OPV Subscription will sync to this date and prorate the 200.00 annual fee accordingly.

Note that the user can define a custom Expiration Date. For more efficient annual renewals, we recommend using the Bulk Process to sync the subscription expiration date across all your devices after renewal.

HOW TO GET YOUR EYECON OPV READY

The user will be required to update their Eyecon version using the Auto Updater by selecting **Update Now** or by performing a manual update by selecting **Manual Update From USB**. After performing the update, the Eyecon will show the updated subscription status.

It is recommended that your Eyecon device is set to [Auto Update with Beta Releases](#).

Detailed information about subscriptions and updates can be found in the **Subscription FAQ**:

https://portal.eyeconvpc.com/resources_content/documentation/sub%20faq.pdf

From the **Start Menu** press **Settings** then press **Auto Updater** from the left pane.

Press **Automatic Updates** and select **Enabled** to automatically download updates when available.

Press **Auto Install Updates** and select **Enabled** to automatically install updates when downloaded.

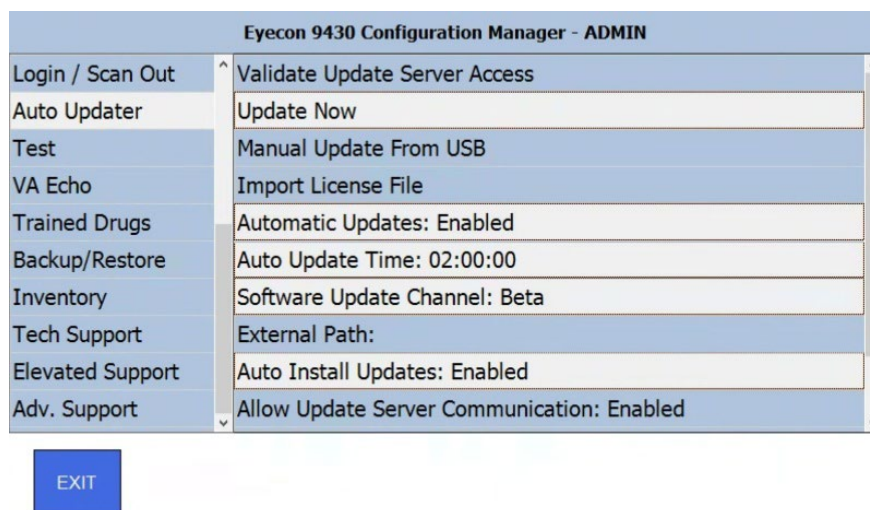
Press **Auto Update Time** to specify the time of day that the Eyecon will check for updates.

Press **Software Update Channel: Beta** to receive the most up-to-date improvements between quarterly updates.

Exit and **Save**.

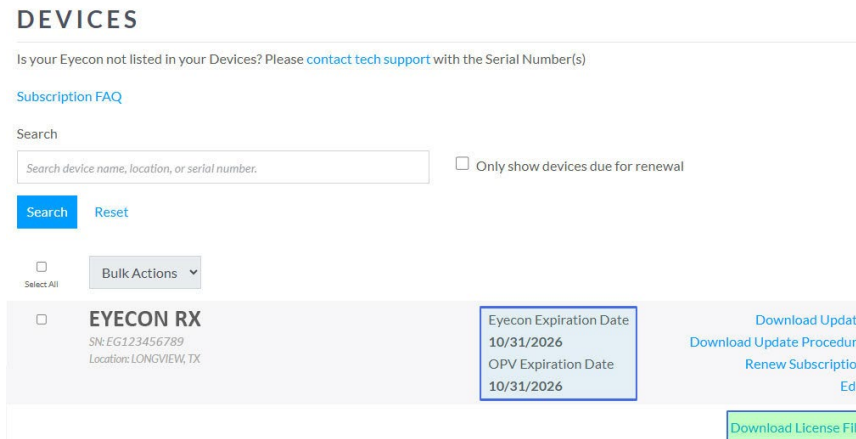
Return to **Settings** then press **Auto Updater**.

Press **Update Now** to update your Eyecon to the latest software.



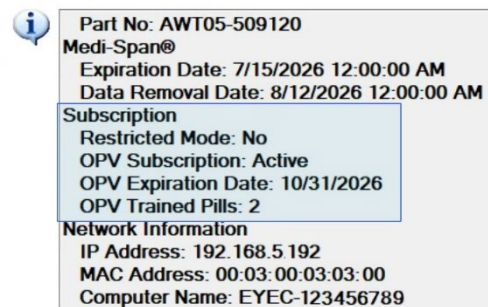
VERIFY OPV SUBSCRIPTION STATUS

You can verify OPV Subscription status in the **Devices** area of the **Eyecon Portal**.



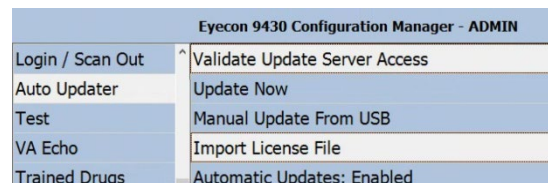
You can also verify OPV Subscription status on the Eyecon Device.

- From the Start Screen press **Settings**
- Select **General** from the menu on the left pane
- Select **About Eyecon** from the menu on the right pane
- Scroll to the **Subscription** area



If the Eyecon Subscription information on the device does not reflect the website subscription information, you can easily update.

- From the Start Screen press **Settings**
- Select **Auto Updater** from the menu on the left pane
- Select **Validate Update Server Access** from the menu on the right pane



For Eyecon devices without access to internet,

- Navigate to **Devices** area of <https://portal.eyeconvpc.com/> on your computer as seen in the example above.
- Select **Download License File** (highlighted green above) at the bottom of the screen to a USB device.
- From the Start Screen press **Settings**.
- Select **Auto Updater** from the menu on the left pane.
- Select **Validate Update Server Access** from the menu on the right pane.
- Select **Import License File**.

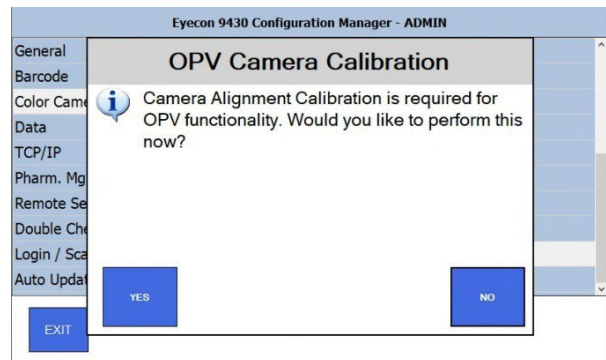
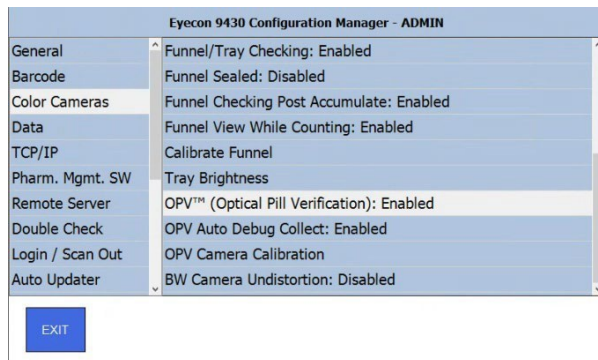
ENABLE OPV ON THE EYECON

Before attempting to enable OPV:

- Ensure that you have located your OPV Calibration Pattern card – Calibration is required to utilize OPV.
- Verify that the OPV Subscription status is active as detailed in the previous section.

If you have the OPV Calibration Pattern card and an OPV Subscription, then continue.

- From the Start Screen press **Settings**
- Select the **Color Cameras** menu on the left pane
- Swipe up on the right pane to expose and press **OPV (Optical Pill Verification): Disabled**
 - If there is an active OPV subscription for this machine, you will be able to select Enabled from the pop-up dialog
 - If the Eyecon does not see a valid OPV Subscription on this device, then return to the previous section to verify your subscription access.



- A Calibration Card template is required to perform the calibration. If a Calibration Card was not included with your Eyecon, or has been lost, you can order a replacement at:

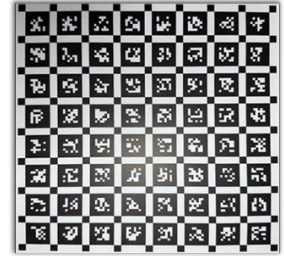
<https://eyeconvpc.com/accessories-online-store/>

- If no Calibration Card is available in the pharmacy, leave OPV Disabled until one is available.

HOW TO CALIBRATE OPV

OPV requires calibration to align the camera images on the Eyecon 9430. Once OPV is enabled, the system will prompt for OPV Camera Calibration, and the calibration menu option will appear below the OPV setting.

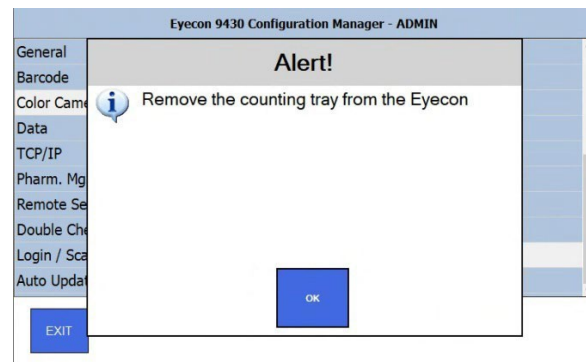
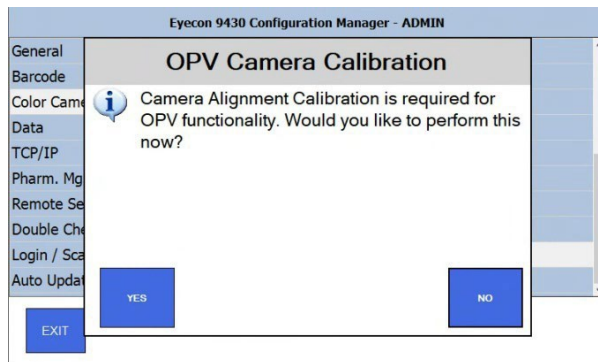
A Calibration Card template is required to perform the calibration. If a Calibration Card was not included with your Eyecon, or has been lost, you can order a replacement at: <https://eyeconvpc.com/accessories-online-store/>



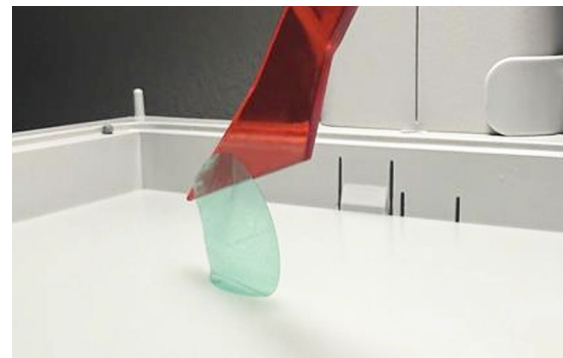
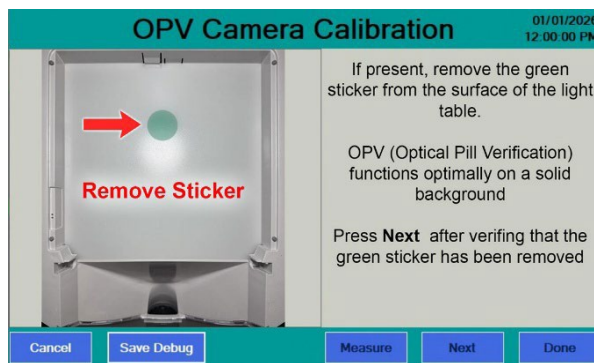
The camera lens may shift slightly as it stabilizes, primarily during initial use. For optimal OPV accuracy, the system may prompt you to run additional calibrations as new stability states are reached. These prompts are normal during early use. Over time, these prompts will happen less often as the software collects more data from the calibration process. The system will automatically apply the calibration that best matches the current state.

Follow the prompts to perform the calibration.

- From the Start Screen press **Settings**
- Select the **Color Cameras** menu on the left pane
- Select **OPV Camera Calibration**
- Follow on Screen instructions

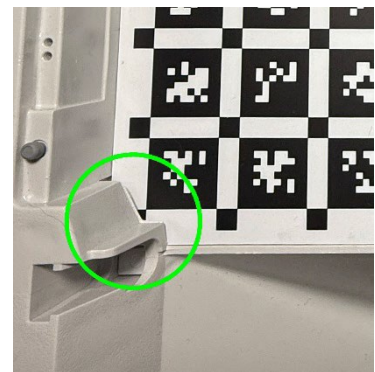


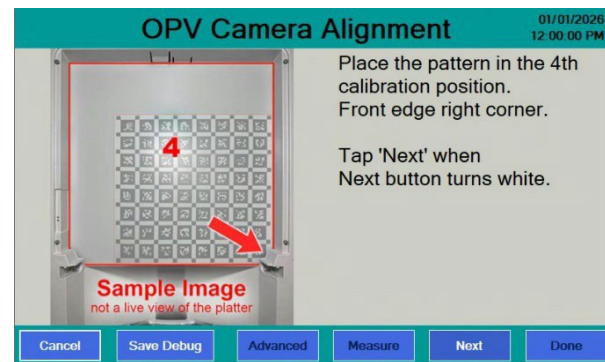
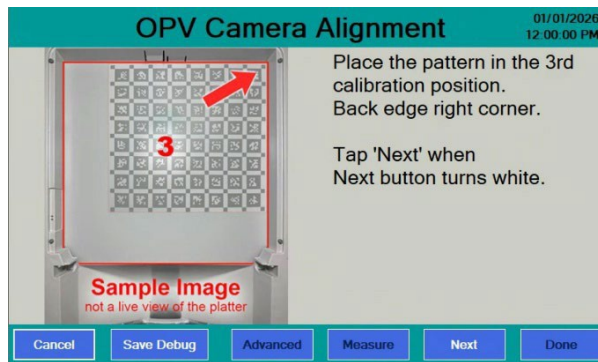
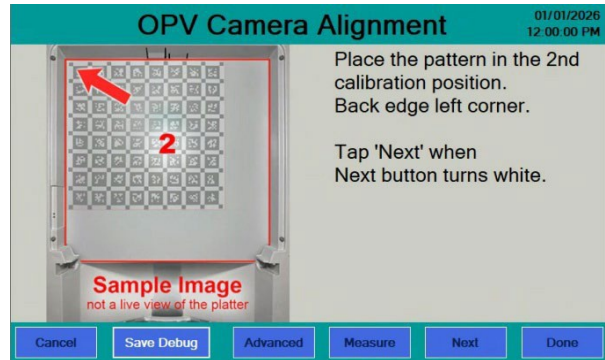
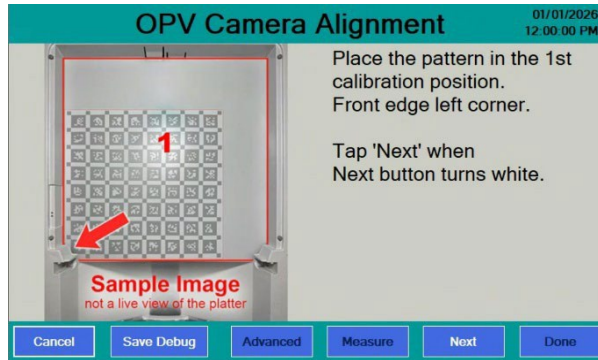
Remove the hinged counting tray by tilting it vertically and pulling straight up. Set this aside and replace it after the OPV Camera Calibration process is complete.



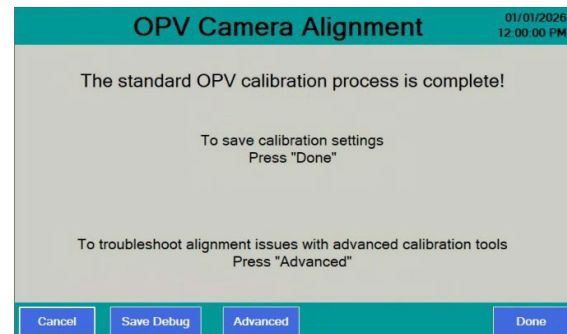
If there is a green sticker on the light table, remove and discard it. OPV works best with a solid background. Once the sticker is removed from the light table, press Next.

The on-screen instructions will guide you to place the Calibration Card in four different positions on the Eyecon, starting with the front left corner. For the front positions, slide the card under the tray support.





After placing the card in the first position, the Next button will activate when the card is detected. Press Next to capture the current image, then move the Calibration Card to the next position as pictured. Press Next to finish aligning all positions.



Once the standard OPV Camera Calibration is complete, select **Done**.

The Eyecon will return to the Settings Menu.

Select **Exit**.

A dialog will open to confirm Save Changes. Select **Yes**.

OPV is now enabled and configured for use.

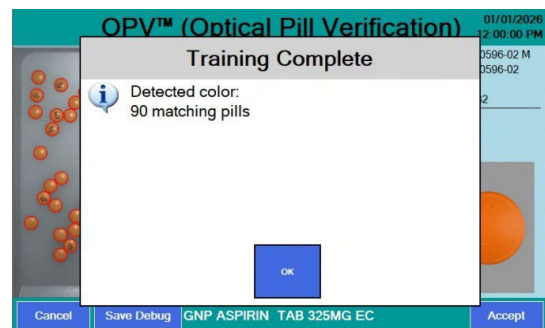
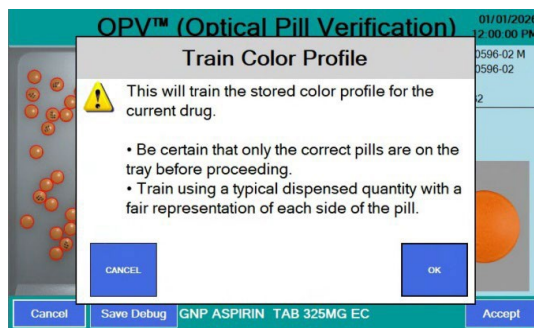
OPV COLOR TRAINING

Eyecon will open the OPV area automatically after counting the pill quantity in Validation and Count Only Modes. Note that using the Add to Total function will perform OPV on each quantity in these modes.

When you tap the Finish button (or scan your user badge, if User Scan Out is configured), the OPV work area will appear.

If the drug has not been previously trained for OPV, you will see a prompt to Train Color Profile. Be certain that only the correct pills are on the tray before proceeding. Train using a typical dispensed quantity with a fair representation of each side of the pill.

Afterwards, a summary of the number of pills trained will be displayed.

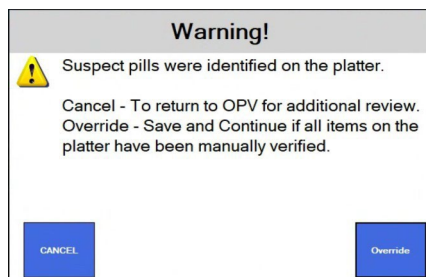
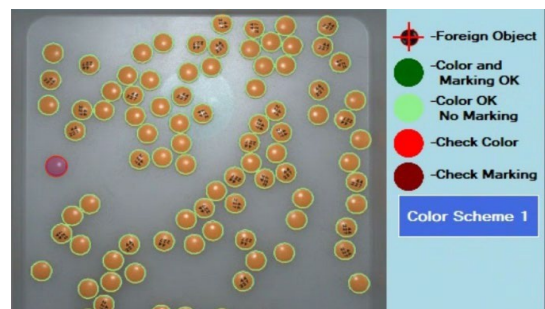
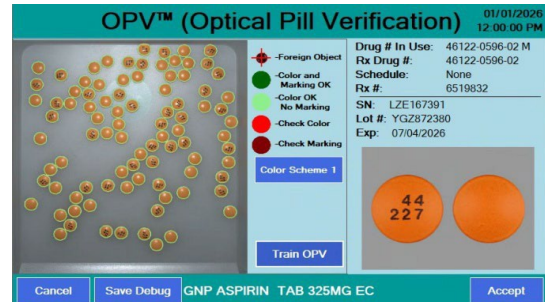


The image will be updated with OPV analysis in real-time. By default, only the color is trained on this initial auto-train. All items on the tray should be outlined in light green.

Any items that do not match color will be highlighted in red. Any items that do not match size and shape will be flagged as a foreign object with a crosshairs symbol in red.

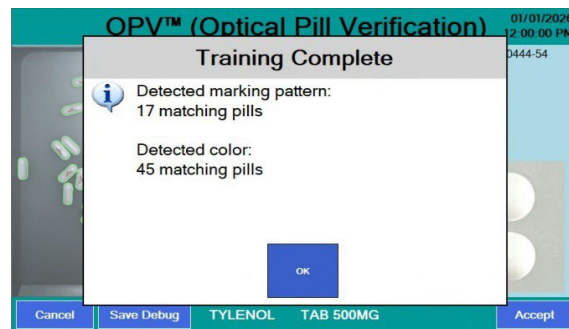
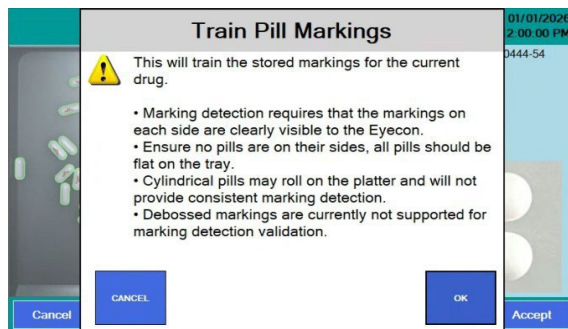
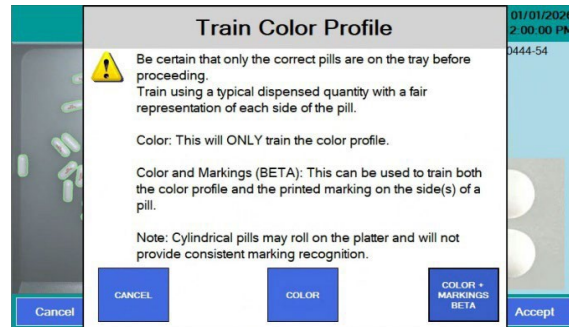
The system will provide a warning if the user attempts to accept suspect pills. Carefully review the items and select Override only after confirming that all items are correct.

Note: User permissions may restrict access to the Override function.



OPV COLOR AND MARKINGS (BETA) TRAINING

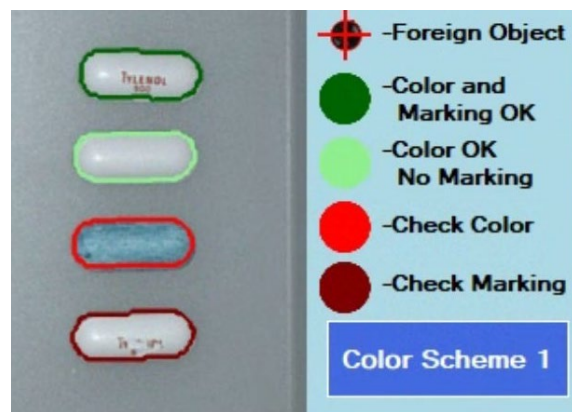
From the OPV screen, the user may retrain the item at any time by selecting the Train OPV button on the screen. Here, you may elect to retrain Color only or utilize the Color + Markings BETA selection.



Make sure that only the correct pills are on the tray before proceeding. Train using a typical dispensed quantity with a fair representation of each side of the pill.

After training both color and markings, OPV will utilize all of the outline tools available:

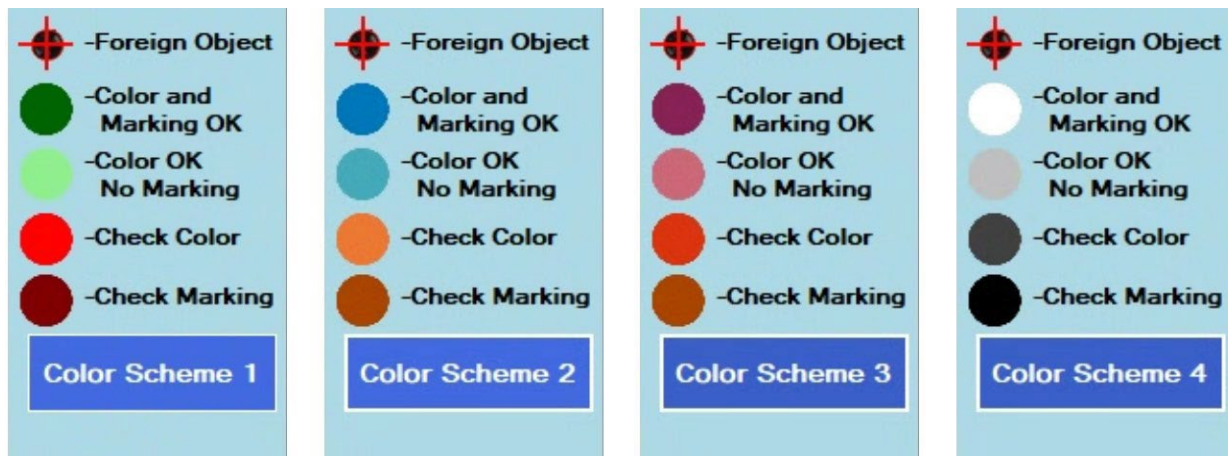
- Dark Green: indicates the correct color and markings
- Light Green: indicates the correct color with no detected markings
- Red: indicates incorrect color
- Maroon: indicates incorrect/damaged markings



Note: Items that do not match the correct size and shape of the pill will be flagged as foreign objects.

COLOR SCHEME OPTIONS

Some users may have color vision sensitivity and certain pill colors may be easier to distinguish using alternate outline colors. Selecting the **Color Scheme** button allows you to switch between available outline color sets. The available Color Scheme options are shown below.



VIEW OPV OVERRIDES

A new column will appear in the Auditor grid when OPV is enabled. This column will display a “yes” value when the user has selected override when a suspect pill was identified. This can help review these transactions to ensure that the override was deliberate and intentional.

Fill Duration	User Name	Schedule Classification	UnitofUseQTY	OPV Override	Pill Bottle 1 Dispensed QTY	Pill Bottle 1 EXP Date
596	None	None	0	yes	206	02/04/2027
655	None	None	0		93	02/04/2027
22	None	None	0		115	02/04/2027
58	None	None	0		120	02/04/2027
177	None	None	0		120	04/06/2026

Period: 04/22/26 thru 05/07/26 5 Audit Records

Buttons: Back, View Tray Photo, Export All

OPV OVERRIDE PERMISSION

Users will have OPV Override permission by default. This permission can be changed per user or via user import.

Learn more about user imports in the Eyecon Portal under Resources > Instructions for Upload Users CSV Template.

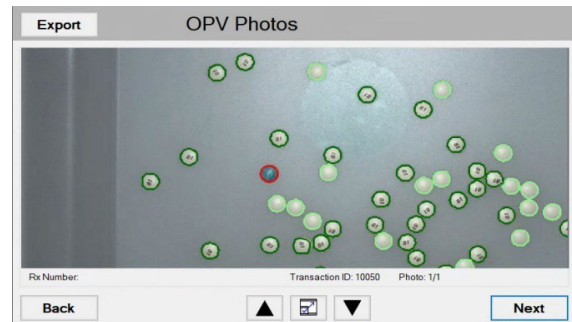
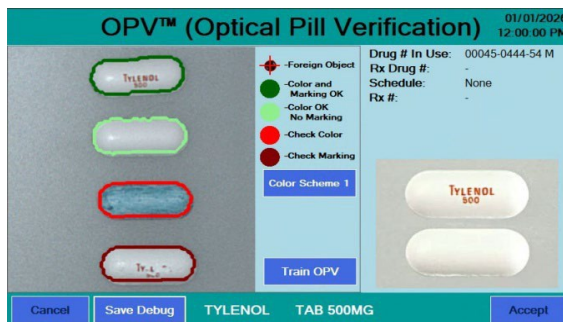
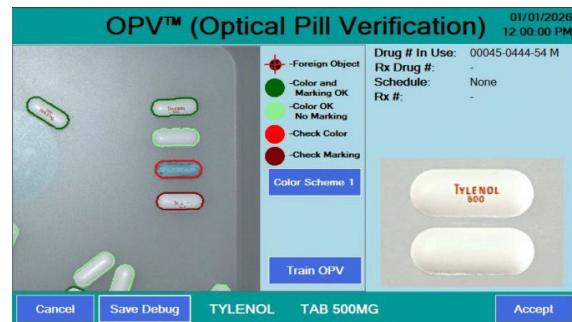
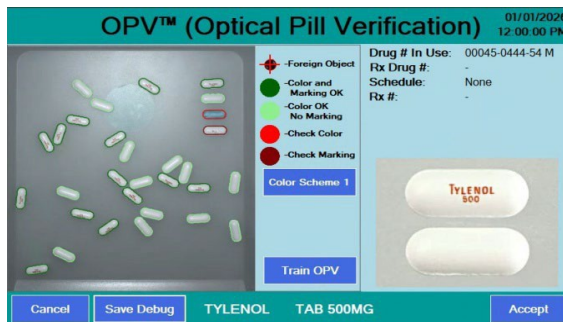
https://portal.eyeconvpc.com/resources_content/documentation/User%20Import.pdf

Select User to Edit				
User ID	Username	Access Level	Train Pills	Override OPV
5678	will	ADMIN	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Buttons: Exit, Delete, Edit, Add

IMAGE ZOOM

There are two zoom levels available when viewing the live photo. Double-tap the area you want to enlarge to zoom in. Double-tap again to zoom in further, and a third double-tap will return to the full tray view. While zoomed in, touch and hold the image, then slide in any direction to view other areas of the photo.



Zoom functionality is also available when reviewing images from the Auditor work area.