# ZOLL Case Review Basic & Case Review Premium User Guide

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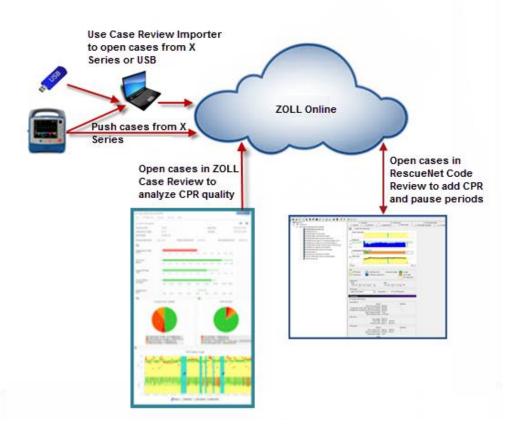
# **Overview**

Case Review is a case management tool that allows users to upload case files, view CPR quality and trends over time, and identify commonalities between cases. With Case Review users can filter cases using specific attributes such as the same waveforms, vitals, events, and alarms. For easy identification, users can create a custom tag and apply it to one or more cases that require further analysis and review.

# How it Works

Case files are transferred directly from the X or R Series ZOLL Defibrillators to ZOLL Online using the Case Push function or via a mobile PC using the Case Review Importer. Once transferred, users can log into Case Review to view an instant CPR Report Card which generates data based on auto-defined CPR periods.

To help Case Review provide the most accurate CPR quality information, Case Review Premium users can exercise the CPR Editor functionality to add user-defined ROSC, CPR periods, and pause periods. Alternately, Case Review Basic users (without the CPR module) can open ZOLL Online cases in RescueNet Code Review to add user-defined CPR periods and pause reasons. Once this is done, users return to Case Review Basic to view the modified CPR quality metrics including aggregate CPR dashboards.





# Case Review Basic & Case Review Premium

Case Review Basic is available free to all ZOLL customers. The free version allows you to upload, download, and view case files that have been recorded in the previous month. In this way, you can take advantage of the Case Push function of the X Series and use Cloud2Cloud integration to connect your preferred Patient Care Charting program.

In addition to Case Review Basic, ZOLL offers Case Review Premium for purchase. On top of the features found in Case Review Basic, Case Review Premium users have access to:

- An expanded CPR Report Card which includes MAX, Pre, Post, and Perishock Pause times
- A CPR Editor
- CPR Aggregate Reports
- Saved searches
- Automatic tagging
- Configurable settings for pause periods, CPR rate, and depth ranges
- Ability to print and email the CPR report card
- Longer term access to case files

You will be granted access to Case Review Basic when you sign up on ZOLL Online. For access to Case Review Premium, call your ZOLL representative.

Important! This guide contains feature information for both Case Review Basic and Case Review Premium. To distinguish between the two modules, features that are only available in Case Review Premium are marked with the premium features.

# **Prerequisites**

- **ZOLL Online Account**: To use Case Review you must have a ZOLL Online account. Log onto <a href="http://zollonline.com">http://zollonline.com</a> to create your account and invite users to join your company.
- RescueNet Code Review (required for Case Review users to edit CPR cases): Use to annotate case files with CPR periods and pause periods before or after you open them in Case Review. Because Case Review Premium has a CPR Editor, Code Review is only necessary if Case Review Premium users want to edit the annotations on the case files.



**Note**: Both Case Review Basic and Case Review Premium work with RescueNet Code Review version 5.7.1 or later. A free standard edition of this version is available for download at http://www.zolldata.com/c-r-downloads.



# **Get Started**

# Inviting Users to Join Your Company (Administrators only)

You must create a user account for every user you wish to join your company. When you create the account you select the account type (Standard User or Administrator) and grant access to Case Review Basic or Case Review Premium.

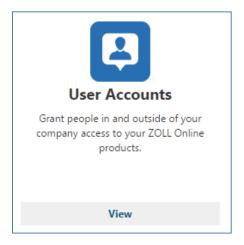
1. On the ZOLL Online Navigation Bar, click Admin.



2. On the Admin page, click Case Review Basic or Case Review Premium.

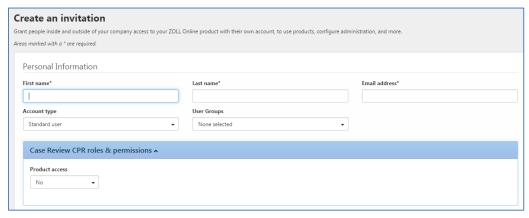


3. Click User Accounts.





4. Click the plus sign The 'Create an invitation' page displays.



- 5. **First and last name**: The name you enter displays on the ZOLL Online Navigation Bar when the user logs in.
- 6. **Email address**: The system uses the email address to send an invitation to the user. The system automatically sends an invitation when you click Save on the 'Invite a user' page. The invitation contains a code that verifies that the user has access to your company and a link to the ZOLL Online Invitation page.
- 7. Account type:
  - a. **Standard user**: Has access to all pages and fields except for those that are reserved for System Administrators.
  - b. **System Administrator**: In addition to the pages and fields available to the Standard User, an administrator also has access to Admin and Settings pages. In addition, only administrators can save searches.
    - When you select System Administrator, the system automatically checks all the roles and permissions listed under 'Administration roles & permissions'. You can uncheck the boxes for permission that you wish to revoke.
- 8. Granting access to Case Review Basic or Case Review Premium: Under the Case Review Premium or Case Review Basic roles & permissions banner, ensure that the 'Product access' field says 'Yes'.



Click Save. The system emails an invitation request to the user's email. Once the user
accepts the invitation, they will be able to log in and access Case Review Basic or Case
Review Premium.



# **Accessing Case Review**

- 1. Type\_www.zollonline.com in your browser window. ZOLL supports Microsoft Internet Explorer 10 or higher and Chrome.
- 2. Log onto ZOLL Online using your email address and password.
- 3. On the 'My Products' page, click Case Review Basic or Case Review Premium. The Manage page opens by default.

# Navigate Case Review

ZOLL Online and Case Review navigation is fast and easy. For ZOLL Online, use the top blue bar. For Case Review Basic and Case Review Premium, use the white navigation bar under the blue bar.

# **ZOLL Online Navigation Bar**



- Home: From any page in Case Review, click the Home link to go to the 'My Products' page.
- Admin: Click to configure system categories.
- Your email address: Click to edit your profile or password.

# Case Review Navigation Bar

The items the system displays on the Case Review Navigation Bar varies depending on the version of Case Review you are using and your user permissions.

#### Case Review Basic General User:



#### Case Review Basic Administrator:



#### Case Review Premium General User:



#### Case Review Premium Administrator:



Each of the links in the Case Review Navigation Bar is discussed in detail in the following sections.



# Manage Page

Use the Manage page to:

- Display uploaded cases. Case Review Basic users can view cases 30 days in the past. For Case Review Premium users, ZOLL provides greater data storage.
- Display case details
- Download a case
- Delete uploaded cases
- Filter the view on the Manage Grid to display cases with specific attributes, within a date range, or both.
- View:
  - CPR Quality Report Cards (access via the Detail page)
  - Snapshot
  - Audit Log
- Access the CPR Editor





Note: The system automatically creates CPR and pause periods for case files with valid CPR data. If you are a:

- Case Review Basic user: View the CPR and pause periods using the CPR Report Card.
- Case Review Premium user: In addition to having the ability to use the CPR Report Card, Case Review Premium users can edit the CPR and pause periods using the CPR Editor.

The Manage page displays by default when you open Case Review. To navigate to the Manage page, click **Manage** on the Case Review Navigation Bar.

# Manage Filters

Filters are designed to improve your ability to find specific cases. Within each filter category, you can choose one or more selections. For example, in the Events category, you may want to view all case files with 'No Shock Advised' and '12-Lead'. In addition, you can choose to filter cases using multiple selections within multiple categories.

After selecting your filters, click Search to view the cases. The system displays the selected search criteria and returns cases that match all of your search criteria on the Manage grid.

When you click **Clear Filters**, the system removes the filters and displays all uploaded cases.

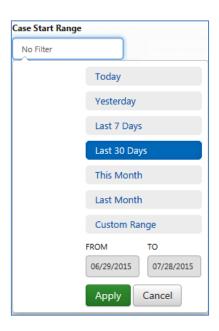
With the exception of a Device Type search, the search results include cases that contain **all** of your checked search criteria. Cases that match some of your search criteria but not all checked items, will not display. Device Type searches work a little differently, you can check multiple items and your search results will include cases that match one or more of the search criteria.

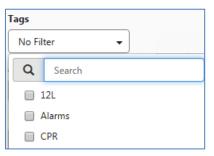


# Filter Details

# Case Start Range

Choose today or yesterday, a date range such as the last 30 days, or customize a date range by clicking 'Custom Range' and selecting dates from the calendar.





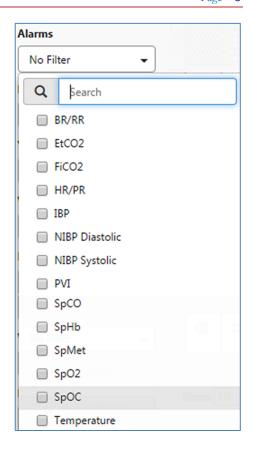
# Tags

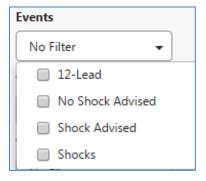
Displays tag names that users created (in alphabetical order) and applied to cases. For more information, see <u>Tags</u>.



#### **Alarms**

Displays cases with specific alarm types, check the box next to each alarm you want to view.





#### **Events**

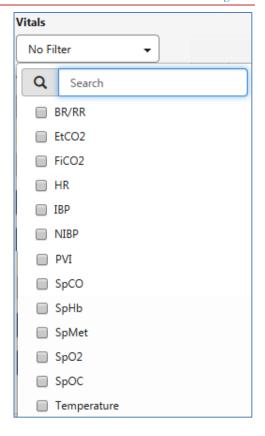
Displays cases with specific events, check the box next to each event you want to view.

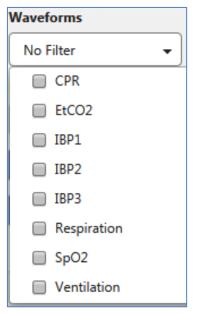


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## Vitals

Displays cases with specific vitals, check the box next to each vital you want to view.





## Waveforms

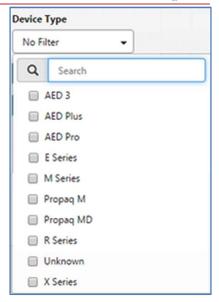
Displays cases with specific waveforms, check the box next to each waveform you want to view.



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# **Device Type**

To display cases with specific device types, check the box next to each device type you want to view.



# Click Search

After you set your filter criteria, click **Search**. The system displays all cases that match the criteria you specify. On the top of the page, the system provides a list of filters you choose such as alarms, vitals, events, etc. You can modify the search output by clicking the X next to the filter to remove it.



# Create a Saved Search

This section describes how to create a saved search.



**Note**: To save a search, you must be a Case Review Premium user. As Premium users, both Administrators and Standard Users can create or modify a saved search; however, only Administrators can delete a saved search.

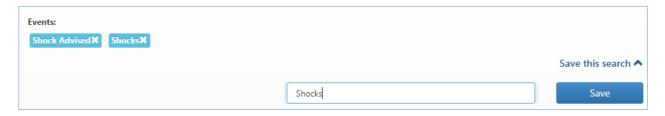


To save a search for future use:

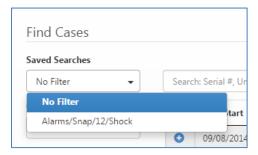
- 1. Select your filter combinations.
- 2 Click Q Search
- 3. Click 'Save this search'.



4. Enter a name (maximum 40 characters) and click **Save**.



5. When you want to use the search, click the **Saved Searches** field on the Manage page and click the search name.





**Note**: If you just saved a search, refresh the Manage page and then click **Saved Searches**. For more information on how to manage your saved searches, see Saved Searches.

When you view the saved search, the saved search criteria display. You can modify your search by clicking the X next to a filter item to delete it. After deleting a filter item, you can click 'Save this search', give the search a new name, and click Save.



# Delete

Use Delete to remove one or more cases. If you remove a case by mistake, you can upload it again by clicking **Upload**.

- 1. Click the case to highlight. If you want to delete more than one case, continue clicking cases until each case you want to delete is highlighted.
- 2. Click Delete
- 3. A confirmation window opens. The system lists the number of cases you selected.
- 4. Click **yes** to delete the case(s).

# **Text Search**

Use search to filter cases by entering specific text. You can use Search to filter the cases by serial number, unit ID, or patient ID. The system will search on partial numbers; however, the more complete you can be when entering a number, the fewer results display and the greater the chance that you will find what you are looking for.

If no cases match a search, the system displays a message on the grid.



# **Columns**

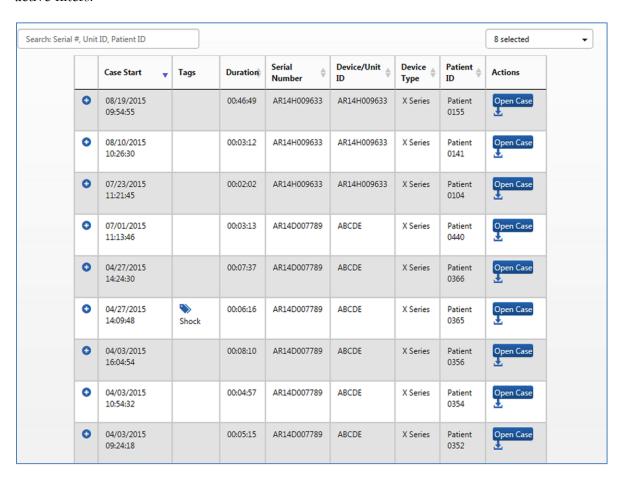
Use the Columns field to display or hide a column. If the column's name is checked, the system will display the column on the grid. The first column contains an expandable Case Review section.





# The Manage Grid

The Manage Grid displays cases loaded on the system. If a filter is activated, the grid displays the case(s) that matches the filter search criteria. To see all the cases, ensure that you don't have any active filters.



# **Case Overview Summary**

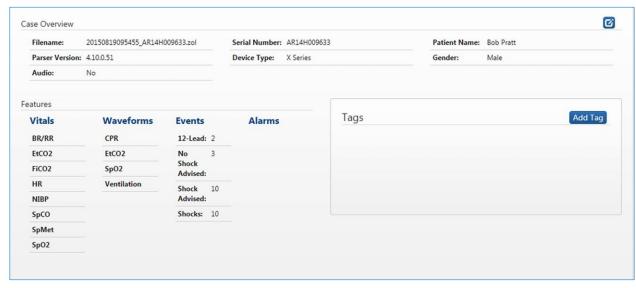
Click the plus sign to the left of the case start date to see a summary of the case details.

	Case Start Tags	Duration
9	08/19/2015 09:54:55 Click to see case details	00:46:49
0	08/10/2015 10:26:30	00:03:12

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2.

# Tags Column

If the case has an applied tag, a tag icon and tag name display. If there are more tags then can fit in the column, you can click the Tags icon to view a full list.



To bring your attention to uploaded cases that have not yet been viewed, the system displays a 'New' tag in the Tags column. Once the case is viewed in either the Detail page or the CPR Editor, the system removes the 'New' tag.

# **Actions Column**

The Actions column displays links to the Detail, and Download functions.

# Download 🕹

Click 'Download' to download cases for review. The Download icon takes you to the Exports page. For more information, see <u>Exports</u>.

# **Open Case**

Click 'Open Case' to view an overview of the case, case features, and associated tags. From the Detail page you can access the CPR Report Card, Snapshots, and Audit Log pages.

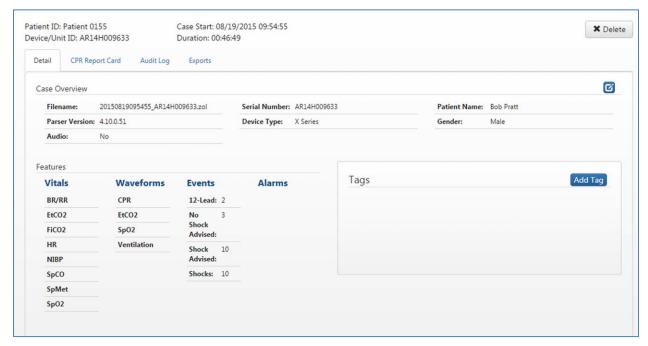




**Note**: When you click 'Open Case' on the Manage page, if the case has CPR data present, the system sends you to the CPR Report Card page by default. Otherwise, the system sends you to the Detail page.



**Note**: CPR Report Card and Snapshots options *only* display if they exist in the case you are viewing.



**Case Overview section**: Displays case details such as case filename, case start time and date, duration, serial number, and initiating device.

In cases where the data is not correct or complete, you can edit the following fields:

Age

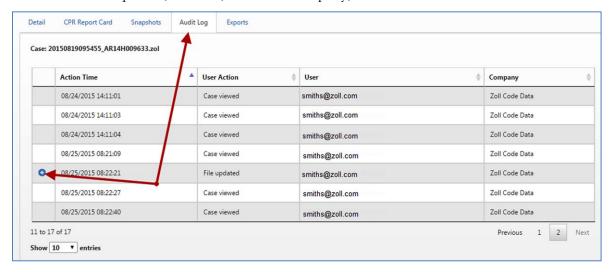
- Patient ID
- Date of birth
- Patient name
- Device/Unit ID
- Patient Medical Record Number (MRN)
- Gender
- Race
- Height
- Weight

Edit Case Overview Data: Click the edit icon to open the Case Details Editor. Use the Case Details Editor to modify case details that were incomplete or incorrect when the case was recorded.



Case Details Editor			×
Device/Unit ID:			
South Metro			
Patient ID:			
Patient 0365			
First Name:			
Jane			
Patient Middle Initial:			
Last Name:			
Jones			
Gender:			
Female ▼			
Race:			
Undetermined ▼			
Weight:			
150 Kilograms ▼			
Height:			
5 Centimeters ▼			
Date of Birth:			
	Close	Save changes	Clear

When you click 'Save changes', the system records an entry in the Audit Log. The entry displays the date the file was updated, the user, the user's company, and the modified fields.



Features section: Displays case vitals, waveforms, events, and alarms.

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Tags section: Displays all applied tags. To apply another tag to this case:

1. Click **Add Tag** to display the Add Tag dialog window.



- 2. Enter a tag name.
- 3. Click **Save**. The system applies the new tag to this case and displays it under the Tags heading.

# **CPR Report Card**

The CPR Report Card displays CPR data in several color coordinated, interactive graphs. You can use CPR Report Card to view cases with valid CPR data uploaded from the X Series, E Series, R Series, AED 3, and AEDPro/AEDPlus. The CPR Report Card is divided into a header, CPR performance data bar charts, and CPR quality and fraction pie charts.

## **Case Review Features**

#### Print the report



Click the print icon to create a PDF of the report. The report opens a new browser tab from which you can print or save to a PDF format. The system writes an entry in the Audit Log whenever a user prints a CPR Report Card.

# **Case Review Premium Features**

In addition to printing the report, Case Review Premium users can also email the CPR Report Card and customize the header to display a company logo. The system writes an entry in the Audit Log whenever a user emails a case.

# Print or Email the report



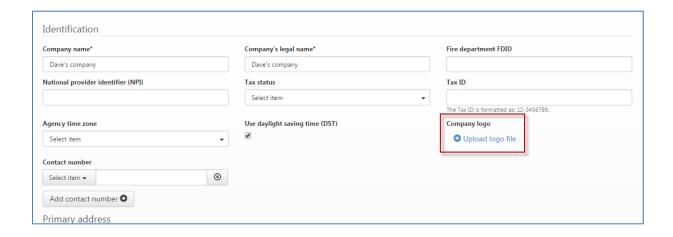
You can choose to print (create a PDF) or email the entire report or choose one or more segments:

- **Select the segment**: Use the tag icon above each section to include or exclude the segment from the report. When the tag is green the system includes the section. If you click the green tag, it turns red and the system will not include that section.
- Entire report: Ensure that all tags are green for each segment.



# Display a company logo

- If your Administrator has not uploaded your company logo, the system defaults the header of the report to the ZOLL company logo. If you are an Administrator, use the following steps to display your company's logo:
  - Click **Admin** on the ZOLL Online Navigation Bar (blue bar)
  - Click Case Review Basic or Case Review Premium
  - Click Company Profile 3.
  - On the Company Profile page, click 'Upload logo file'



- Click 'Choose File'
- Browse to the logo's location and select the file
- 7. Click Save
- Your logo's name displays next to 'Upload logo file'. The system will now display your logo in the heading of the CPR Report Card when it is printed or emailed.

# Report Card Header





The CPR Report Card Header provides the following functionality:

- Include in CPR aggregate: Use this box to filter which cases display on the CPR Aggregate report.
  - 1. Check 'Include in CPR aggregate'.
  - 2. Click **CPR Aggregate** on the Case Review Navigation Bar.
  - 3. On the CPR Aggregate page, check 'Only use cases marked for inclusion'.
  - 4. Click **Search**. Only the cases that you checked display.
- Email Email: Creates a PDF and sends a copy to your email address. You can view/modify your email address by clicking your username on the ZOLL Online Navigation bar (blue bar).
- Print .: Opens the PDF in a new tab. You can choose to print or save the PDF.
- Edit : Sends you to the CPR Editor page. For more information, see CPR Editor.
- Case details: For fast access, the system displays key case details such as total time in CPR, report date, and compressions in target.

#### **CPR Performance Data – Bar Chart**





## Color indicators:

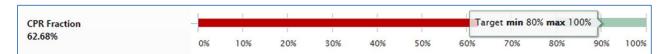
- Light green bars represent target set for that performance metric.
- Dark green indicates that the value for the performance metric fell within the acceptable target range
- Red indicates that the value for the performance metric did not meet the acceptable target range.

## Move your mouse over:

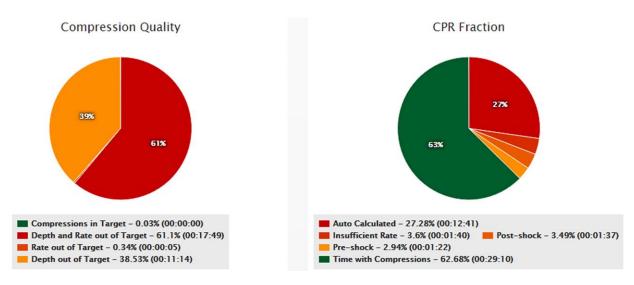
• The dark green or red bar to see the exact value of the performance metric.



• The light green bar to view the target value.



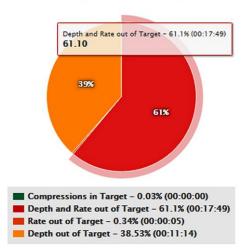
# Compression Quality and CPR Fraction Pie Charts



 Move your mouse over a section on the pie chart to view exact value of the performance metrics.



#### Compression Quality

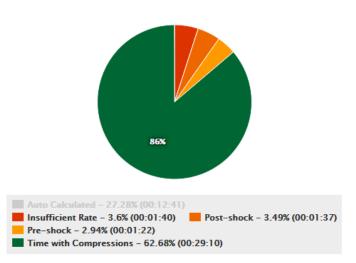




Note: Case Review Premium users that enter 'Other Reason' will see the reason next to the event on the CPR Fraction Pie Chart.

• To refine the results, click a performance metric under the pie chart to remove it from the chart. For example, the user clicked 'Auto Calculated' on the CPR Fraction chart (shown above) which resulted in the following chart:



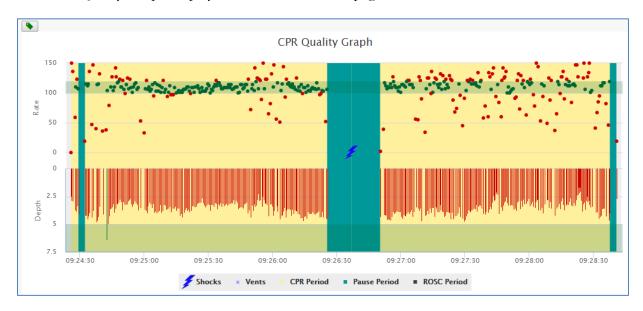


Notice that after the user clicked 'Auto Calculated', the text disappears to indicate that this value is no longer represented on the chart. To add this value back to the chart, the user would click the area in which 'Auto Calculated' formally displayed.

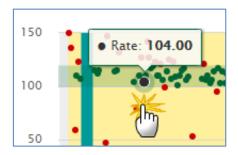


# **CPR Quality Graph**

The CPR Quality Graph displays at the bottom of the page.



Move your mouse over a metric to see details:



You can annotate cases in Case Review Premium with ROSC, CPR periods, and pause periods. All periods have start and end boundaries that you can manually select. The CPR periods identify areas to be included in the CPR quality calculations that display on the CPR Report Card. You can further annotate segments within the CPR Periods to denote CPR Pause Periods.

The graph keys display under the graph.





# The graph keys include:

- : A shock was administered
- : A grey dot appears when ventilation occurred. There are four types of vents. Because the system will only display one vent at a time, it prioritizes them in the following order, Manual, C02, Leads Impedance, and then Pads Impedance.
- : CPR periods display yellow
- : CPR pause periods display blue
- : ROSC periods display black



Note: The system automatically creates CPR and pause periods for cases with valid CPR data.

#### Case Review Basic users can:

View the CPR and pause periods using the CPR Report Card.

#### Case Review Premium users can:

- View/edit the CPR and pause periods using the CPR Editor.
- Identify Pre and Post-Shock pauses during uploading of the case. If the case has a shock that occurs during a pause period, that period is split into a Pre and Post-Shock period pair:
  - Pre-Shock begins at the original pause period to the point of the shock.
  - Post-Shock begins from the point of the shock to the end of the original shock.
- Automatically save 'Other' pause reasons. Other pause reasons are limited to 20 characters.

#### Zoom in

To enlarge an area for further analysis:

- 1. Depress the Shift key on your keyboard.
- 2. Click at the starting point of the area you wish to enlarge, drag your cursor to the end point and release the Shift key.
- 3. Use steps 1 and 2 to continue enlarging an area.
- When enlarged:
  - Use the Pan Left and Pan Right keys to view data that is outside the focus of the screen.
  - If needed, add ROSC, CPR and pause periods. b.
  - Click 'Reset Zoom' to return to the whole case view.



# **Modifying Data**



**Note**: As you add or edit a period in the CPR Editor, you will be required to either save or discard the changes before you can perform additional functions.

#### CPR Periods

A CPR period is color coded **yellow**. Within the yellow area, use the left-click of your mouse to modify the length of the CPR period and the right-click to add pause periods.

#### Add CPR Period:

- 1. On the gray area, left-click on the point you wish to enter a CPR period.
- 2. Select 'Add CPR Period'. A yellow bar displays at the point you selected.

## Modify the length:

- 1. Left-click within the parameters of the CPR period.
- 2. The borders of the CPR period turn red. Click and drag the red bars to enlarge the area.
- 3. Click 'Save changes'. The functions within the CPR Editor are frozen until you either save or discard your changes.

#### Delete:

1. Right-click within the borders of the CPR period and select 'Delete CPR Period'.

#### Pause Periods

A pause period within a CPR period is color coded **blue**. Use the right-click of your mouse to add, modify the length, and delete a pause period.

#### Add:

- 1. Within the CPR period parameters, right-click on your mouse.
- 2. Select 'Add Pause Period'. A blue bar displays.

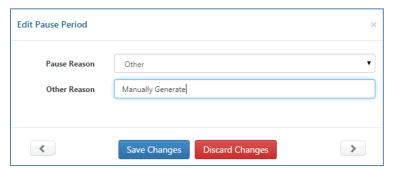
# Modify the length:

- 1. Double-click within the pause period parameters.
- 2. The borders of the pause period turn red. Click a red bar and drag it to the desired location.
- 3. Right-click and select 'Save Changes'. The functions within the CPR Editor are frozen until you either save or discard your changes.



# Edit the pause reason:

1. Right-click within the blue bars and select '**Edit Pause Period**'. The Edit Pause Period window displays.



## About the Edit Pause Period window:

Prior to making modifications using the Pause Reason and Other Reason fields, the arrows on the bottom of each side of the screen are active to allow you to move forward to the next pause reason or backward to the previous pause reason. When the arrows are active, the Save Changes and Discard Changes buttons are disabled.

To edit multiple pause reasons in sequence, start at the first pause reason and click the forward arrow to move to the next. To help keep track of which pause reason you are currently editing, the system darkens the blue bar. If you start editing a pause reason, you must either save or discard the changes to move forward or backward to the next pause reason. When you are editing, the system enables the Save Changes and Discard Changes buttons and disables the forward and backward arrows.

#### Add/Edit a ROSC

An ROSC is color coded black. An ROSC cannot exist within a CPR Period (yellow area).

#### Add:

- 1. Right-click on the point you wish to enter a ROSC.
- 2. Select 'Add ROSC Period'. A black bar displays at the point you selected.

#### Modify the length:

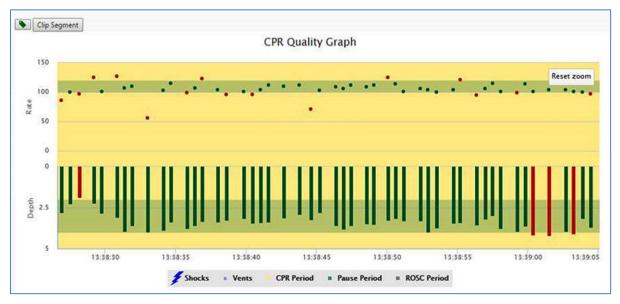
- 1. Click within the parameters of the ROSC.
- 2. The borders of the bar you selected turn red. Click a red bar and drag it to the desired location.
- 3. Click 'Save changes'. The functions within the CPR Editor are frozen until you either save or discard your changes.

## Delete:

1. Right-click within the black bars and select 'Delete ROSC Period'.



# CPR Quality Graph Segments



Zoom in and enlarge a segment within the CPR Report Card and then create a picture of the segment for analysis. You can create up to 10 segments. The segment(s) can be included when you print or email the report card.

# To create a segment:

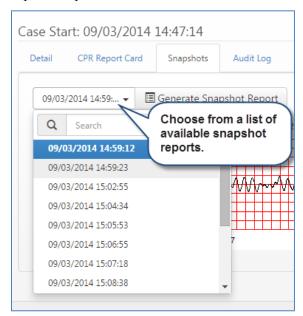
- 1. **Zoom in**: Point at the area on the graph where you want to start the zoom. Left-click and drag your mouse to the ending point. Release the left-click on the mouse. The system expands the area.
- 2. **Clip Segment**: Use to create a segment. The segment displays below the CPR Quality Graph.
- 3. Enter a title that helps explain what the segment represents.
- 4. **Include tag** We: Use to determine if the segment will be included in your PDF. If the tag is green, the segment will be included in the PDF. If you do not want to include the segment, click the tag to turn it to red.



# **Snapshots**

Snapshots allow you to view snapshot reports recorded by the device.

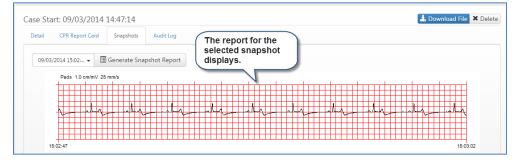
To view a snapshot report:



1.



2.

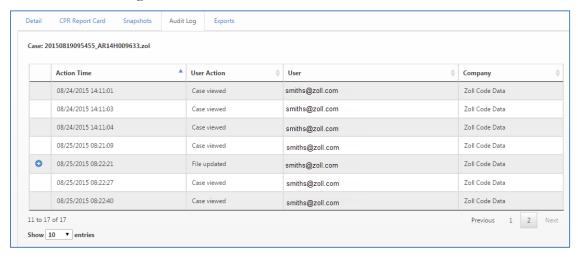


3.



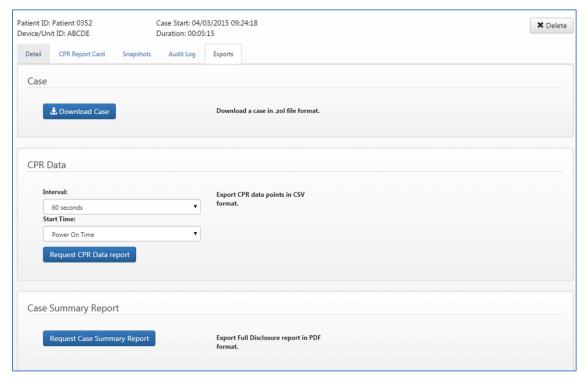
# **Audit Log**

The Audit Log displays actions that have occurred to this case since the upload. The columns of information include the time the action happened, the action, the user that performed the action, and the name of the user's company. If a user prints or emails a .pdf of a case, the system logs that action in the audit log.



# **Exports**

You can use Exports to download case files, CPR data points in a .CSV format and/or a Full Disclosure Report in a PDF format.



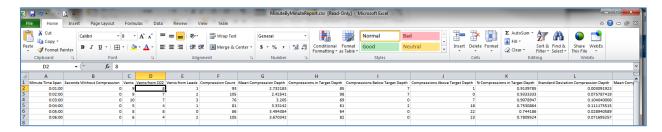


#### **Download Cases**

1. Click Download case to download a copy of the case to your PC.

# **Export CPR Data Point Report**

- 1. **Interval**: Select 15, 30, or 60 seconds.
- 2. **Start time**: Select either power on time or pads on time.
- 3. Click **Request CPR Data report**. The report downloads to your PC.



## **Export Full Disclose Report**

- 1. Click Request Case Summary Report.
- 2. The .zip file displays next to the button. Click the .zip file to download the file to your computer. The system allows 50 cases per zipped file.



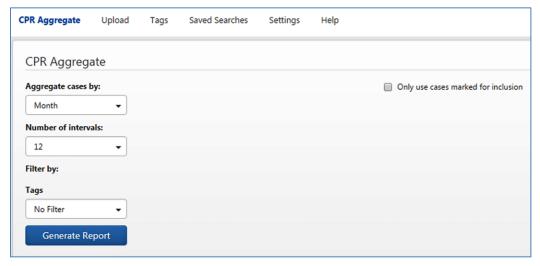
## **Download File**

- Click Lownload File to download a file to your computer.
- Click Delete to delete the case file from Case Review.
- Note: An administrator must grant users permission to delete cases. To grant permission, click **Settings** on the Case Review navigation bar.



# **EVER** Aggregate

The CPR Aggregate page allows you to generate an aggregate report based on time and interval parameters that you choose.



Use the following parameters to generate a CPR Aggregate report:

- 'Aggregate cases by' and 'Number of intervals'.
  - o **Day**: Choose an interval from 1 to 20.
  - o Week: Choose an interval from 1 to 20.
  - o **Month**: Choose an interval from 1 to 20.
  - Year: Choose an interval from 1 to 7.

The system defaults the 'Aggregate cases by' field to 'Month'. You can change the default using the drop-down menu.

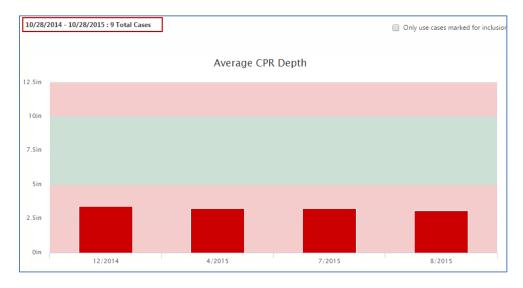
If you choose 'Year', 'Month', or 'Week', you can double-click a bar on the report to view the next date grouping. For example, if you choose 'Month', double-click a bar anywhere on the report to view the aggregate report in weeks for the selected month. Double-click a bar again and the report displays in days of the selected week.

As you click on a bar to drilldown, the date on the top of the report reflects the new date range and the total number of cases included in that date range.

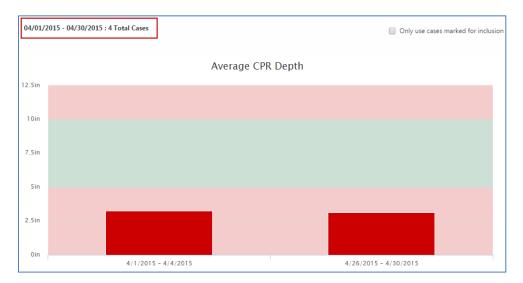


# Example:

A CPR Aggregate report was run using an interval of month. The date range on the top reads 10/282014 - 10/28/2105. The report includes a total of nine cases.

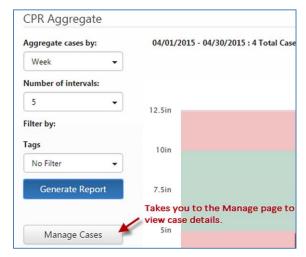


The user clicks the second bar (4/2015) to drilldown to weeks. The date range on the top now reads 04/01/2015 - 04/30/2015. There are four cases that fall within this date range.

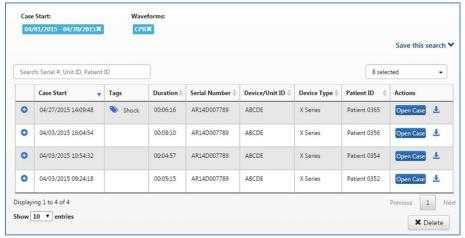




The user can view the details of the four cases reflected in the report by clicking **Manage Cases**. The system displays the Manage page and the four cases in a list. On the case line, click 'Open Case' to view case details.



1.



2.

- *Filter by*: Use this field to filter the cases so only those for which the tag applies are used for the report. You can choose one or multiple tags to filter on.
- 'Cases that you marked for inclusion': On the CPR Report Card page there is an option to include the case information in the CPR Aggregate report. If that option is checked on one or more cases, you can filter the aggregate report to include only the cases with that option selected.

For example, a user marked the 'Include in CPR aggregate' check box on the CPR Report Card for three cases. Then the user marked the 'Only use cases marked for inclusion' box on the CPR Aggregate report and clicked Generate Report. The system will create an aggregate report based on the three cases the user selected. The system displays a 3 next to 'Total Number of Cases in Range' to show you the number of cases used to build the report.

The Aggregate Report CPR displays the results in three histogram bar graphs and a line graph.





## **CPR** Aggregate Bar Graphs

The system displays three bar graphs, Average CPR Depth, Average CPR Rate, and Average CPR Fraction. When you move your mouse over a bar on one of the graphs, the system displays the calculated results. At the bottom of the page, the system displays a line graph that shows pause reasons and the durations for those pauses.

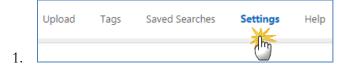
Each bar graph displays the date range along the bottom. The value represented on the left side depends on the graph:

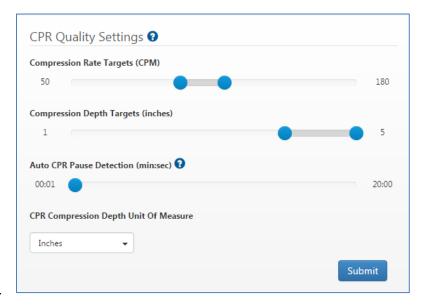
- Average CPR Depth graph number of inches or centimeters
- Average CPR Rate graph number of compressions per minute
- Average CPR Fraction graph fraction percentage

Within each graph, the system highlights the grid in green to show the acceptable target range and in red for unacceptable ranges. The acceptable target for the:

- Average CPR Depth chart is 2 and 4 inches
- CPR Rate chart is 100 to 120 cpm
- CPR Fraction chart is 80% or higher

If you are an administrator, you can view/modify the target ranges by clicking Settings on the navigation bar.





2.

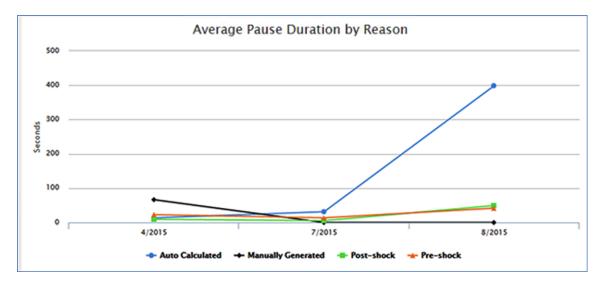


# CPR Aggregate Pause Duration by Reason Line Graph

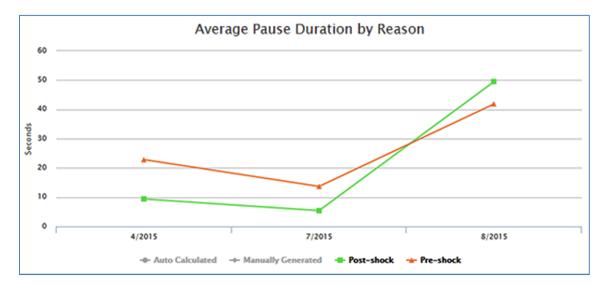
The Aggregate Pause Duration by Reason line graph displays pause reason information noted for the aggregated cases.

You can modify the chart display to show only specific pause reasons. Begin by clicking the description of a reason that you want to remove in the key below the graph. If the reason is bolded, the line displays on the chart. If it is grayed out, the line is removed.

The following figure shows the original chart before modification.



The user clicks all options (grays them out) but Post-shock and Pre-shock pauses which results in the following chart:





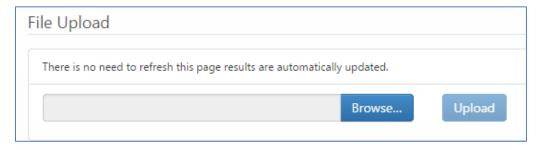
# **Upload Page**

There are three ways to upload cases to Case Review:

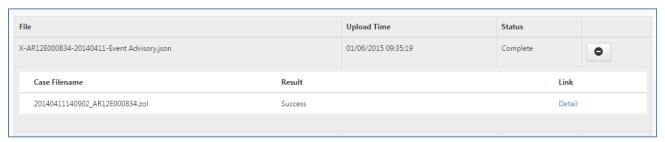
- 1. **Upload page**: Uploads cases from a file storage location (instructions below).
- 2. **Case Review Importer**: Retrieves cases from the ZOLL X, R, and E Series defibrillators, a USB, or a file system. For configuration information, see <u>Case Review Importer</u>.
- 3. **Case push**: Available with the X and R Series defibrillators. For configuration information, see <u>Configuring for Case Push</u>.

To use the Upload page:

- 1. From the Case Review navigation bar, click **Upload**.
- 2. On the Upload page, click **Browse**. A dialog box opens that allows you to navigate to the stored location.



- 3. At the stored location, highlight case(s) you wish to upload. You can select multiple cases by using the Shift key.
- 4. Click **Open**. The file(s) appear in the field.
- 5. Click **Upload**.
- 6. The page updates to show the upload status. There is no need to refresh the page. As the files upload, the Status column changes from Pending to Complete and a plus sign appears. To view more details, click the plus sign. Click the **Detail** link to view the details of the uploaded case file.



7. When you click **Manage**, the uploaded cases display.



# Tags

Use Tags to mark cases so that you can easily find them for further analysis. For example:

- 1. Create a Unit 12 tag and apply it to the cases that were handled by Unit 12.
- 2. On the Manage page in the filters section, click the Tags field and check the box next to Unit 12.
- 3. Click Search.
- 4. The system displays the cases with the associated Unit 12 Tag on the Manage grid.



**Note**: The search mechanism associated with the filters on the Manage page uses 'and' not 'or' to find and display cases. If you select multiple Tags, the system displays all cases associated with all Tags you select in the filtered results.

## Tags Page

- 1. On the Case Review Navigation Bar, click **Tags**.
- 2. The Tags page displays all the tags configured on the system.

#### Add

- 1. Click Add Tag
- 2. In the Add Tag dialog box, enter the tag name and then click **Save**.
- 3. To apply a tag to a specific case, use the Case Detail page.



#### **Delete**

Click **X** next to the Tag name. The Delete a Tag dialog box opens. This window displays the number of cases associated with the Tag. If you click **Delete**, the system removes the Tag and all its associations.



Note: To keep the Tag in the system but delete its association with a case, use the Manage page.

#### **Edit**

Click the Tag. The Edit a Tag dialog box opens. Modify the Tag name and click Save.



## Manage Page

If there is a tag associated with a case file, the tag name displays on the case file line in the Tags column.

### Add or Delete a Tag

To add or delete a Tag for a specific case file:

- 1. From the Manage page, click **Detail**.
- 2. On the Detail page under the Tags heading:
  - a. Add a Tag: Click Add Tag. In the Add a Tag dialog box, enter the tag name and click Save.
  - b. **Delete a tag**: Click **X** next to the Tag name. The system disassociates the tag from the case. It does not delete the tag from the system.



**Note**: To delete a Tag from the system, go to the Tags page and click **X** next to the tag

# Saved Searches

All Case Review Premium users can create and save searches. However; administrators have several more abilities than that of a standard user.

An administrator can:

- Run, edit, and delete any saved search on the system (using the Saved Searches page)
- Share their searches with the organization

In contrast, a standard user can:

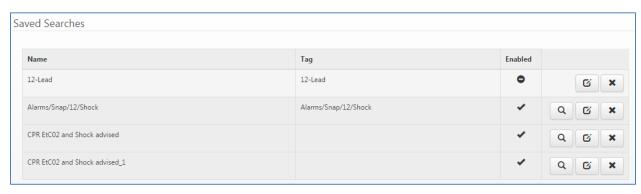
- Only view the searches they create and those shared by their administrator
- Can view and modify the searches they create but cannot delete them. Instead of deleting, a standard user can modify an existing search for different search criteria.



## Managing Saved Searches (Administrator)

On the Case Review Premium Navigation Bar, click Saved Searches to:

- View a list of existing searches
- View related tags
- Enable/disable a search
- Run a search
- Edit a search
- Delete a search



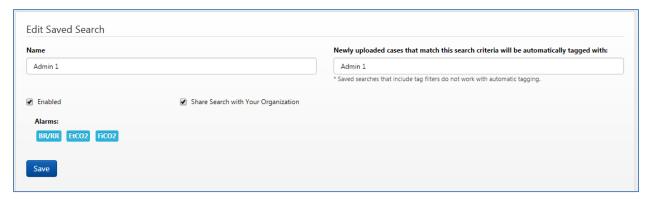
### Run a Search

- 1. Click Run Q.
- 2. The results will display on the Manage page.



#### Edit a Search

1. Click Edit . The Edit Saved Search page displays.



- 2. Name: Click the 'Name' field to modify the name.
- 3. **Automatic tag:** If you enter a tag name in this field, the system will automatically apply this tag to any newly updated case that matches this search.
  - a. Ensure that the Enabled box is checked (checked by default).
  - b. The system defaults the search name as the tag name. You can change the tag name by clicking the 'Newly uploaded cases that match this search criteria will automatically tagged with:' field and entering a new name.



**Note**: The system will not automatically tag cases that were uploaded prior to implementing automatic tagging.

- 4. **Enabled**: You have the capability to disable a search for future use.
- 5. **Share Search with Your Organization**: Check this box if you want to give other users the ability to use your search. If checked, the search name displays when standard users click Saved Searches on the Manage page.
- 6. **Alarms**: This section displays the search criteria.
- 7. Click **Save** to apply your changes to the saved search.

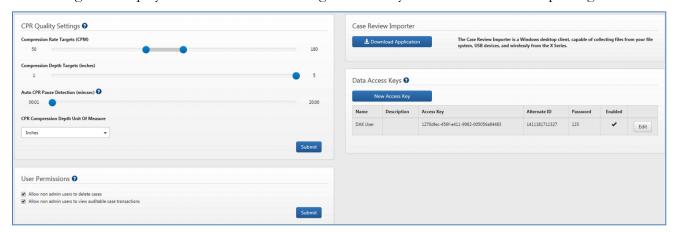
#### Delete a Search

- 1. Click '**Delete**'. A confirmation window opens to verify the delete action.
- 2. If you wish to continue, click '**Delete**'.



# Settings (Administrators only)

The Settings link displays in the Case Review navigation bar if you have administrative privileges.



## **Granting Permissions to Standard Users**



This section gives additional privileges to users without administration permissions. If the check box is marked Standard Users can:

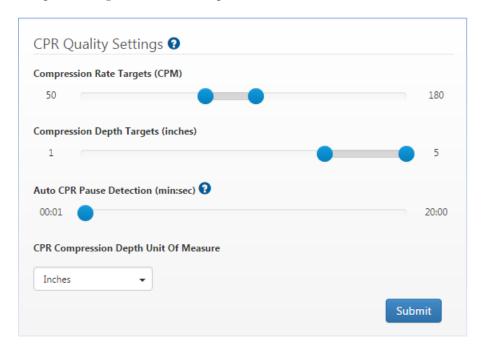
- Delete cases
- View auditable case transactions: If enabled, you can view the auditable case transactions by clicking the Audit Log on the Detail page.





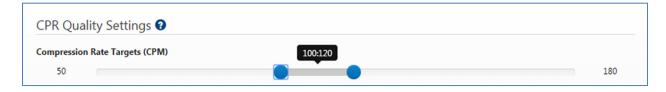
# Set Compression and CPR Pause Metrics

The system comes preconfigured with compression rate, compression depth, and CPR pause detect values. As a Case Review P user, you can change these values to match those accepted by your company. The values you set determine whether or not a compress rate or depth is displayed in an acceptable range on the CPR Report Card.



To set a measurement, depress the right-click on your mouse while pointing at a blue ball. Slide the ball to the measurement on the scale and release your mouse.

Hover over a blue ball to view the setting(s):



**CPR Compression Depth Unit of Measure**: Choose to display the depth shown on the CPR reports in inches or centimeters. This setting affects the Aggregate Report, the CPR Report Card > CPR Quality Graph, and the CPR Editor.

Click **Submit** to enter any changes made to this section.



# **Data Access Keys**

Use this section to create Data Access Keys (DAK) to connect other products to Case Review such as RescueNet Code Review and Case Review Importer.



The system gives you the ability to enable/disable a DAK. When you disable a DAK you deny the connection access to Case Review. While you can enable/disable a DAK, you cannot delete one.

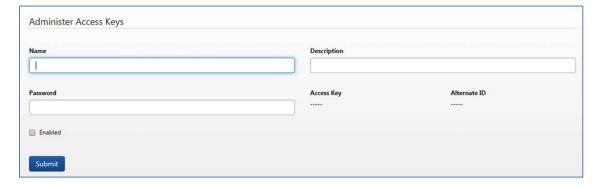
ZOLL recommends that you create DAKs for different applications. This gives you the flexibility to create a DAK for future use or to temporarily disable a DAK for a period of time. For example, if you configured a DAK for a Cloud2Cloud PCR partner and another for X Series, you could disable access for the Cloud2Cloud PCR partner at any time while still allowing X Series defibrillators to submit data to the system.



Note: DAK names can be numeric only.

To create a new DAK:

1. Click New Access Key



- On the 'Administer Access Keys' page, enter the name, description, and password for the DAK.
- 3. Enabled: The system allows you to disable or enable a DAK at any time. This gives you the flexibility to create a DAK for future use or to temporarily disable a DAK that is currently not needed.
- 4. Click **Submit**. The new DAK displays in the DAK list.



# Configuring Case Push for the R and X Series

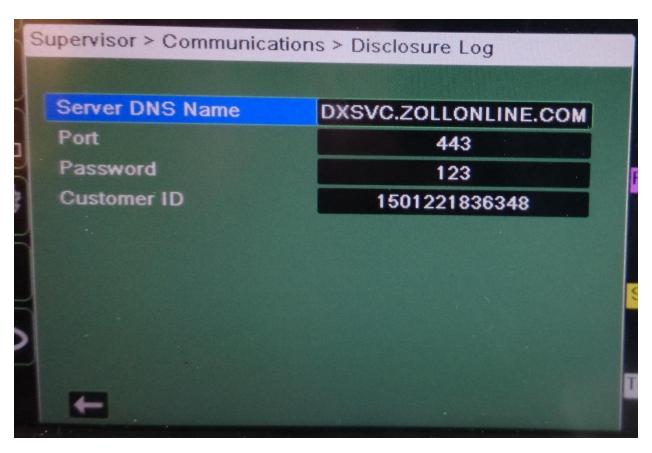
## Configuring Case Push for R Series

- 1. Go to Supervisor Mode > WiFi
- 2. Press Read from Card
- 3. Configure as follows:
  - a. Use Hostname: Enter Yes
  - b. Server Servername (Full Disclosure): Enter dxsvc.zollonline.com
  - c. Server Port (Full Disclosure): Enter 433
  - d. Username (full Disclosure): Enter DAK Alternate ID or DAK access key
  - e. Password (Full Disclosure): Enter DAK password
  - f. Edit Network Profile I
    - i. **SSID**: Enter your SSID
    - ii. **Security Key**: Enter your security key
  - g. Continue pushing the 'Next item' button until 'Save to WiFi Card' displays
  - h. Select Save to WiFi Card
  - i. After save completes, push Category List
  - j. Push Main Menu
  - k. Push Exit Config
  - 1. The highlighted option is set to Save Changes and Exit push Enter
  - m. After saving is complete, set the option for Save Changes to Card to No and push Enter
  - n. Power off the R Series
- 4. Wait several seconds and turn the R Series back on
- 5. If not already configured, set Defib to Manual mode and Confirm
- 6. Select Report Data, then 'Transfer Mode, then 'Report to Wi-Fi'
- 7. Push Send Report and wait until you see 100%. The cases are now uploaded to the server.



## Configuring Case Push for X Series

- 1. Go to Supervisor>Communication>Disclosure Log
- 2. Configure as follows:
  - a. Server DNS Name: Enter dxsvc.zollonline.com
  - b. **Port**: Enter 443
  - c. Customer ID & DAK Password: Enter DAK

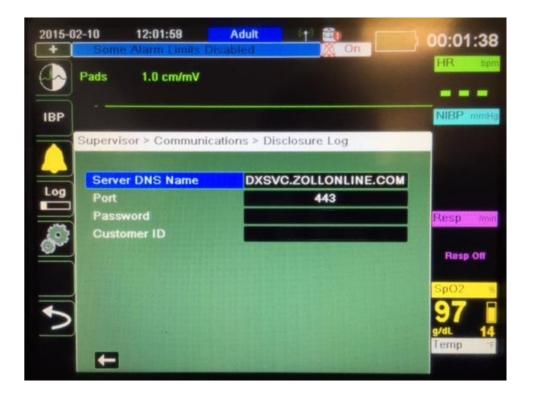




# Configuring X Series to Push to Case Review

On the X Series defibrillator:

- 1. Go to Supervisor > Communications > Disclosure Log
  - a. Server DNS Name =  $\frac{\text{dxsvc.zollonline.com}}{\text{dxsvc.zollonline.com}}$
  - b. Port = 443
  - c. On Case Review > Settings page, create a Data Access Key (DAK) in Case Review.
  - d. On the X Series, enter the DAK password and alternate ID in the Password and Customer ID fields.



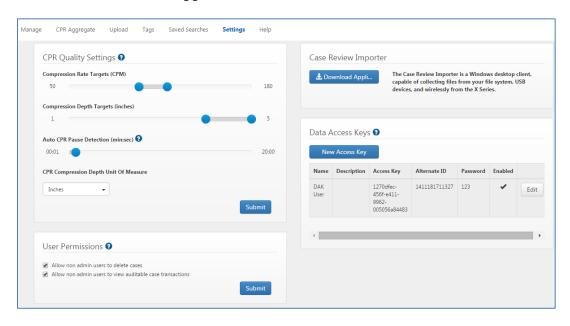


# **Case Review Importer**

Use Case Review Importer to retrieve cases from the ZOLL E and X Series defibrillators, a USB, or a file system.

## **Install Case Review Importer**

- 1. On the Case Review Navigation Bar, click **Settings**.
- 2. Click **Download Application**.



3. The system downloads and executable to your PC. Double-click to open the executable.



- 4. Click Run.
- 5. In the Case Review Importer Setup window, click Install.





6. When setup is complete, you will see the following window:





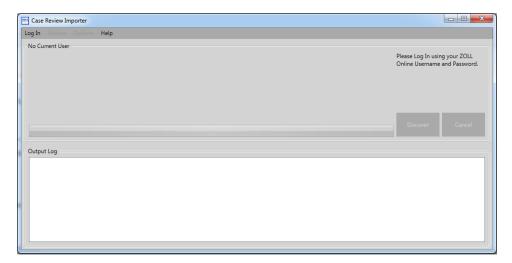
7. For easy access, you may want to display a Case Review icon on your computer screen. To make an icon, click **Start** and right-click on **Case Review Importer**. Keep your mouse button down and drag your mouse to your computer screen. Release your mouse button.

When you minimize Case Review Importer, the system displays it in your system tray.



## **Configuring Case Review Importer**

- 1. Click the Case Review Importer icon on your computer screen or click **Start > All Programs > Case Review Importer**.
- 2. Case Review Importer displays.



3. Click **Log In**. From the DAK section of the Settings page, enter your Key/alternate ID and password and click **Log In**. The importer will verify your credentials and log you onto the system.



4. Click Options > Automatic Upload Configurations.



- Enable Auto Upload for USB: System automatically uploads cases from a USB device when detected on the network and displays a dialog box that prompts you to upload all the case files, a specific case, or cancel the upload.
- **Include Sub-directory Searching**: Includes sub-directories in the search when a user clicks **Discover**.



## Using a Static IP Address

Use the following steps to configure Case Review Importer with a static IP address.

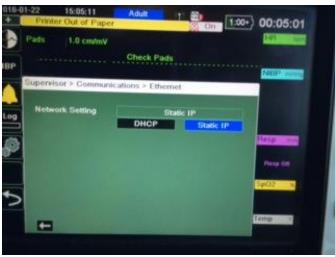
## Setup the X Series

- 1. Obtain an Ethernet to USB cable.
- 2. Plug the USB side of the cable to the X Series and the other side to your computer.



- 3. Power on the X Series.
- 4. Go to **Setup > Supervisor > Communications > Wireless** and change setting to **Disable Wireless**.
- 5. Go to **Ethernet > Configure** and change setting to **Setup Static IP**.







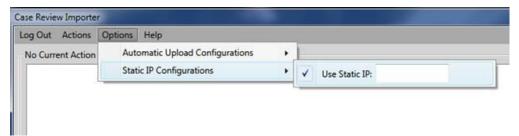
6. Enter you Static IP address info.



- 7. Save your changes.
- 8. Wait for one to two minutes until the communication shows that the Ethernet is connected (three green boxes).
- 9. Go back to **Supervisor > Communication** and find the IP address for Ethernet.

### **Case Review Importer Static IP Settings**

- 1. Launch Case Review Importer and login with a valid DAK key/alternate ID and password (paid users only).
- 2. Go to **Options** > **Static IP Configuration** and enter your Ethernet IP address from the X Series.



3. Click Get Cases.



Note: The system marks cases that were already uploaded with 'Previously Uploaded'.

- 4. Select cases and click **Upload**.
- 5. The Output Log displays uploaded messages.

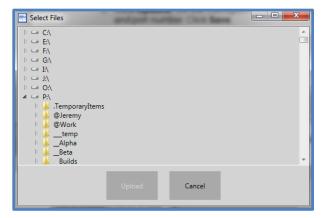


# Using Case Review Importer

Your system is now configured. At this point you can elect to upload cases from a location on your network, enter an IP address of an E or X Series defibrillator, or click **Discover** to find available devices.

#### Your network:

1. Click **Actions** > **Upload Cases from File System**. A window opens with the locations on your network.



- 2. Select the location on which the files reside.
- 3. Click **Upload**. The Importer will inform you when the transfer is completed.

#### **IP** address:

1. Enter the IP address in the field.



- 2. Click **Discover**. The system displays the cases that reside on the specified X Series.
- 3. Select the cases you wish to upload.
- 4. Click **Upload**.



#### X Series devices:

- 1. Click **Discover** to find all available devices on your network.
- 2. The system displays a list of devices in the Output Log.
- 3. Select the device.
- 4. Select the cases you want to upload.
- 5. Click **Upload**.

# <u>Using RescueNet Code Review with Case</u> <u>Review</u>

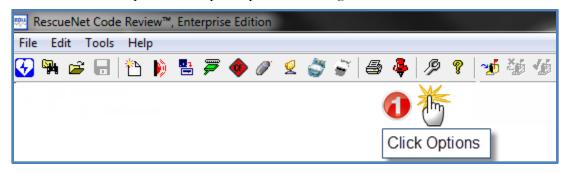
You can use Case Review Premium to annotate CPR periods, pause periods, and add/edit ROSC. For instructions, see CPR Editor.

If you don't have Case Review Premium you can use the following instructions to search and annotate a case using Code Review.

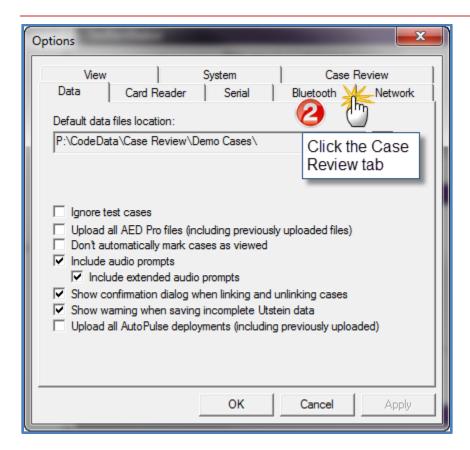
### **Search Cases from Case Review**

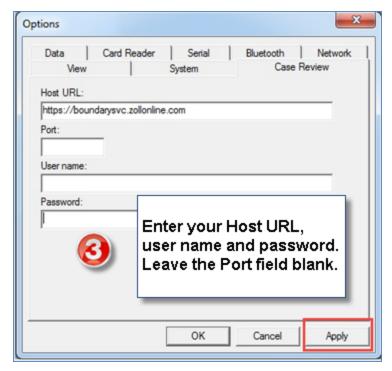
### Searching Cases Using Code Review

Use the following instructions to search a file from Case Review to RescueNet Code Review for annotation of CPR periods and pause periods relating to one more cases.





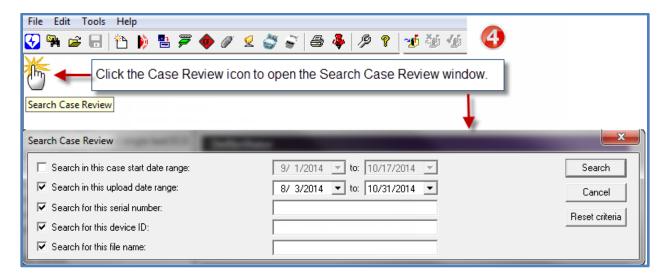


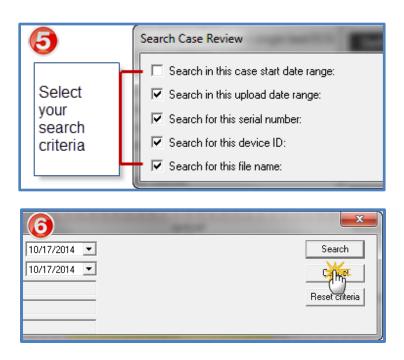


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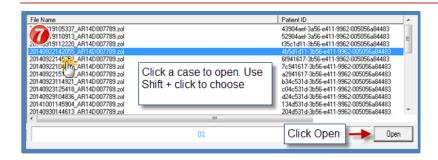


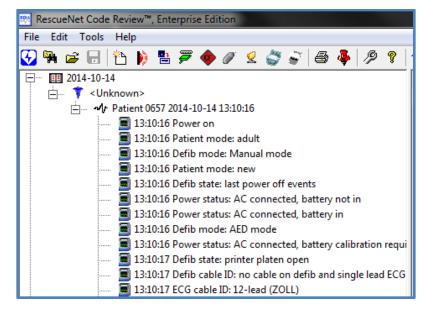
Use your username and password, or your Alternate ID and password from the Data Access Keys section of the Settings page in Case Review.













### Annotate Cases in RescueNet Code Review

You can annotate cases in RescueNet Code Review with CPR periods. The CPR periods identify areas to be included in the CPR quality calculations that display on the CPR Report Card in ZOLL Case Review. You can further annotate segments within the CPR Periods to denote CPR Pause reasons. Both CPR and pause periods have start and end boundaries that you can manually select.



**Note**: RescueNet Code Review draws the boundary at one second intervals, i.e. at the timestamp marker for that second. The boundary will not begin or end mid-second.



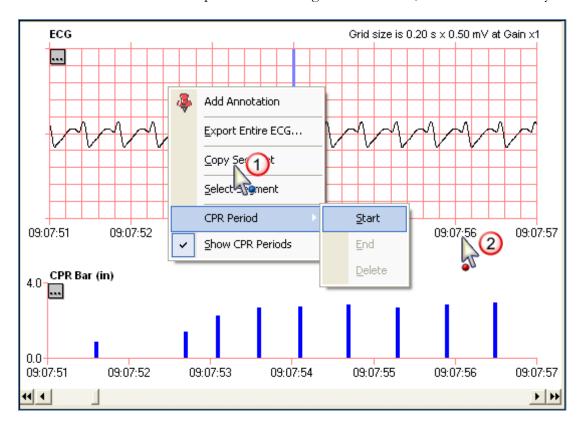
**Note**: When drawing two periods near each other, there must be at least one second separating the end of one period and the beginning of another. Adjacent periods without the one second gap may create unintended results.



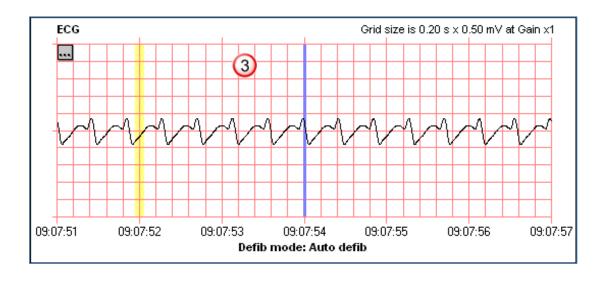
**Note**: If you are a Case Review Premium user, you can annotate cases using the CPR Editor.

### Drawing a CPR Period

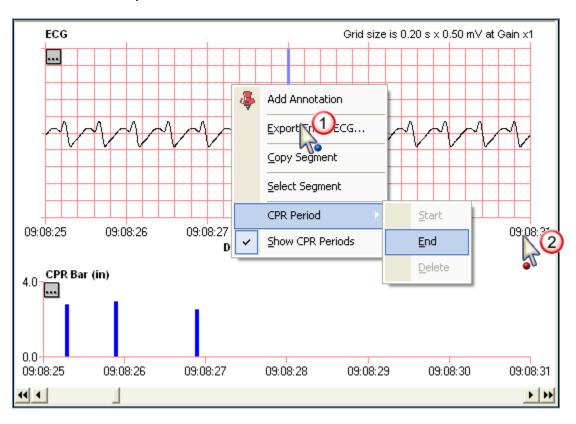
To create a user-defined CPR period on the Magnified ECG tab, first start a boundary:



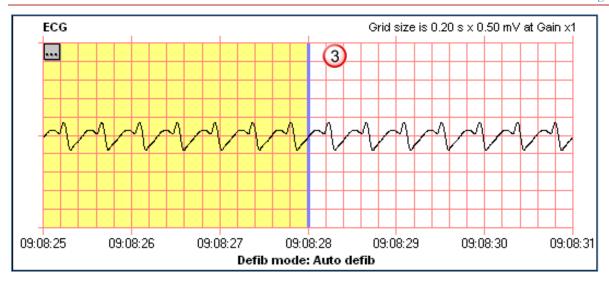




### To end the boundary:







## Drawing a CPR Pause

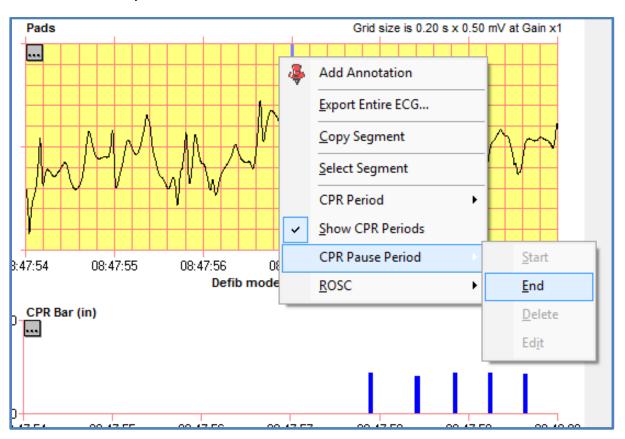
To create a user-defined CPR Pause period on the Magnified ECG tab, first start a boundary:







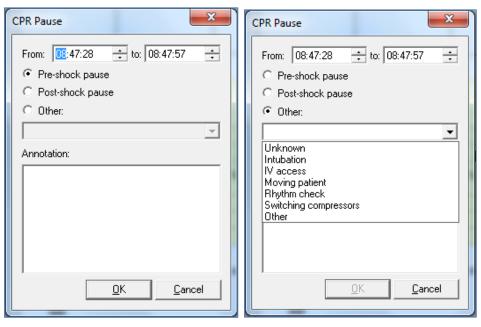
### To end the boundary:



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Select a CPR Pause reason, and then click **OK**:



A blue-shaded segment will be drawn indicating the boundaries of the CPR Pause. The selected Reason will be displayed on the strip as Event Text.

