Transforming a Team of Experts to an Expert Team

User Manual

Format Health

RevivePro

Software Version 1.1

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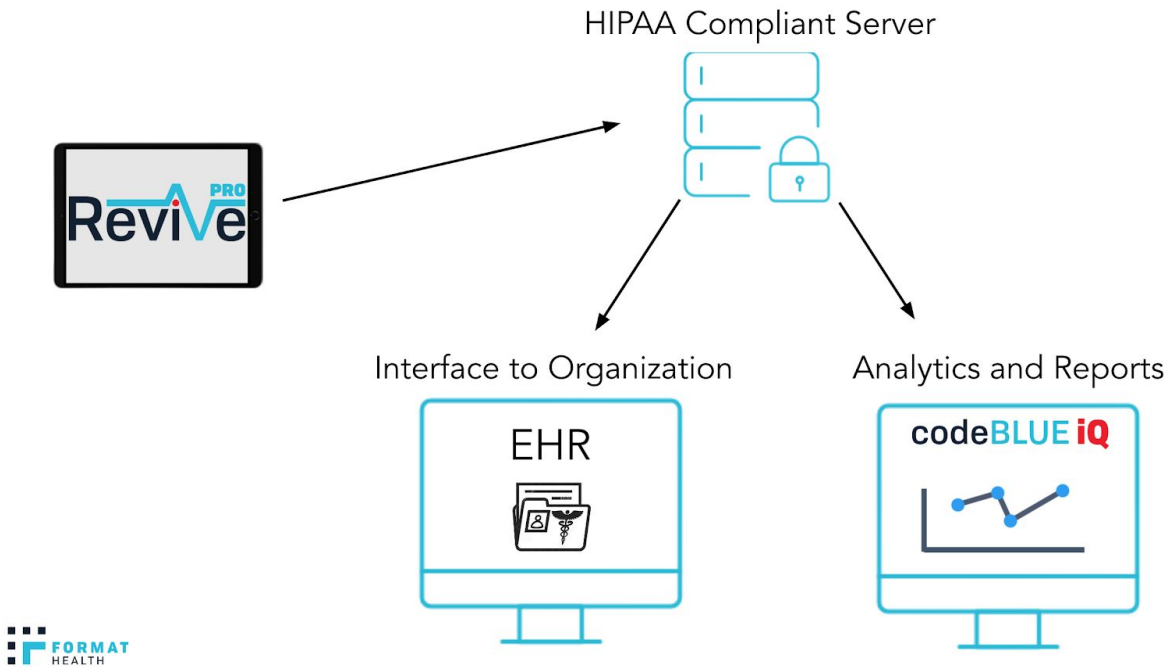
1. GENERAL INFORMATION

1.1. System Overview

RevivePro is a medical emergency management software system that provides: (i) just-in-time guidance to code teams and (ii) comprehensive documentation and reports. The companion web application, CodeBlue IQ, is a data analytics and reporting system for quality improvement. Though the clinical support features of RevivePro are designed for cardiac arrest events, the system may also be used in rapid response charting and documentation of other medical emergencies.

The basic system includes a frontend application on iOS or Android, a cloud-based or on-prem server, and a web application for quantitative analytics and reporting dashboard.



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RevivePro provides prompts to the user based on American Heart Association (AHA) resuscitation guidelines. The system provides a balance of critical guideline prompts for the care team with the capability of collecting accurate and comprehensive management information occurring during the code. To that end, the prompts are not a comprehensive representation of AHA guidelines; They have been intentionally chosen as the most important guidelines to enhance team communication and/or items directly tied to impacting and increasing patient survival rate.

The purpose of this manual will be to introduce Code Navigators (our preferred term - also referred to as code recorders) to RevivePro software, while highlighting how to document common clinical workflows that occur during a code. The information included in this manual assumes that the reader is familiar with or participated in code blues. We recommend as a prerequisite to becoming a RevivePro user (and reading this manual) that the user has completed ACLS/PALS/RQI equivalent training, participated in team mock code training, and provided care in actual code blue events.

RevivePro software is written in React Native, and is supported by iOS, and Android devices. We recommend that RevivePro software be run on an Apple iPad (9.7") device. We discourage the use of RevivePro on smaller screens iPad Mini tablets to ensure that the optimal size of icons appear, and text is sufficiently legible in a chaotic atmosphere.

1.2. Authorized Use Permission

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1.3. Points of Contact

Each Format Health customer will have a clinical and technical liaison designated to address RevivePro software questions. If your organization's designated liaison cannot answer the question, they will reach out to their Format Health representative for guidance. For RevivePro mobile hardware related issues, contact your organization's help desk, IT department or other designated contact. General information about RevivePro can be found at www.formathealth.com, or by emailing info@formathealth.com.

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2. SYSTEM SUMMARY

2.1. System Configuration

For iOS devices, the standard hardware recommendation is as follows:

TABLE 1: System Configuration:

ITEM	Setting Information
RevivePro Standard Lock Screen	Standard locked screen guides user to press home button
RevivePro Standard Home Screen	Standard home screen guides user to press RevivePro icon
iCloud Account	Set to Institution's Apple Business Manager Account
Notifications	All OFF (Settings > Notifications)
Volume	MAX (Settings > Sounds)
Screen Time	OFF (Settings > Screen Time)
Multitasking Docking Stations	OFF (Settings > General > Multitasking & Dock > Lock Rotation)
Screen Orientation	Locked Horizontal with Home button on right (Quick Settings Lock Rotation BUTTON)
Date & Time	24-Hour Time; set automatically (Settings > General > Date & Time)
Display and Brightness	MAX (Settings > Display & Brightness)
Screen Auto-Lock	15 Mins (Settings > Display & Brightness)
Siri & Search	Remove all "asks" and "suggestions" in RevivePro (Settings > Siri & Search)
Touch ID and Passcode	OFF, alternatively: a passcode set by institution (Settings > Touch ID and Passcode)
Camera used in RevivePro App	Provide Permission by opening RevivePro: take pic (1st time only)
Microphone used in App	Provide permission by opening RevivePro: dictate (1st time only)
Remove unnecessary applications	Remove all other deletable iOS applications

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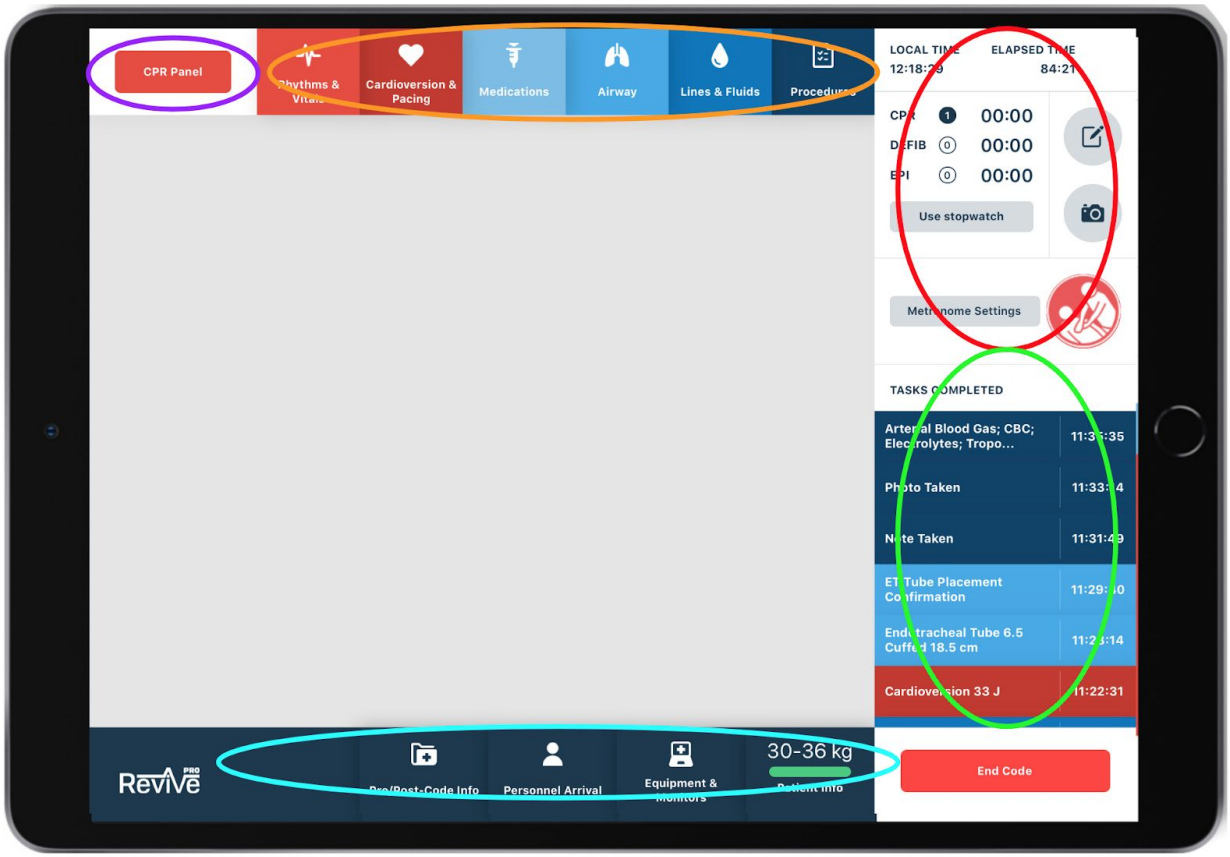
2.2. Interface Overview

The RevivePro Interface (see Figure 1) has 5 main zones. See descriptions below corresponding to the zone areas differentiated by color.

FIGURE 1



Zone 1 ORANGE TOP: **Workflow Tabs** (time-sensitive clinical items)
Zone 2 RED UPPER RIGHT: **Counters, Timers, and Other Tools** (photos, metronome)
Zone 3 GREEN LOWER RIGHT: **Completed Tasks List**
Zone 4: BLUE BOTTOM: **Additional Information** (not as time-sensitive, quality items)
Zone 5 PURPLE UPPER LEFT: **CPR Panel**. Once pressed, the panel emerges as shown in Figure 2 on the following page.

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FIGURE 2

2.3. Menu Overview

The Menu Overview section will provide a brief overview of the information in each of the zones. For additional detail about how the zones flow together and using RevivePro in a live code scenario, see Section 3.2, “Use During a Code”.

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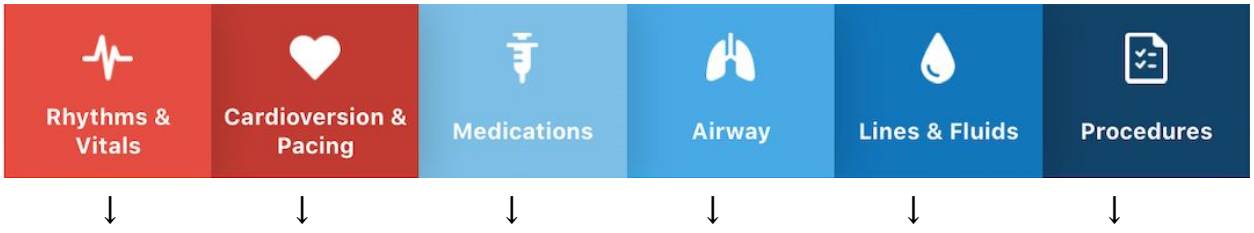
2.3.1

Zone 1: Workflow Tabs

Zone 1 includes time sensitive clinical items. If the CPR panel is closed, such as during a rapid response event, the following 6 tabs will be available to document items.

Any request or procedure that is not able to be documented via these drop down menus can, alternatively, be documented in Zone 2 under the Notes feature via free text or dictation, or the photo feature.

Figure 3: Drop Down Menus



Rhythms & Vitals	Cardioversion & Pacing	Medications	Airway	Lines & Fluids	Procedures
Heart Rhythms - Asystole - Atrial Fibrillation - Bradycardia - Heart Block - NSR - Paced - Pulseless V Tach - Sinus Tachycardia - SVT - Ventricular Fibrillation - V Tach with Pulse PEA Pulse ROSC Vitals - HR, BP, Sp02, RR, EtC02, Temp	Cardioversion Pacing - Transcutaneous - Transesophageal - Transvenous	<Search Bar> - EPINEPHrine - Adenosine - Amiodarone - Atropine - Lidocaine 2% - Magnesium Sulfate Full Medication Drop Down <See Appendix 5.3 and 5.4 for list of adult and pediatric medications>	Devices -Bag-Mask Ventilation -BiPAP -CPAP -Endotracheal Tube -EtCO2 Confirmation -Facemask -LMA -Nasopharyngeal -Nasal Cannula -Oral Airway -Suction Catheter -Tracheostomy Ventilator Settings Other Airway	- Central Line - Intraosseous - Peripheral IV - Other Line ----- Blood Products - Cryo - FFP - Platelets - PRBC Fluids -Normal Saline - Lactated Ringers - D5 ½ NS KCL - 3% Saline Other Fluid	12 Lead ECG Cardiac Echo Chest Tube CT Scan Defib Pads ECMO/ ECPR Labs MRI Needle Thoracostomy NG Tube Pacemaker -Epicardial -Transcutaneous - Transvenous Pericardiocentesis Ultrasound Urinary Catheter XRay Other Procedures

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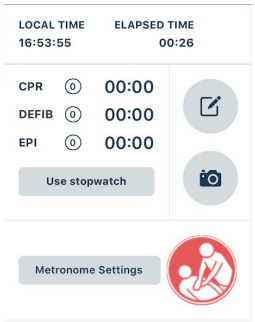
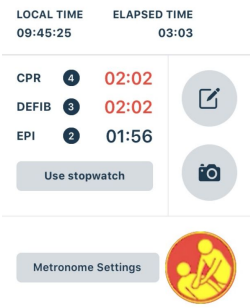
2.3.2

Zone 2: Timers, Counters, and Tools

Ex 1: Rapid Response	Ex 2: CPR Underway	Zone Contents
		- Local Time - Elapsed Time - CPR/Defib/EPI Counters & Timers - Stopwatch - Notes - Photos - Metronome

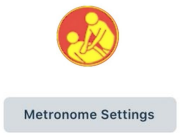
Timers and Counters:

When CPR is not underway, such as in a rapid response in Example 1, above, the timers and counters will not be active and the visual metronome will be inactive. When CPR is underway, as in Example 2, above, the timers will be activated and the number of cycles the team has completed will be displayed next to the appropriate timer. If an action has *not* been documented within the guidelines of the specific time cycle, the timer(s) will turn red, and an alert will be provided to the user.

Corresponding Buttons that Activate the Timers and Counters:

- "Switch Providers": Advances the CPR Counter and Restarts the CPR Timer
- "Shock Delivered": Advances the Defib Counter and restarts the Defib Timer
- "EPINEPHrine Given": Advances the EPI Counter and restarts the EPI Timer

Tools:

			
Use the Stopwatch to time desired time-sensitive events.	Use notes to free text or dictate requests or procedures that occur prior to documentation, or items not specifically listed in the tabs.	Use Photos to document a Rhythm from a monitor, lab results from a lab slip, or paper documentation that may have occurred prior to RevivePro arrival.	CPR "Start" activates the animated visual and auditor metronomes, "Pause" freezes the animated and auditory metronomes. Select "Metronome

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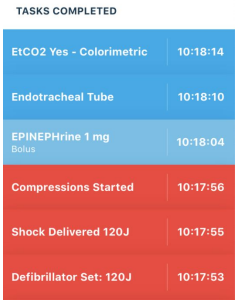
			Settings" to change rate, or volume

2.3.3

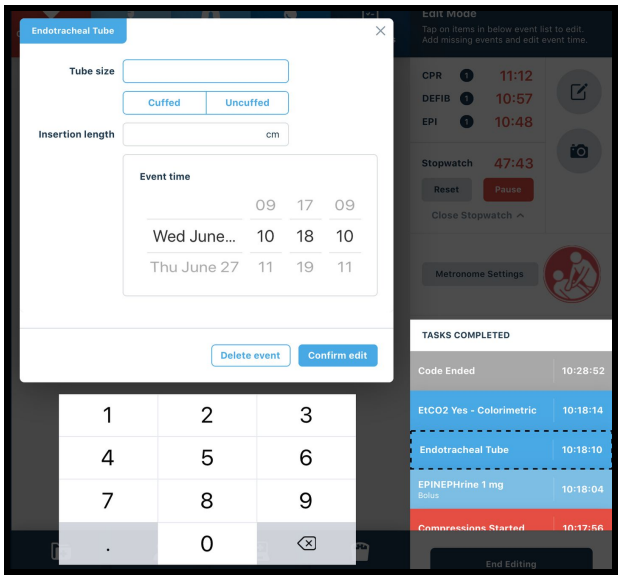
Zone 3: Tasks Completed

The Tasks Completed list can be scrolled through until you reach the beginning of the event. Items are differentiated by color, which indicates which tab the item came from so you can quickly locate an item in the scroll for editing. The time the item was completed is also listed to the right of the item

	Light Red: Rhythms and Vitals/Defibrillation Dark Red: Cardioversion & Pacing Sky Blue: Medications Light Blue: Airway Medium Blue: Lines & Fluids Navy Blue: Procedures Dark Blue: Information Items (Personnel Arrival, Equipment/Monitors)

Editing:

To edit an item, select a task from the Tasks Completed list. The example below shows the selection of the Endotracheal Tube. The user can now add additional information such as Tube size, Insertion Length, edit the time it was completed, or delete the event entirely.



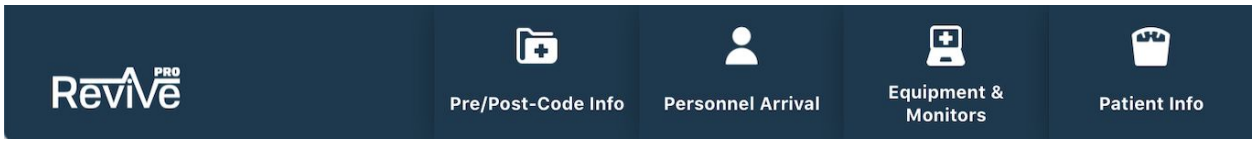
2.3.4

Zone 4: Information Tabs

Zone 4 includes *less* time-sensitive data and focused on quality.

- Pre-Post Code Info: Includes data for quality teams, and information directly from AHA's Get With The Guidelines-Resuscitation Registry. Collecting this information is not expected during the code, and ideally completed after the code ends.
- The Personnel Arrival: Information added here is timestamped, so quality teams can track if a certain department is routinely late, and make operational adjustments. Entering the Code Leader and Recorder information will also auto-populate during the end code process. Additional team members, separate from those listed can be easily added by pressing "add personnel"
- Equipment & Monitors: Information added here is also timestamped so quality leaders can track if equipment is arriving at an adequate time, and make operational adjustments accordingly.
- Patient Info: Patient type (adult/pediatric), sex, weight, MRN, visit number, and date of birth can be entered here. Weight can either be entered in kg or lbs. For pediatric patients, selecting a weight range is also an option as well as color-coordinated to integrate with pediatric length/weight-based tapes. Patient information entered here will be prefilled during the end code process.

Drop Down Menus



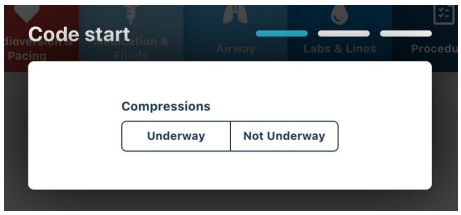
Unit/Area Time of Code Start In/Out Hospital Type of Response Intubated Prior to Code Type of Intubation Intubated By Hospital-wide Response Activated Witnessed Arrest Conscious at Onset AED Used Prior to Code Team Arrival Was Backboard in Place Breathing at Onset Rhythm at Onset Reason Code Ended Family Notified Therapeutic Hypothermia Started	Code Leader Code Recorder Respiratory Anesthesia Pharmacy Laboratory Stat Nurse Event Manager Bedside RN Monitor/Defib Code Cart RN ICU RN CPR Coach/Monitor <add additional>	MONITORS - ECG - Non-Invasive BP - Pulse Oximeter - Arterial Line <other monitors> EQUIPMENT - Code Cart - IO (intraosseous) - Pacemaker -X-Ray <other equipment>	Patient Type Adult vs. Pediatric Patient Sex Male vs. Female Patient Weight kg / lbs MRN Visit Number Date of Birth

2.3.5

Zone 5: CPR Panel

When the CPR Panel is open, it covers the first two tabs: “Rhythms & Vitals”, and “Cardioversion & Pacing”. Rhythms and Vitals are documented in the CPR panel. If CPR stops, especially in the case that ROSC is achieved, you can close the CPR panel and then have access to the Cardioversion & Pacing tabs.

The CPR Panel can be activated in two ways. The first is if the user selects “CPR Underway” shown in example 1. The second is the user selects the red CPR panel button in the upper left side of the interface.

Example 1	Example 2
	

<Full CPR Panel viewable on the following page>

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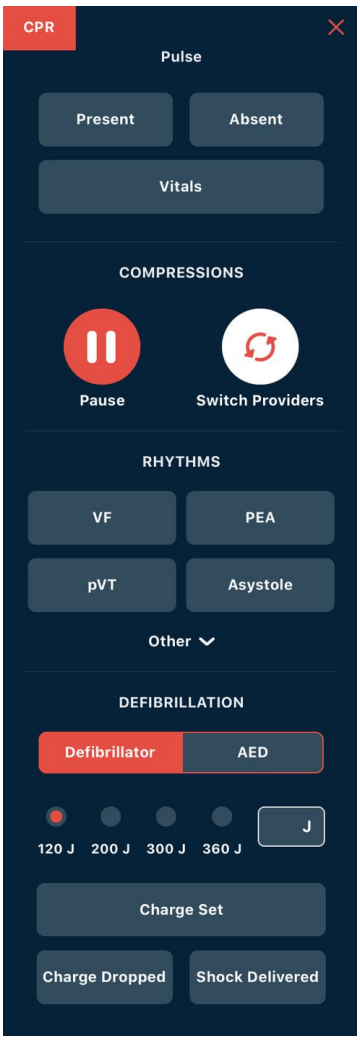

PULSE:

- One can document the presence or absence of pulses while CPR is paused to see if the patient has a self-generated pulse, or one can check the quality of CPR by noting whether a pulse is present or absent while CPR is underway. The record will show whether CPR was underway or not underway while the pulse check occurred.

VITALS:

- HR, BP (NIBP, IBP), SPO2, RR (assisted/spontaneous), and EtCO2 are vital sign options to document

COMPRESSIONS:

- Start/Pause Button: documents on the patient record whether CPR is on-going or paused as well as calculates time off chest
- Switch Providers: Resets the CPR timer and advances the cycle counter

RHYTHMS:

- VF, PEA, PVT, and Asystole, the four common rhythm options encountered during codes are easily documented from the CPR panel. For additional options, the user would select the "Other" arrow beneath the common four rhythms.

DEFIBRILLATION:

- Defibrillator: common joule settings are offered, in addition to a free text option. There is an option to note that there was a "Charge Dropped" if a shock was not delivered to the patient (enables a "pre-charge" process)
- For AED use, the user can note whether "Shock Not Advised" or "Shock Delivered"
- *IMPORTANT! For pediatric patients, joule recommendations are listed in the free text section.*

2.3.6 End Code Process

To end the code, there is a series of steps that must be completed before the records can be signed. Those steps are detailed below:

STEP 1: Press the "End Code" Button in the bottom right corner of the screen	STEP 2: Select the patient's disposition

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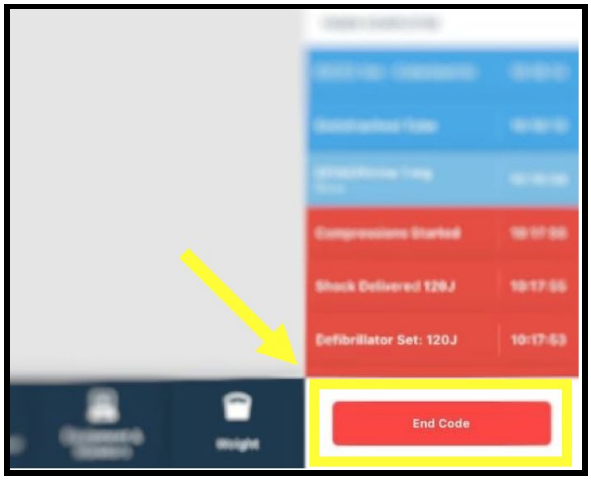
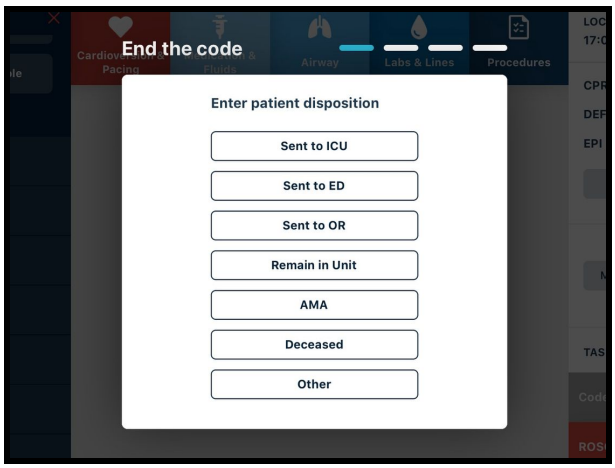
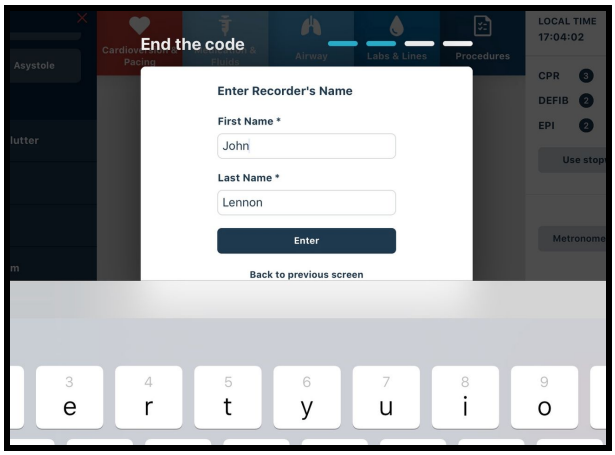




STEP 3:
Enter the Code Leader and Code Recorder information.

If the names were added during the code in the Personnel Arrival tab, both names will auto-populate in this window. The picture to the right is an example of the Code Recorder (the Code Leader window function similarly). If either person for these roles switch during the code, they can be edited here. (e.g., the original code leader will appear in personnel arrival, but the "official code leader" will be on record as whomever name is ultimately inputted in this window.



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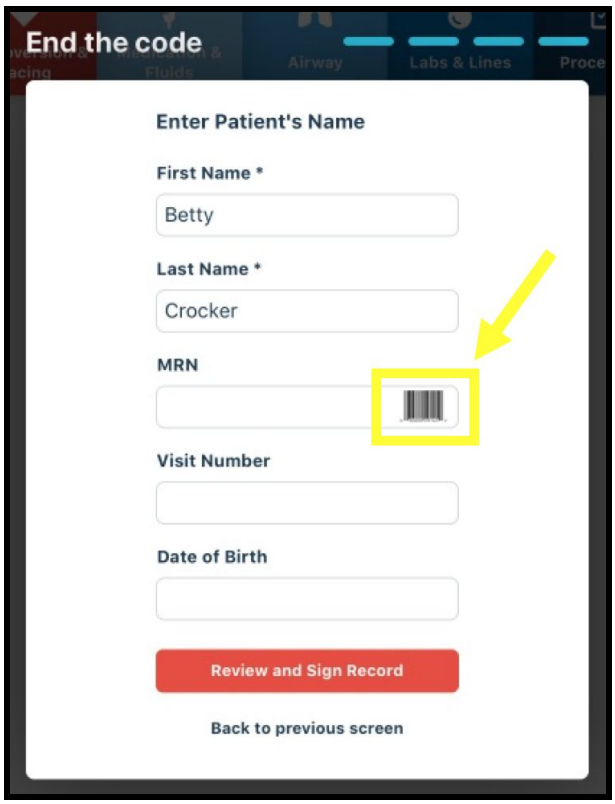
STEP 4: Enter the Patient's Information

- Entries in this window include the Patient's First and Last Name, MRN, Visit Number and Date of Birth. The only required entries are first and last name. Follow your organization's process for naming "John/Jane Doe" patients.

- The MRN must be entered in order for RevivePro to match to the patient's record in the EHR. The MRN can either be entered manually, or you can select the bar scan icon, which activates the RevivePro scanning feature. Place the RevivePro scanner over the patient's wristband to capture either the barcode or QR code. This method is preferred as it decreases the chance of input errors.



STEP 6: Review, Edit, Sign, or Add an Addendum.

Once on the signing page, the user will go through three more steps to prepare the document for submission. (a picture and key describing this process follows.)

The first step is to review all the entries for accuracy and completeness, and then edit, if necessary. The user can edit either by adding an addendum, or can select the "Edit Code" button at the top of the page to return to the interface and add information using the tab, notes, or photo feature. Editing can also occur by selecting a specific item on the completed tasks list, which follows the same process when document during a live event.

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Once the record is reviewed, the user (recorder) and Code Leader will sign on the device. The final step is for the user to submit the record. See the picture and key below for additional context.

1		To review the record, scroll through the timestamped entries. You can also see the data entered in a different format by "Viewing the Patient record" (see the next section for more details.)
*		To edit the record, select the "Edit Code" button circled in red
2		The Code Leader and Recorder are the only signatures with specific boxes. (Note: once the Code Leader signs the record, the record can no longer be edited. All edits must come in the form of an addendum)
*		To add an addendum, select the "Add Addendum" circled in yellow
*		To add a signature of an additional team member, press the Add Signature text circled in green (an example of a completed signature is below)
3		Once completed with reviewing, editing, and signing, submit the record by pressing the "Submit Code" encircled in purple

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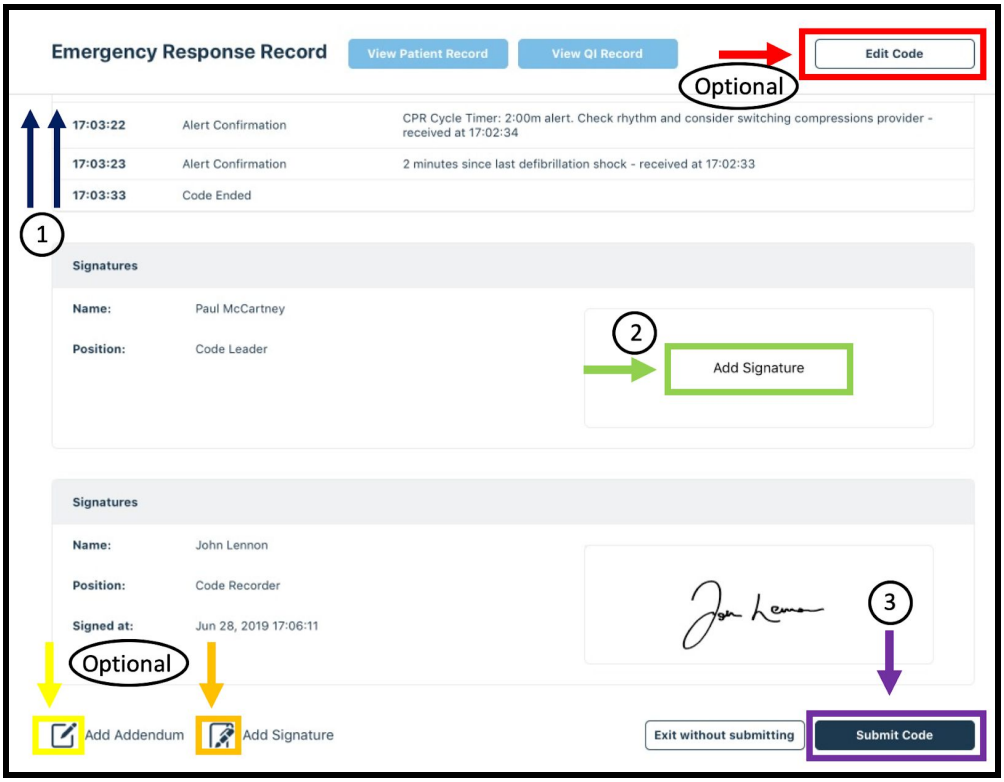

2.4 The Patient Record

2.4.1: The Grid Format

The grid was built so that a receiving care team could get a quick glance of what occurred during the code. Each page shows 10 minutes, so if the code extended beyond that, a second page would follow in this format with minutes 11-20.

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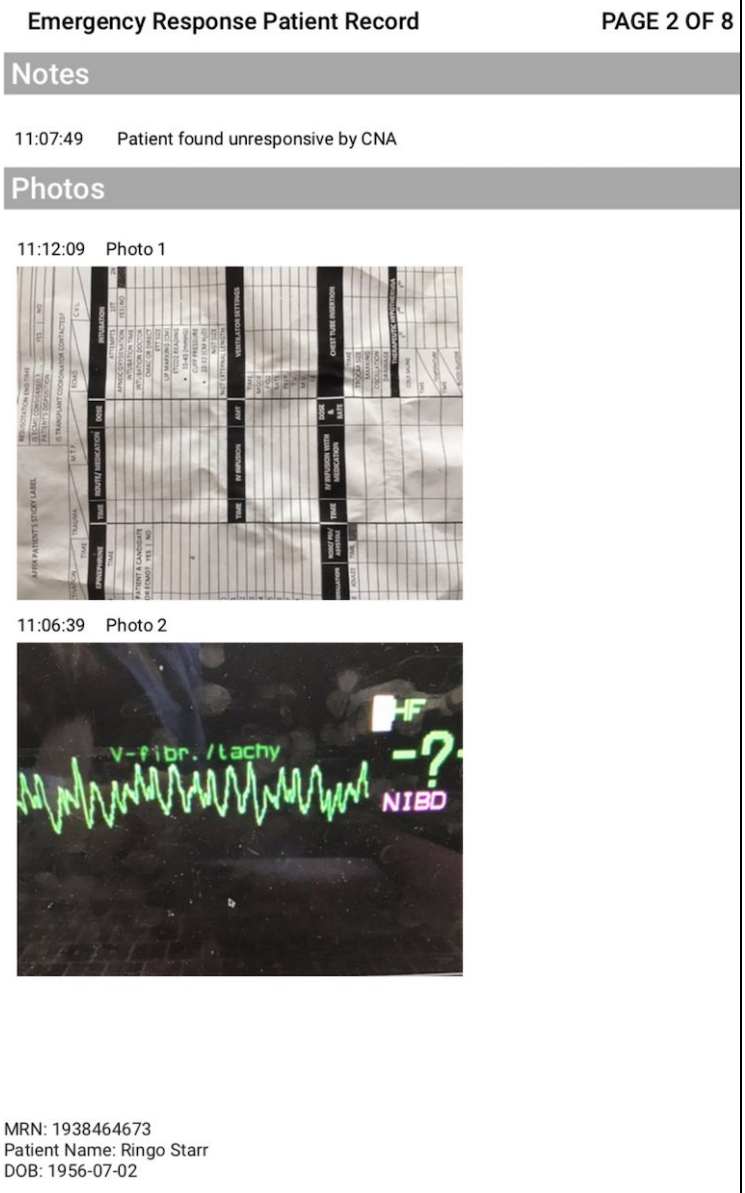
Note that breaks in CPR can be seen in this view, and reviewers can analyze what was occurring during that time frame.

For instance, the red arrow (inserted for the purposes of this note) shows a pause, and then the red square above that shows that an ET tube was placed at that time.

Likewise, the inserted blue arrow show a longer pause, and the above blue box shows that the team was checking for a pulse during that time.

The visual CPR bar showing time off chest can be a powerful debriefing tool to encourage teams to minimize time off chest when completing tasks like checking for a pulse or rhythm.

2.4.2: Notes and Photos:



Emergency Response Patient Record PAGE 2 OF 8

Notes

11:07:49 Patient found unresponsive by CNA

Photos

11:12:09 Photo 1

11:06:39 Photo 2

MRN: 1938464673
Patient Name: Ringo Starr
DOB: 1956-07-02

NOTES:

The user can free-text using the keyboard or dictate using the embedded microphone notes into RevivePro. Any notes will be time-stamped and placed in the top of section 2.

PHOTOS:

Photos captured during the code appear directly beneath the notes. Examples of common photos include rhythms on a monitor screen as shown in Photo 2, lab results, or any previous paper documentation as shown in Photo 1. (Users must follow their organization's policies of photo capture in a code environment to use this feature).

2.4.3: Tab Format

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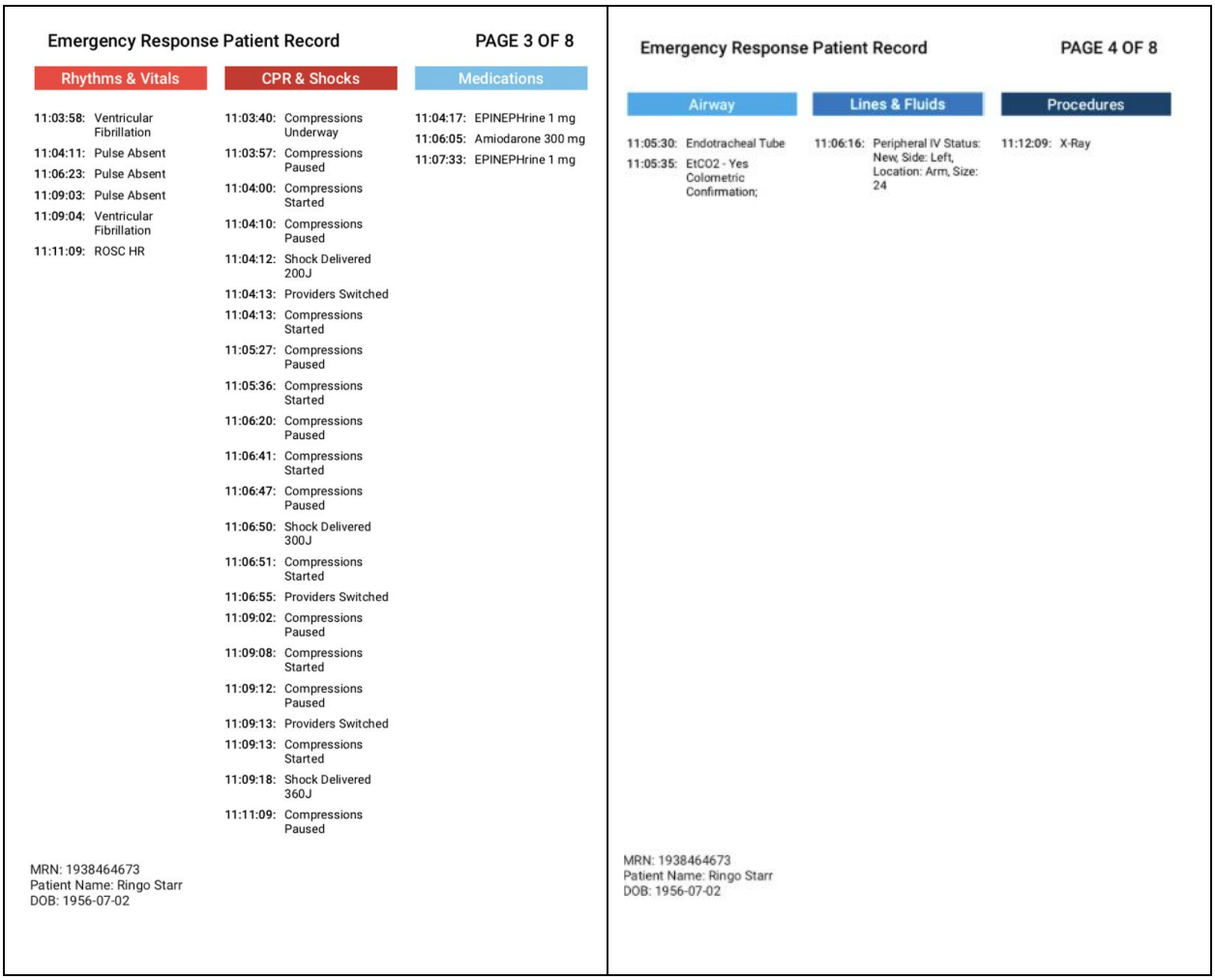
Section 3 of the patient record provides more detail than the “birds-eye-grid-view” presented on the first pages. This is where you’ll see exact time stamps, full clinical terminology (as opposed to the abbreviations) and other information such as peripheral IV details and additional information around the airway. Note that the tab topic color matches the scheme in the live RevivePro interface.



Emergency Response Patient Record PAGE 3 OF 8

Rhythms & Vitals

11:03:58: Ventricular Fibrillation
11:04:11: Pulse Absent
11:06:23: Pulse Absent
11:09:03: Pulse Absent
11:09:04: Ventricular Fibrillation
11:11:09: ROSC HR

CPR & Shocks

11:03:40: Compressions Underway
11:03:57: Compressions Paused
11:04:00: Compressions Started
11:04:10: Compressions Paused
11:04:12: Shock Delivered 200J
11:04:13: Providers Switched
11:04:13: Compressions Started
11:05:27: Compressions Paused
11:05:36: Compressions Started
11:06:20: Compressions Paused
11:06:41: Compressions Started
11:06:47: Compressions Paused
11:06:50: Shock Delivered 300J
11:06:51: Compressions Started
11:06:55: Providers Switched
11:09:02: Compressions Paused
11:09:08: Compressions Started
11:09:12: Compressions Paused
11:09:13: Providers Switched
11:09:13: Compressions Started
11:09:18: Shock Delivered 360J
11:11:09: Compressions Paused

Medications

11:04:17: EPINEPHrine 1 mg
11:06:05: Amiodarone 300 mg
11:07:33: EPINEPHrine 1 mg

MRN: 1938464673
Patient Name: Ringo Starr
DOB: 1956-07-02

Emergency Response Patient Record PAGE 4 OF 8

Airway

11:05:30: Endotracheal Tube
11:05:35: EtCO2 - Yes Colometric Confirmation;

Lines & Fluids

11:06:16: Peripheral IV Status: New, Side: Left, Location: Arm, Size: 24

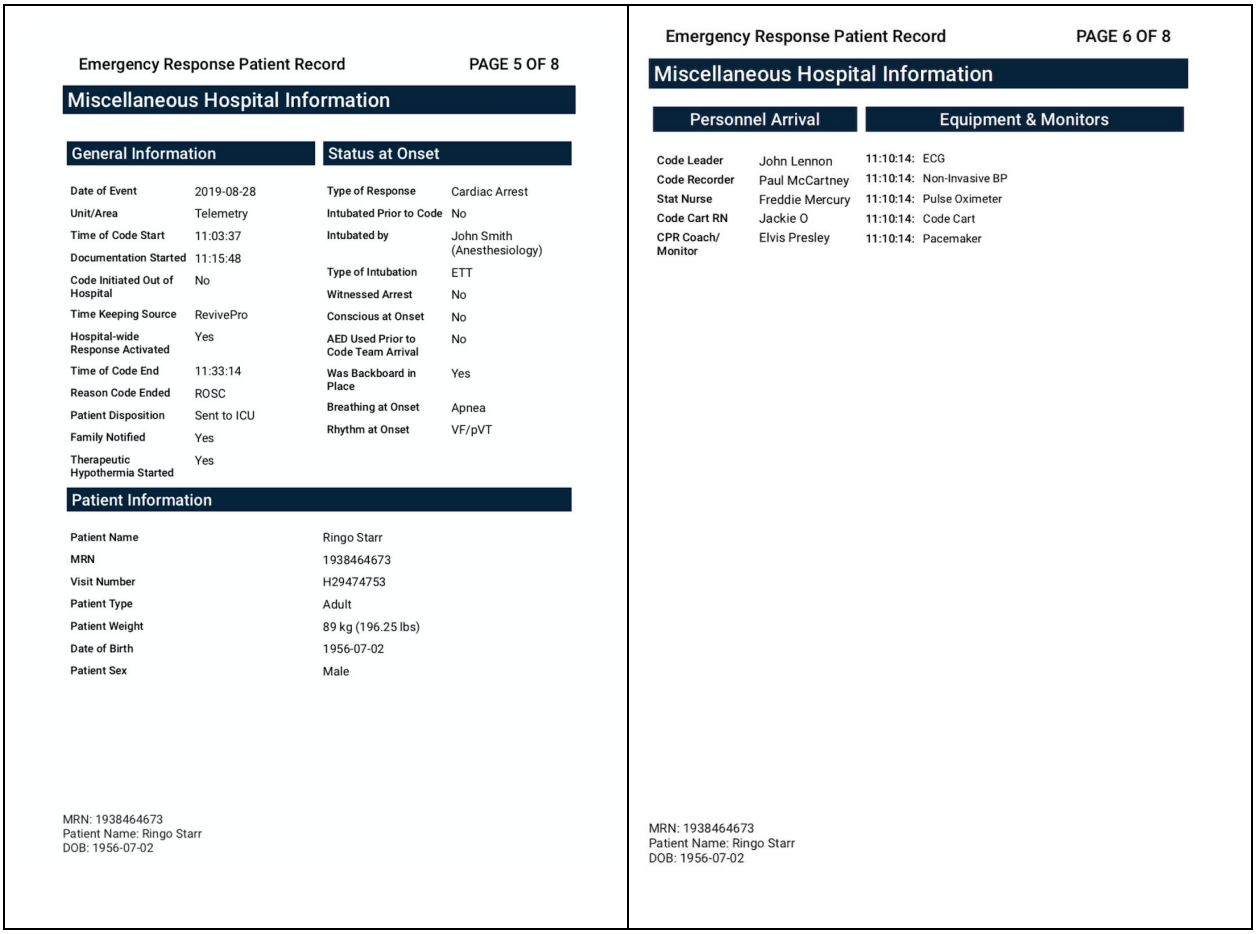
Procedures

11:12:09: X-Ray

MRN: 1938464673
Patient Name: Ringo Starr
DOB: 1956-07-02

2.4.4: General Hospital and Patient Information

The fourth section includes quality and general information about the code and patient. Items entered on the "Pre/PostCode Tab" are populated first, followed by the patient information (Name, DOB, MRN, HN) that is entered during the end code process. Following patient information, is the Personnel Arrival and Equipment and Monitors information sections.



Emergency Response Patient Record PAGE 5 OF 8

Miscellaneous Hospital Information

General Information

Date of Event	2019-08-28
Unit/Area	Telemetry
Time of Code Start	11:03:37
Documentation Started	11:15:48
Code Initiated Out of Hospital	No
Time Keeping Source	RevivePro
Hospital-wide Response Activated	Yes
Time of Code End	11:33:14
Reason Code Ended	ROSC
Patient Disposition	Sent to ICU
Family Notified	Yes
Therapeutic Hypothermia Started	Yes

Status at Onset

Type of Response	Cardiac Arrest
Intubated Prior to Code	No
Intubated by	John Smith (Anesthesiology)
Type of Intubation	ETT
Witnessed Arrest	No
Conscious at Onset	No
AED Used Prior to Code Team Arrival	No
Was Backboard in Place	Yes
Breathing at Onset	Apnea
Rhythm at Onset	VF/pVT

Patient Information

Patient Name	Ringo Starr
MRN	1938464673
Visit Number	H29474753
Patient Type	Adult
Patient Weight	89 kg (196.25 lbs)
Date of Birth	1956-07-02
Patient Sex	Male

MRN: 1938464673
Patient Name: Ringo Starr
DOB: 1956-07-02

Emergency Response Patient Record PAGE 6 OF 8

Miscellaneous Hospital Information

Personnel Arrival

Code Leader	John Lennon
Code Recorder	Paul McCartney
Stat Nurse	Freddie Mercury
Code Cart RN	Jackie O
CPR Coach/ Monitor	Elvis Presley

Equipment & Monitors

11:10:14:	ECG
11:10:14:	Non-Invasive BP
11:10:14:	Pulse Oximeter
11:10:14:	Code Cart
11:10:14:	Pacemaker

MRN: 1938464673
Patient Name: Ringo Starr
DOB: 1956-07-02

2.4.5: Signatures and Addendums

The fifth and final section of the patient record includes the signatures and addendums. The Code Leader and Code Recorder are the only two signature boxes that appear as standard to obtain. If your organization requires additional signatures, you can either add a signature only, or you can add an addendum that includes a signature to the record.

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Emergency Response Patient Record PAGE 7 OF 8

Signatures

Code Leader: John Lennon

[02/07/19 13:55:25]

Code Recorder: Paul McCartney

[02/07/19 13:55:15]

MRN: 1938464673
Patient Name: Ringo Starr
DOB: 1956-07-02

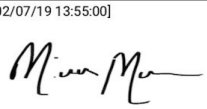
Emergency Response Patient Record PAGE 8 OF 8

Addendums

Additional notes or edits after the code leader signs added here.

Anesthesiologist: Mickey Mouse

[02/07/19 13:55:00]

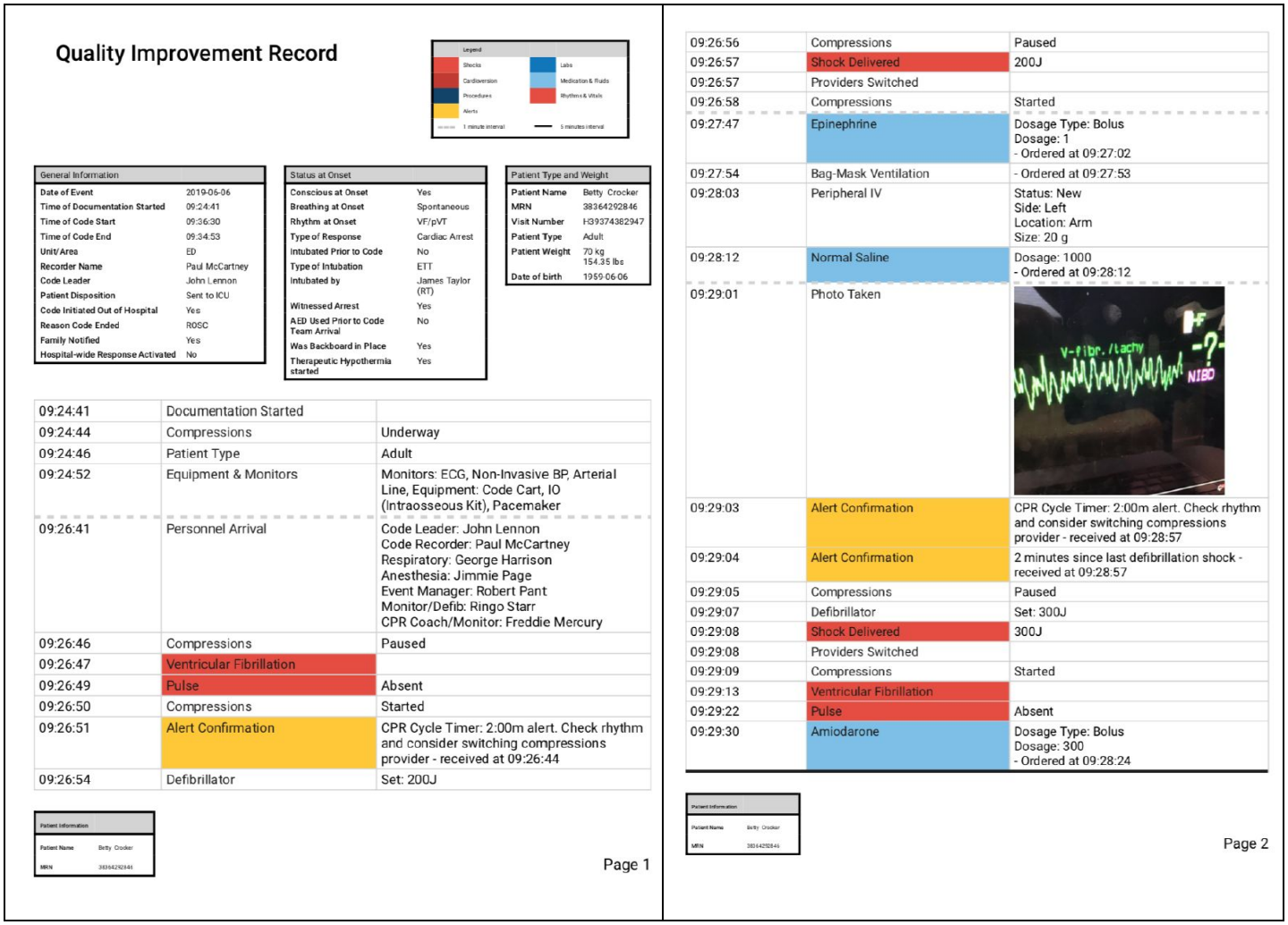


MRN: 1938464673
Patient Name: Ringo Starr
DOB: 1956-07-02

2.5 The Quality Improvement (QI) Record

The QI record is not transmitted to the EHR, but immediately available on the device to do a team debrief, or for later analysis for the quality team through CodeBlue IQ. It includes information on what time an item was ordered (in the right-hand column) vs. what time it was confirmed as completed (left hand column).

Important clinical Items are differentiated by color (which correspond to the color in the live RevivePro interface). This assists the reviewer to quickly find various items like shocks delivered, medications administered, or any alerts that the recorder received throughout the code.



Quality Improvement Record

Legend: Shocks, Cardioversion, Procedures, Alerts, Labs, Medication & Fluids, Rhythms & Vitals, 1 minute interval, 5 minutes interval

General Information	
Date of Event	2019-06-06
Time of Documentation Started	09:24:41
Time of Code Start	09:36:30
Time of Code End	09:34:53
Unit/Area	ED
Recorder Name	Paul McCartney
Code Leader	John Lennon
Patient Disposition	Sent to ICU
Code Initiated Out of Hospital	Yes
Reason Code Ended	ROSC
Family Notified	Yes
Hospital-wide Response Activated	No

Status at Onset	
Conscious at Onset	Yes
Breathing at Onset	Spontaneous
Rhythm at Onset	VF/pVT
Type of Response	Cardiac Arrest
Intubated Prior to Code	No
Type of Intubation	ETT
Intubated by	James Taylor (RT)
Witnessed Arrest	Yes
AED Used Prior to Code Team Arrival	No
Was Backboard in Place	Yes
Therapeutic Hypothermia started	Yes

Patient Type and Weight	
Patient Name	Betty Crocker
MRN	38364292846
Visit Number	H39374382947
Patient Type	Adult
Patient Weight	70 kg 154.35 lbs
Date of birth	1959-06-06

09:24:41	Documentation Started	
09:24:44	Compressions	Underway
09:24:46	Patient Type	Adult
09:24:52	Equipment & Monitors	Monitors: ECG, Non-Invasive BP, Arterial Line, Equipment: Code Cart, IO (Intraosseous Kit), Pacemaker
09:26:41	Personnel Arrival	Code Leader: John Lennon Code Recorder: Paul McCartney Respiratory: George Harrison Anesthesia: Jimmie Page Event Manager: Robert Pant Monitor/Defib: Ringo Starr CPR Coach/Monitor: Freddie Mercury
09:26:46	Compressions	Paused
09:26:47	Ventricular Fibrillation	
09:26:49	Pulse	Absent
09:26:50	Compressions	Started
09:26:51	Alert Confirmation	CPR Cycle Timer: 2:00m alert. Check rhythm and consider switching compressions provider - received at 09:26:44
09:26:54	Defibrillator	Set: 200J

Page 1

09:26:56	Compressions	Paused
09:26:57	Shock Delivered	200J
09:26:57	Providers Switched	
09:26:58	Compressions	Started
09:27:47	Epinephrine	Dosage Type: Bolus Dosage: 1 - Ordered at 09:27:02
09:27:54	Bag-Mask Ventilation	- Ordered at 09:27:53
09:28:03	Peripheral IV	Status: New Side: Left Location: Arm Size: 20 g
09:28:12	Normal Saline	Dosage: 1000 - Ordered at 09:28:12
09:29:01	Photo Taken	
09:29:03	Alert Confirmation	CPR Cycle Timer: 2:00m alert. Check rhythm and consider switching compressions provider - received at 09:28:57
09:29:04	Alert Confirmation	2 minutes since last defibrillation shock - received at 09:28:57
09:29:05	Compressions	Paused
09:29:07	Defibrillator	Set: 300J
09:29:08	Shock Delivered	300J
09:29:08	Providers Switched	
09:29:09	Compressions	Started
09:29:13	Ventricular Fibrillation	
09:29:22	Pulse	Absent
09:29:30	Amiodarone	Dosage Type: Bolus Dosage: 300 - Ordered at 09:28:24

Page 2

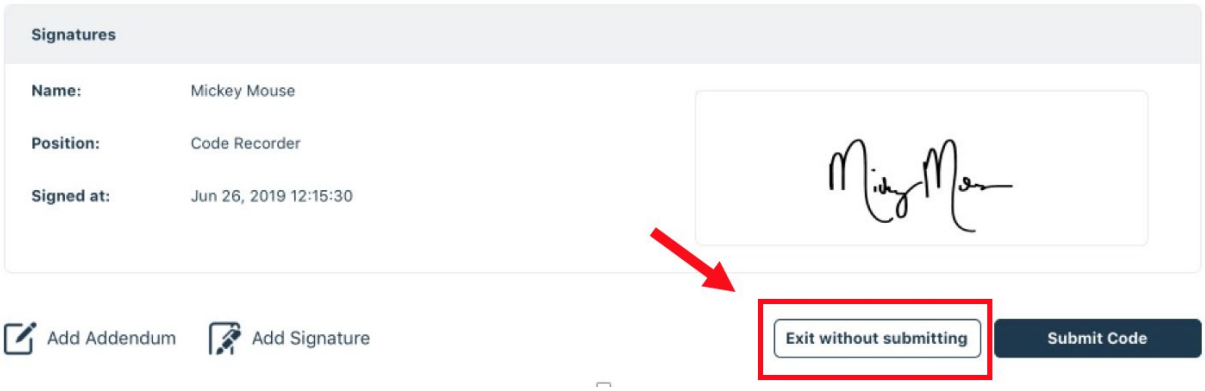
2.6 User Access Levels

RevivePro has three different access levels. There are additional access levels in Code Blue IQ. For more information on those levels, see the Code Blue IQ User Manual.

Open Access: A login is not required to use RevivePro for training or practice. Your hospital may opt to lock iOS access with a four or six digit passcode. RevivePro was intentionally developed to not require the recorder to log in to the system when launching the device. This also enables users to practice or train on the device without logging in. Be sure to include information clearly in the documentation to ensure clear differentiation from an actual code event. (e.g. in the naming fields, write: TEST, TEST for first and last name.)

IMPORTANT!

For any codes that should NOT be added to the Code Blue IQ database (e.g. mock codes), be sure to select "Exit Without Submitting" button on the bottom of the signing page as shown below.



User Login: User authentication occurs at the end of the code event to not distract the recorder from capturing the beginning of the code. After the code ends, the user will be prompted to enter first and last name. After viewing the the signing page the user will select the "Submit Code" button, and their institution's primary EHR login page will appear and they will enter their primary EHR username and password. Once this is entered, the documentation will be submitted to Code Blue IQ--and if all the required information is entered--it will also attach to the patient's record in the EHR.

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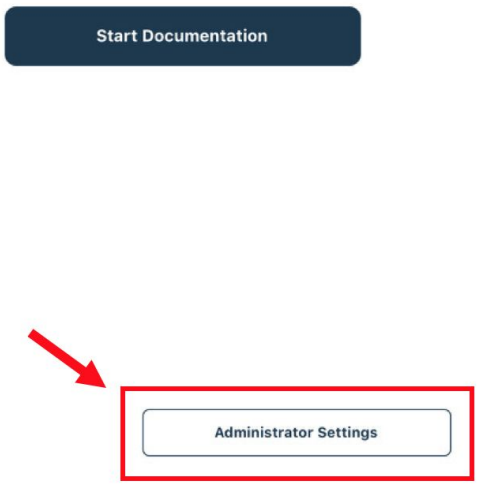
Administration Log In: The Administrator login on a RevivePro mobile device enables access to any patient or quality record that has occurred within 48 hours on the specific device. The 48 hour time limit provides a time buffer if a code occurred in a place without Wifi access, and the event still needs to be submitted. The administrator accesses their login by launching the system and finding the "administrator settings" button on the bottom right hand corner of the landing page. The login information will be the same as their primary EHR login information--using Single Sign-On (SSO) methodology.



3. USING THE SYSTEM

3.1. Beginning Process

3.1.1. Unlock the device by pressing the home button. The RevivePro system is then activated by pressing the RevivePro icon at the bottom of the screen. An opening screen will appear: Press the "Start Documentation" button and select answers to the three required questions to reach the main interface.

	Initiating the RevivePro System	Time: 1 min 30 secs

3.2. Use During a Code

Section Number	Links to Videos	Video Time	More Information
3.2.1	Zone 1: Workflow Tabs	5 mins 55 secs	2.3.1
3.2.2	Zone 2: Timers, Counters, and Tools	2 mins 23 secs	2.3.2
3.2.3	Zone 3: Tasks Completed List	1 min 14 secs	2.3.3
3.2.4	Zone 4: Information Bar	1 min 58 secs	2.3.4
3.2.5	Zone 5: CPR Panel	2 mins 32 secs	2.3.5

3.3. Ending the Code and Submitting the Record

Additional information on the end code process, viewing the patient and quality improvement record, and submitting the record can be found in section.

Section Number	Videos	Video Time	More Information
3.3.1	End Code Process: Review, Edit, Sign, and Submit	2 m 28 s	2.3.6
3.3.2	View Patient and QI Record	2 m 3 s	2.4 - 2.5

4. SPECIAL INSTRUCTIONS

4.1. Caveats and Exceptions

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4.1.1. Definition of "Ordered"

RevivePro was developed to be a just-in-time cognitive aid and documentation tool for use during cardiac arrest events. When the user is prompted to select whether an item is ordered versus given, the purpose of it is to differentiate whether an item has just been spoken about vs. confirmed as completed. For example, if an XRAY or labs are ordered in the system, the purpose of the "order" is for the user to follow up on the item with the team, and to be sure that the ordered item gets completed. Selecting an item as "ordered" in RevivePro does not generate an order in your EHR. Existing operational methods will still need to be utilized to generate those orders.

4.1.2. Selection of Alerts and Cognitive Aid Functions

RevivePro is both a cognitive aid support system and a documentation system. The code leader must rely on their clinical knowledge to make care decisions for the patient. The prompts provided to the user have been specifically selected to provide support while balancing the risk of distraction from collecting information occurring during the code. *To that end, the prompts are not a comprehensive representation of AHA guidelines--they have been intentionally chosen as important guidelines to enhance team communication and/or items directly tied to impacting and increasing patient survival rate.*

4.1.3. Published Recommendations

RevivePro provides published recommendations to the user based on American Heart Association (AHA) resuscitation guidelines.

Adult Recommendations:

- ACLS Medication Dosage Recommendations
- ACLS Recommended Defibrillator Joules Settings

Pediatric Recommendations:

- PALS Medication Dosages
- Select fluid recommendations (crystalloid and colloid)
- Defibrillator and Cardioversion Joules Setting
- Ventilator Settings
    - O2
    - Tidal Volume
    - Inspiratory Time
    - Peak Inspiratory PRessure
    - Ventilator Rate
    - PEEP

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- Equipment Sizes
    - ETT size/insertion length
    - Suction Catheter size
    - Oral Airway
    - Nasopharyngeal Airway
    - LMA
    - Urinary Catheter
    - Chest Tube
    - NG Tube

4.2 Troubleshooting:

There are several steps that users can employ as a first-line of troubleshooting. If the issue cannot be resolved by following the recommendations below, or if the issue is not listed, reach out to your organization's Help Desk. If they are unable to resolve the issue, a technical liaison from your IT department at your organization will reach out to the Format Health team to get the issue resolved.

ISSUE	FIRST-LINE TROUBLESHOOTING
Device won't turn on	Plug in device to ensure it is charged
Device is on, but is frozen	Restart the device by holding down "on/off" button on the top of the device (the button nearest to the camera)
Forgot passcode to RevivePro device	Ask your supervisor, or call your Help Desk
Forgot username/ID to submit the record	Your username and ID are the same as your primary EHR username and ID.
Metronome and alert sounds won't play	Ensure the volume is set to max on the RevivePro device

4.3 Miscellaneous Recommendations

(1) Once ROSC is achieved, start the stopwatch. If the patient re-arrests after 20 minutes, the AHA considers it a separate cardiac arrest event. If it's the patient re-arrests within 20 minutes, continue documenting in the same record.

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(2) iOS users can “split” the keyboard if it’s a preferred way to free-text. After selecting “Notes” and the keyboard appears (or any other time the keyboard appears), press both thumbs in the center of the keyboard and then briskly pull them apart. The keyboard will then split and provide a different means to free-text long notes.

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5. APPENDIX

The following pages detail four appendix topics. Additional technical information may be found in the separate RevivePro Technical Manual. Additional information regarding CodeBlue IQ can be found in the separate CodeBlue IQ User Manual.

Appendix Summary

5.1. RevivePro and CodeBlue IQ Data Flow

5.2. Acronyms and Abbreviations

5.3. Medication and Fluid List

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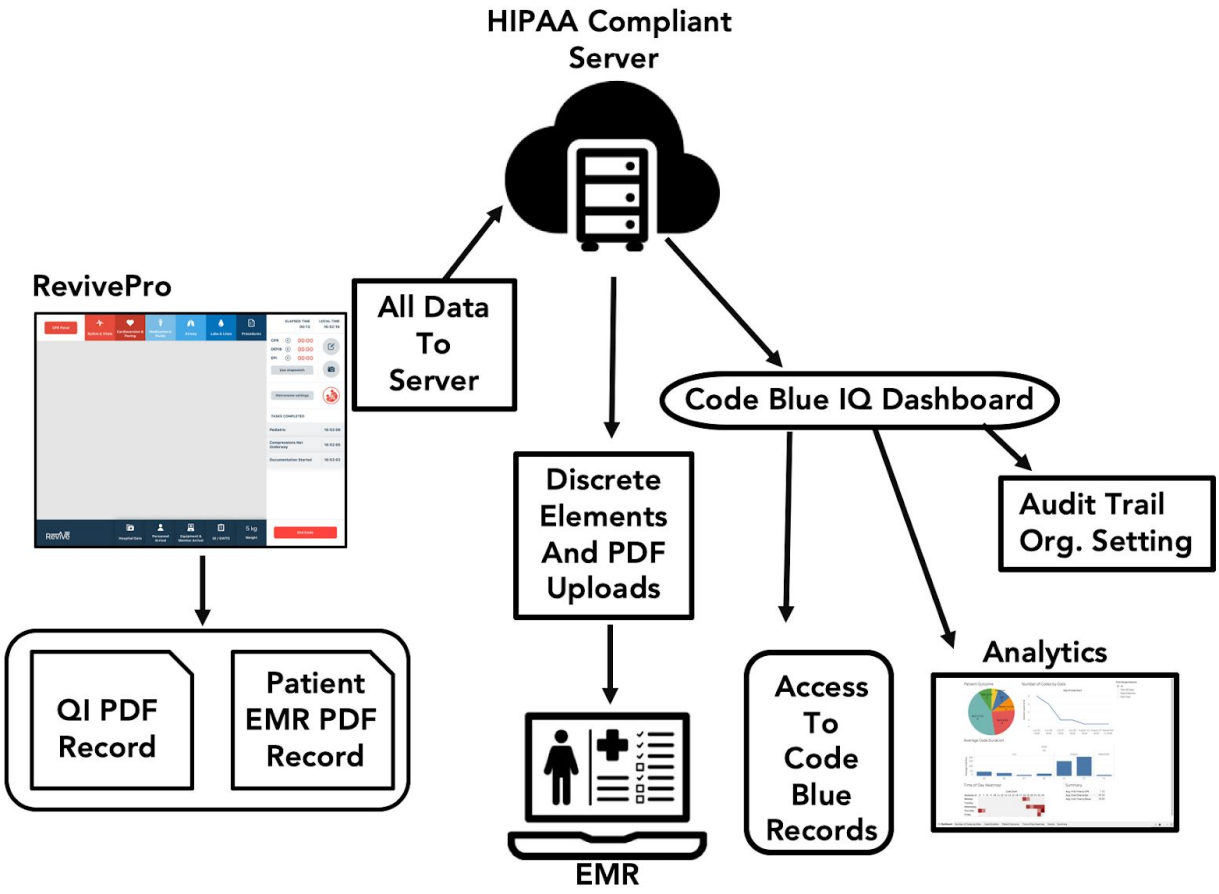
APPENDIX 5.1:

RevivePro and CodeBlue IQ Data Flow:



APPENDIX 5.2

Acronyms and Abbreviations

Abbreviation	Referenced Word
A	Assisted
Adeno	Adenosine
AED	Automated Electrical Defibrillator
Albut	Albuterol
Amio	Amiodarone
Asys	Asystole
Atro	Atropine
Bicarb or bicarbonate	Sodium Bicarbonate
BP	Blood Pressure
Brady	Bradycardia
BVM	Bag-Mask Ventilation
C	Cardioversion
CaCl	Calcium Chloride
Chest Tube	ChestT
CPR	Cardiopulmonary Resuscitation
Cryo	Cryoprecipitate
CT	Computed Tomography Scan
D	Defibrillation
Defib	Defibrillation; Defibrillator
DefibP	Defibrillator Pads Placed
Dex	Dextrose
Diaz	Diazepam
Dilt	Diltiazem
Dobut	Dobutamine
Dopa	Dopamine
E	Equipment and Monitors
ECG	Electrocardiogram
Echo	Cardiac Echo
ECMO	Extracorporeal Membrane Oxygenation
EJ	External Jugular
Epi	Epinephrine
Esm	Esmolol
EtCO2	End Tidal CO2
Etom	Etomidate
ETT	Endotracheal Tube
ETTConf	ET Tube Confirmation
Fent	Fentanyl

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FFP	Fresh Frozen Plasma
Flum	Flumazenil
FOS	Fosphenytoin
Furos	Furosemide
g	Gram
HR	Heart Rate
IBP	Invasive Blood Pressure (arterial line)
IJ	Internal Jugular
Insul	Insulin
IO	Intraosseous Line
Isop	Isoproterenol
IV	Intravenous Line
J	Joules / Energy
Ket	Ketamine
kg	Kilograms
lbs	Pounds
Lev	Levetiracetam
Levo	Levophed
Lido	Lidocaine
LMA	Laryngeal Mask Airway
Lorz	Lorazepam
LR	Lactated Ringers
mA	Milliamperes
Mann	Mannitol
mcg	Micrograms
mEq	Milliequivalents
Metop	Metoprolol
Mg	Magnesium Sulfate
mg	Milligrams
Midaz	Midazolam
Mil	Milrinone
mL	Milliters
Morph	Morphine
MRI	Magnetic Resonance Imaging
mmHG	Millimeters of Mercury
Nalox	Naloxone
Narcan	Narcan
NC	Nasal Cannula
NeedleT	Needle Thoracostomy
NG Tube	NGT
NIBP	Non-Invasive Blood Pressure
Nipride	Nitroprusside

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Nitro	Nitroglycerin
NRB	Non-Rebreather
Norepi	Norepinephrine
NPA	Nasopharyngeal Airway
NRB	Non-Rebreather
NSR	Normal Sinus Rhythm
OA	Oral Airway
Paced-Atrial	Cardiac Pacing: Atrial
Paced-Ventricular	Cardiac Pacing Ventricular
PaceTC	Pacemaker, Transcutaneous
PaceTV/E	Pacemaker, Transvenous or Epicardial
Panc	Pancuronium
PEA	Pulseless Electrical Activity
PCC	Pericardiocentesis
Phenobarb	Phenobarbital
Phenyleph	Phenylephrine
Phenytoin	Phenytoin
PRBC	Packed Red Blood Cells
Procaine	Procainamide
Prop	Propofol
pVT	Pulseless Ventricular Tachycardia
Roc	Rocuronium
ROSC	Return of Spontaneous Circulation
RR	Respiratory Rate
S	Spontaneous
SpO2	Peripheral Capillary Oxygen Saturation
ST	Sinus Tachycardia
SC	Suction Catheter
Sux	Succinylcholine
SVT	Supraventricular Tachycardia
TCP	Transcutaneous Pacing
TEP	Transesophageal Pacing
TVP	Transvenous Pacing
Trach	Tracheotomy
US	Ultrasound
UC	Urinary Catheter
Vaso	Vasopressin
Vec	Vecuronium
Vent	Ventilator Settings
VF	Ventricular Fibrillation
Vtach	Ventricular Tachycardia
XR	X-Ray

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APPENDIX 5.3

Medication List

The following medications are listed in RevivePro drop-down menus. If the medication has a corresponding adult dosage recommendation, the drug will be followed by an asterisk (*), if the drug includes a pediatric recommendation, it will be followed by a pound (#) sign.

EPINEPHrine *, #
Adenosine *, #
Amiodarone *, #
Atropine *, #
Lidocaine 2% *, #
Magnesium Sulfate *, #

FULL MEDICATION LIST

Adenosine *, #
Albuterol #
Amiodarone *, #
Atropine *, #
Bicarbonate #
Calcium Chloride* #
Charcoal #
Dextrose 10% #
Dextrose 25% *, #
Dextrose 50% *, #
DiazePAM #
DilTIAZem
DOBUTamine
DOPamine
EPINEPHrine *, #
Esmolol
Etomidate #
FentaNYL #
Flumazenil #
Fosphenytoin #
Furosemide #
Glucagon #
Insulin (Regular)
Isoproterenol
Ketamine #
Levetiracetam #

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Levophed
Lidocaine 2% *, #
LORazepam #
Magnesium Sulfate *, #
Mannitol #
Metoprolol
Midazolam #
Milrinone
Morphine #
Naloxone #
Narcan #
Nitroglycerine
Nitroprusside
Norepinephrine
Pancuronium
PHENobarbital #
Phenylephrine
Phenytoin #
Procainamide #
Propofol #
Rocuronium #
Sodium Bicarbonate*, #
Succinylcholine #
Vasopressin
Vecuronium #
Versed
Other Medication

Fluids
- Normal Saline #
- Lactated Ringers #
- D5 ½ NS + 20 mEq KCL/L #
- 3% Saline #

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