These packets are the scripts and references that we used to teach both RCDP and PSD versions of the curriculum.
Each packet was given to a member of the team and used as a script for the day of enrollment.

Relevant abbreviations include:

BP = Blood Pressure
CPR = Cardiopulmonary Resuscitation
CRM = Crisis Resource Management
ED = Emergency Department
EKG = Electrocardiogram
IO = Intraosseous
IV = Intravenous
IVC = Inferior Vena Cava
NASA-TLX (or TLX) = National Aeronautics and Space Administration-Task Load Inventory
PALS = Pediatric Advanced Life Support
PE = Pulmonary Embolism
PEA = Pulseless Electrical Activity
PPE = Personal Protective Equipment
PSD = Post Simulation Debriefing
RCDP = Rapid Cycle Deliberate Practice
Relevant abbreviations include:
RN = Registered Nurse
ROSC = Return of Spontaneous Circulation
US = Ultrasound
VBG = Venous Blood Gas
VF = Ventricular Fibrillation
(p)VT = (pulseless) Ventricular Tachycardia

Researcher Packet: Both Days

Simulation Day Schedule

1:00 - 1:15 PM: Participants arrive, check in, and set up
1:15 - 1:45 PM: Simultaneous orientation of new participants and retention testing for repeat (second day) participants, randomization and briefing for simulation
1:45 - 2:00 PM: Briefing for training session
2:00 - 3:00 PM: Training session (randomized to RCDP or PSD)
3:00 - 3:05 PM: Post training session NASA TLX
3:05 - 3:10 PM: Instructors set up for test case
3:10 - 3:20 PM: Test case: VT
3:20 - 3:25 PM: Post team testing NASA TLX
3:25 - 3:40 PM: Break time for participants after completing text case TLX; instructors set up final case
3:40 - 4:30 PM: Extra educational time: can be used to fill out knowledge gaps detected during training or used to teach SVT case, or any other topic that the instructors that day desire. During this time, the researcher should be checking REDCap survey completion by running reports prior to departure of any learners.

Researcher Packet: Both Days

Pre-Work

- ☐ Before arrival of participants, have iPhone up with spreadsheet open, check for laminated cards, stop watch, clip boards
- ☐ Randomize to type of training, so you can pull the packets for the instructors. Look up randomization list in iPhone and enter today's date on next entry of randomized list, you can announce which arm of the study today's session will be using. If a fellow is present use the second set (column C)

Arrival Activities (1:00-1:15)

1:00 - 1:15 PM: Participants arrive, check in with researcher, and set up of mannequin and room
"Thank you for coming today, I will help get you enrolled in today's research session. If you have been part of this study already, I can help you get your number again and when you last participated. If this is your first time, you will come with me and I will tell you about the research part of the day."

Today's Date: _____

Names (include participants and all 3 instructors)	Prior Participation Date or NA	Study Number

If prior participant, "Do you continue to consent to participating in this study? If so, we ask that you wait near room 43 and fill out demographics survey at http://tinyurl.com/tchcognitiveload. Once you finish your simulation, please fill out Post Retention Testing (individual) NASA TLX."

If more than one returning participant, ask them to wait by service elevators (outside of double doors so they do not see or hear the other participants individual retention testing)

For new participants, take them to between rooms 38 and 39.

While you are talking to new participants, the return participants will fill out demographics, take retention test with instructors and NASA TLX.

Researcher Packet: Both Days

Consent of new participants (1:15-1:45) **(Simultaneous to retention testing)**

Consent to Study

"Today, as part of the simulation team experience, we will be collecting data as part of a research study comparing different clinical simulation designs. We are trying to determine the best way to train teams in pediatric resuscitation and measure the cognitive load faced by members of the team during the simulation and discussions. We are comparing simulation followed by debriefing (PSD), with rapid cycle deliberate practice, a method of training where simulations can be interrupted by instructors to provide feedback and more opportunities to practice.

Your participation in this study is voluntary and will not affect your ability to participate in the simulation day or in any of your evaluations or assessments. As part of the study, your team will be randomized to participate in one of two different types of simulation, and you will be assigned a role in which to participate during this day.

Should you choose to participate, you will be matched with an ID number, the key to which will be stored in a secure file and on an encrypted iPhone in a locked closet. No one but the investigators will be able to link your data to your identity. Data collected from you will include surveys regarding your experience of the simulation, as well as anonymized data regarding team performance. Should you agree to participate in the study, on your second simulation day (during your next TCH ER rotation), prior to starting the simulation day you will undergo an individual simulation case where performance data linked to your study ID (but not your name) will be recorded. These performance data will not be shared with anyone and will not impact your participation in the later simulation or your evaluations in any way."

- ☐ Do you have questions about the research?
- ☐ Do you each agree to participation in the study? Circle this Yes if all agree

"Even if you all agree, but later you decide you do not want your data included, you can always approach Cara Doughty or Daniel Lemke and let them know that you are withdrawing consent."

- ☐ Assign each consenting participant a study ID number and fill in chart above.

Researcher Packet: Both Days

Consent of new participants (1:15-1:45)

REDCap Survey Orientation and demographics

"Before your first case today, you will be asked to fill out several surveys. The first is a demographic survey collecting information about your dates of participation and experiences with simulation. After you complete this demographic survey, **KEEP THE WINDOW OPEN ON YOUR PHONE** as it contains the link to the next survey. After the instruction module, you will fill out a survey that will measure your cognitive load during the session. Then after a team testing scenario, you will be asked to fill out the last survey. Keep the browser window open after each survey. There are 3 total surveys to complete: one demographic survey and two cognitive load surveys. If you accidentally close the window, we will ask you to start over from the beginning and duplicate the entries you made the first time to the best of your recollection.

The link is

Tinyurl.com/TCHcognitiveload

[hold up sheet with link printed on it]

Again, remember to KEEP THE WINDOW OPEN after you're done with each survey so it will provide the link to the next survey. Lastly, before you leave today, I will verify that all your data was correctly submitted to the database, so please do not leave until I have verified your data has been submitted."

- ☐ Verify that everyone filled out demographics and didn't close window
- ☐ When return testing is finished, bring back new participants to room 43 and start Briefing teaching session.
- ☐ Check with second-time participants and instructors that they have filled out demographics and for the retention study participants that they filled out the retention individual survey

Briefing for Training Session (1:45-2:00)

Randomization

"Before we get to introductions and briefing, I will let you know which arm of the study we are on and what roles everyone will be taking during the first case. These are the roles you should start with on entry to the simulation, remember just as in real life, you are not tied to a position and can help wherever needed."

- ☐ Let team know which arm of the study it is
- ☐ Randomize participants to roles they will start with using cards

Step 1: Select the right number of cards for participants.

For 5 participants, include First Responder, Airway, Bedside Provider, Nurse Recorder, and Physician Lead

For 6 participants, add CPR coach

For more than 6 participants, add more bedside providers as needed.

Step 2: Nurse Roles: If one nurse, give him/her the nurse recorder card, if two, have them pick from the nurse recorder card and randomly pick another role (excluding the physician lead card) that is randomly picked by you.

Step 3: Physician Roles, have them randomly pick from the remaining cards to determine roles.

This role is the only role for PSD arm both training and testing, for RCDP, have team members rotate (keeping physicians as lead and nurses as recorder, whatever role individuals take during final RCDP round is role in which they should be tested)

[Note to researcher: For PSD format, you can also enter roles into phone at this time, but for RCDP format, wait until rotations are finished and you know which role team members land on in final round of training.]

During briefing for teaching session, which will be conducted by simulation instructors, get ready to start stopwatch to record and limit duration of teaching session.

Briefing

Briefing will include introductions, orientation to the mannequin, and ground rules of simulation (tailored to RCDP or PSD).

Researcher Packet: Both Days

Training Session (2:00-3:00)

- ☐ Record total time from verbal prompt of first case, to end of teaching session: _____

Post Instruction Module NASA TLX (3:00-3:05)

"Now that you are finished, please open and complete the Post instruction TLX, this includes participants and instructors. Definitions are included on your cards"

- ☐ Verify completion of NASA TLX by instructors and participants

Set up for Team Test (3:05-3:10)

"In this testing scenario, please start in the role that you just performed [in RCDP: the final round or in PSD: the only simulation]"

Open iPhone Work Insight (Blue arrow up to the right)

Put in number of person team lead into Name ID

- ☐ Get the iPhone ready for the secondary task analysis and state to the team leader: "Please hold this phone in your hand and when it flashes and buzzes, tap anywhere on the screen. This is another way to measure cognitive load, by giving you a secondary task to perform. It will buzz randomly every 30 seconds or so and record how long it takes you to respond. I do ask that you do not put the phone down since you will likely stop responding to the buzz altogether. When complete, give it back to me and I will stop the recording."

VT Testing Case, Data Collection Sheet (3:10-3:20)

- ☐ Today's Date_____
  ID numbers of participants (list, no names):
- ☐ Role (during last RCDP round or only role in PSD case) of each participant by ID number:
  This should be the testing roles for the team members
  - First responder:
  - Physician lead:
  - Airway:
  - Nurse Recorder:
  - Bedside provider:
  - CPR Coach:
  - Bedside provider:
  - Bedside provider:
- ☐ Start secondary task app just before case is started
- ☐ Start timer as verbal prompt is started
- ☐ Time from beginning of verbal prompt- 1st compression _____
- ☐ Time from beginning of verbal to delivery of shock: _____
- ☐ Time from beginning of verbal to first epinephrine dose: _____
- ☐ Time of administration of second dose epinephrine: _____
  Take this data and enter it into the numbers file with in the columns to the right of the role assessment.

Post Team Testing NASA TLX: (3:20-3:25)

"Now that you are finished, please open and complete the Post instruction TLX, this includes participants. Definitions are included on your cards. Please do not leave until I can verify that all of your data has been submitted."

3:25 – finish Verification During Verification, instructors will likely conduct more teaching, give team break and continue teaching until about 4:30. It is up to them how much to teach and details of what to teach.

Verify video saved Open sessions and check for date stamp on session for testing case

Verifying that surveys have been submitted to REDCap (BEFORE participants leave)

1. Log into the redcap website Direct link is on home page (bottom right under Quick links)
   Or type: **https://tch-redcap.texaschildrens.org/REDCap/**
2. Click on "My Projects" >> "RCDP Cognitive Load"
3. On the left-hand side, under "Applications" click "Data Exports, Reports, and Stats"
4. Find the line that says "Verification of Participation Report" and on the far right under "Management Options" click "Edit"
5. Wait for the full report to load (can take a few moments)
6. Under "Step 3", the first section named "Filters (optional)", on the far right, click the small calendar icon and select today's date.
7. Click the blue "Save Report" at the bottom of the page.
8. A pop-up saying "Your report has been saved!" will appear. Click "View Report" and the page should populate with a list of all the records that were submitted for today including study IDs.
9. Each study participant, depending on their status, will have a different set of completed surveys depending on their status in the study: see sample report run below for the 3 participant types
   a. FIRST TIME PARTICIPANT (First line): "Complete" for Demographic Survey, Post Instruction Module, Post Team Testing
   b. RETURN PARTICIPANT (Second line): "Complete" for Demographic Survey, Post Retention (individual) Testing, Post Instruction Module (day 2), Post Team Testing (day2)
   c. SIMULATION INSTRUCTOR (Third line): "Complete" under Demographic Survey, Post Instruction Module for Simulation Instructor / Nurse Educator
   d. If a participant is missing a survey that they should have completed, please have them check their phone to insure it was submitted. If they did not submit anything at all or have closed the browser window, have them start over from the beginning.

	Today's Date date_ demographic	**Study ID (please have your instructor look up your study ID)** study_id_demographic	**Complete?** demographic_ survey_ complete	**Complete?** post_ instruction_ module_nasa_ tlx_complete	**Complete?** post_team_ testing_ nasa_tlx_ complete	**Complete?** post_retention_ testing_ individual_nasa_ tlx_complete	**Complete?** post_instruction_ module_day_2_ nasa_tlx_ complete	**Complete?** post_team_ testing_day_ 2_nasa_tlx_ complete	**Complete?** post_instruction_ module_for_ simulation_ instructor_complete
First time	12-19-2017	999	Complete (2)	Complete (2)	Complete (2)	Incomplete (0)	Incomplete (0)	Incomplete (0)	Incomplete (0)
Repeat	12-19-2017	999	Complete (2)	Incomplete (0)	Incomplete (0)	Complete (2)	Complete (2)	Complete (2)	Incomplete (0)
Instructor	12-19-2017	999	Complete (2)	Incomplete (0)	Incomplete (0)	Incomplete (0)	Incomplete (0)	Incomplete (0)	Complete (2)

Computer Operator Packet

Simulation Day Schedule

1:00 - 1:15 PM: Participants arrive, check in, and set up
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3:05 - 3:10 PM: Instructors set up for test case
3:10 - 3:20 PM: Test case: VT
3:20 - 3:25 PM: Post team testing NASA TLX
3:25 - 3:40 PM: Break time for participants after completing text case TLX; instructors set up final case
3:40 - 4:30 PM: Extra educational time: can be used to fill out knowledge gaps detected during training or used to teach SVT case, or any other topic that the instructors that day desire. During this time, the researcher should be checking REDCap survey completion by running reports prior to departure of any learners.

Computer Operator Packet

Pre-Work

Before arrival of participants, get mannequin and computer and video set up.

- ☐ Start mannequin, with no monitors attached, in pulseless VF, apneic, no pulse ox, 0 / 0 BP
- ☐ Confirm mannequin connection to computer system & that it responds
- ☐ No IVs or IOs in patient
- ☐ Blood pressure cuff off
- ☐ Equipment away
- ☐ Oxygen turned off
- ☐ Code sheet cleaned
- ☐ Mock Code Cart is set up (in particular look for backboard, length-based dosing tape and quick combo adapter)
- ☐ Video System: Laptop on cart, password is "Rapid Cycle" (there is a space), then start SimIQ software.
- ☐ Confirm that both cameras are on (green halo around lens), if not green, check plug (and GFCI) if still not working contact Dan L

Arrival Activities (1:00-1:15)

- Researcher checks in participants arrive, and are handled by researcher who will gather names for data collection, divide group into new and repeat participants. Orientation to the mannequin and teaching and introduction comes later.
- Researcher will confirm consent of return participants and get them their ID numbers before taking new participants to consent

☐ Fill out your own demographic survey at tinyurl.com/TCHcognitiveload

Retention Testing (1:15-1:45)

(Simultaneous to consent of new participants)

- ☐ Ask repeat participants to wait their turn (if more than one) by service elevators outside of double doors, where they can fill out the demographics survey or if finished they can fill out their NASA TLX Survey
- ☐ Verify ID number of learner who is being tested (should have been provided by researcher; listed on iPhone if needed)
- ☐ Confirm participant's consent verbally, that they will continue to voluntarily participate in study
- ☐ Brief Learner: "**Thank you for returning today, you will have three assistants to help, they will portray three assistants, they are trained and capable of any skill you need, but will not help decide what needs to be done. Remember, the mannequin may not actually connect, but all steps are needed up to charging, and if it doesn't connect, one of the assistants will announce the defibrillator is fully charged and you will need to push shock button at which point you will state shock delivered and direct further action as needed."**

Retention Testing: (1:15-1:45)

Your role as the computer operator is to start recording and timer, make sure that rhythm comes up on screen upon connection to quick combo pads and then help as directed by the participant. You have no script other than providing closed loop communication to the participant when you finish assigned tasks.
You also will stop scenario if more than 3 minutes passes from start of scenario.

Computer Operator Packet

Before airway position starts case:
Briefing will be done by one of the other simulation instructors

- ☐ Start mannequin in VF rhythm, no BP, no RR
- ☐ Start video recording
- ☐ State aloud number of test subject for the video and date of performance aloud
- ☐ Cue Airway Position to begin case by stating opening line.
- ☐ Start timer at initiation of first line

Airway position will call for help while providing BVM ventilation and bedside position will state “Thank you for coming, Jim just passed out and is unresponsive, we started bagging since he isn’t breathing.”

Make sure that rhythm can be seen by participant if connection with mannequin via quick combo pad adapters is not working and you will state “defibrillator is charged” if mannequin not connecting.

- ☐ At defibrillation or 3-minutes, whichever comes first, stop scenario

The two other instructors will provide a mini-debriefing for the participant

- ☐ During mini-debriefing, turn off recording and reset mannequin back to start for next participant testing
- ☐ After mini-debriefing, remind participant to take the NASA TLX

Computer Operator Packet
Briefing for Training Session (1:45-2:00)

Randomization

Randomization of roles will be done by the researcher.

Briefing

Physician or Nurse instructor will read script including introductions, orientation to mannequin and ground rules for **traditional** simulation

Before Briefing, ensure that you

- ☐ Start mannequin, with no monitors attached, in healthy patient mode (breathing with pulse)
- ☐ Confirm mannequin connection to computer system & that it responds
- ☐ No IVs or IOs in patient
- ☐ Blood pressure cuff off
- ☐ Equipment away
- ☐ Oxygen turned off
- ☐ Code sheet cleaned [We had a laminated code sheet to use repeatedly]

NO need for recording of the teaching session

- ☐ Once briefing is finished, switch to PEA RCDP, first round start (with pulse, but apneic)
- ☐ Be ready to start stop watch when first verbal prompt is given to help watch for 60-minutes cap on RCDP

Computer Operator Packet

RCDP Training Session (PEA) (2:00-3:00)

When labs are requested, delay Glucose check by 30 seconds and VBG by 3 minutes

- Verbally give Glucose
- Hand VBG Card at 3minutes from time you are handed syringe

- **Round 1: Initial Priorities, Airway, Breathing (usually 1 minute for ideal team to run through)**

  Vitals: HR 95, RR 0, BP 100/70, Sat 85%, eyes closed

  After 30 seconds of high-quality ventilations: click "Team opens airway and begins ventilations"

  This should trend vitals over 1 minute to HR 180, BP 90/50, RR 44, Sat 95%, crying patient

- **Round 2: Initial Priorities, Compressions, Airway, Breathing, Backboard, Pulse-Rhythm Check**

  Vitals: HR 54 bpm, sinus, RR 0, BP 00/00, Sat 85%, eyes closed

  After compressions, before first pulse check, click "Team Starts CPR"

  This should trend vitals over 1 minute to HR 95, sinus, RR 0, BP 100/70, Sat 95%, eyes closed

- **Round 3: Adds Epinephrine and Compressor Switch**

  Vitals: HR 54 bpm, sinus, RR 0, BP 00/00, Sat 85%, eyes closed

  When 1st epinephrine given click, "Epinephrine administered"

  This should trend vitals over 1 minute to HR 95, sinus, RR 0, BP 100/70, Sat 95%, eyes closed

- **Round 4 / PSD Version Adds Search for Hs and Ts while extending case to two rounds of epinephrine**

  Vitals: HR 54 bpm, sinus, RR 0, BP 00/00, Sat 85%, eyes closed

  After 2nd epinephrine, click "2nd epinephrine given,

  This should trend vitals over 1 minute to HR 95, sinus, RR 0, BP 100/70, Sat 95%, eyes closed

Of note, adjust number of repetitions and details that are taught to finish at 1 hour.

Post Training Session NASA TLX (3:00-3:05)

Researcher will say "Now that you are finished, please open and complete the Post instruction TLX, this includes participants and instructors. Definitions are included on your cards"

- Fill out your own survey

Computer Operator Packet

Set up for Team Test (3:05-3:10)

Researcher will say “In this testing scenario, please start in the role that you just performed”

- ☐ Start mannequin, with no monitors attached, in VT without a pulse (last round of RCDP VT case)
- ☐ Confirm mannequin connection to computer system & that it responds
- ☐ No IVs or IOs in patient
- ☐ Blood pressure cuff off
- ☐ Equipment away
- ☐ Oxygen turned off
- ☐ Code sheet cleaned
- ☐ Start recording of the testing session
- ☐ Be ready to start stop watch when first verbal prompt is given to help watch for 10-minute duration of simulation

VT Testing Case (3:10-3:20)

At beginning of verbal prompt as given by another instructor:

- ☐ Start timer

When ECG monitors are attached, or when quick combo adapter is attached correctly and no rhythm comes up on defibrillator

- ☐ Turn on ECG

When pulse ox attached

- ☐ Turn Pulse Ox

When BP is attached and asked for

- ☐ Run NBP

When 2nd epinephrine given

- ☐ *Click Second Epinephrine Given, which will allow next shock to convert rhythm*

If defibrillator not working and shock button is pushed and had been charged “correctly”

- ☐ Click override shock button (if hooked up correctly, this will be automatic), which should set BP to 60s/30s, HR to 170, RR to 0, Sat to 88%

When intubated

- ☐ *Raise Sat to 94%*

When 10ml/kg bolus and epinephrine given

- ☐ Raise BP to normal

When 10 minutes is reached

- ☐ Stop Case, stop recording

Computer Operator Packet

Post Team Testing NASA TLX: (3:20-3:25)

Researcher will have team fill out NASA TLX (You don't fill out a survey here)

3:25 – finish

After Test Teaching: This is up to the two other instructors and you. You will likely spend some time going over concepts that are missed during the testing case, praise things that were done particularly well. If desired, give the team a break and then move to a second kind of teaching, this can be focused on intubation, sedation, or use the SVT case.

Just don’t run more simulations about pulseless arrest.

PSD Physician Instructor Packet

Simulation Day Schedule

1:00 - 1:15 PM: Participants arrive, check in, and set up
1:15 - 1:45 PM: Simultaneous orientation of new participants and retention testing for repeat (second day) participants, randomization and briefing for simulation
1:45 - 2:00 PM: Briefing for training session
2:00 - 3:00 PM: Training session (randomized to RCDP or PSD)
3:00 - 3:05 PM: Post training session NASA TLX
3:05 - 3:10 PM: Instructors set up for test case
3:10 - 3:20 PM: Test case: VT
3:20 - 3:25 PM: Post team testing NASA TLX
3:25 - 3:40 PM: Break time for participants after completing text case TLX; instructors set up final case
3:40 - 4:30 PM: Extra educational time: can be used to fill out knowledge gaps detected during training or used to teach SVT case, or any other topic that the instructors that day desire. During this time, the researcher should be checking REDCap survey completion by running reports prior to departure of any learners.

PSD Physician Instructor Packet

Pre-Work

Before arrival of participants, get mannequin and computer and video set up.
See Computer Operator Packet for checklist

Arrival Activities (1:00-1:15)

- Researcher checks in participants arrive, and are handled by researcher who will gather names for data collection, divide group into new and repeat participants. Orientation to the mannequin and teaching and introduction comes later.
- Researcher will confirm consent of return participants and get them their ID numbers before taking new participants to consent

☐ Fill out your own demographic survey at tinyurl.com/TCHcognitiveload

Retention Testing (1:15-1:45)

(Simultaneous to consent of new participants)

Computer operator will ask repeat participants to wait their turn by service elevators, verify their ID numbers and confirm consent, prior to briefing them.

As Airway position, you are responsible for providing airway and ventilation and will also provide brief feedback at end of case.
Start bagging patient once every 2-3 seconds while looking for chest rise in mannequin.

"Help, we need help in here."

If asked about airway or breathing, respond: "He is easy to ventilate, there is no apparent airway obstruction. I do not see him breathing on his own between breaths."

For **Debriefing**, pick one item and provide education using Advocacy/ Inquiry Method, examples in table for anticipated problems/ successes, limited to 2-3 minutes.

Preview	Observation	Advocacy	Inquiry
I want to talk about the first steps of Basic Life Support…	I saw you enter room and state that the patient was unconscious and immediately asked for a pulse check…	I am pleased that you went straight to the BLS algorithm starting with CAB since this will expedite finding a pulseless condition that needs compressions.	Tell me your thoughts as you entered the room.
	I saw you enter the room and ask what was going on by saying " "…	I am concerned that you delayed BLS to find out more history when faced with an unresponsive patient.	Tell me your viewpoint
I want to talk about priorities during the first phase of advanced life support…	I saw that you directed compressions, helped place a backboard, attached defibrillator pads, obtained a weight using the length based tape and turned on the defibrillator…	I am pleased that you did all of these and no other actions until ready for a pulse and rhythm check since it allows for rapid defibrillation in case of VF/pVT.	What's up with this?
	I saw that you placed full monitors including a pulse ox and BP cuff before stopping for a rhythm check…	I am concerned that extra actions especially when shorthanded are going to delay the first defibrillation in cases of VF/pVT	Tell me how you see this…

PSD Physician Instructor Packet

Briefing for Training Session (1:45-2:00)

Randomization

Randomization of roles will be done by the researcher.

Briefing

You will be in lead the briefing the team, after introductions please read out the statement below (if there is something missing, let Dan Lemke know). Please do not teach extra things such as IO placement, airway management or other procedural skills during this time.
"Welcome my name is Dr. Lemke [insert your name In place of Lemke], I have been here for many years…" once you go around read the following:

"The purpose of today's session is to find areas to improve and to emphasize actions which were done correctly. This is not a blaming session and we do ask that we assume that everyone here is smart intelligent and motivated to become better at resuscitation. Also, please focus on parts of simulation which are real, rather than on the parts which are different from real life because of the simulated nature of the experience. Finally, remember that everything here will be held confidential. While we will be asking you to be part of a study of the curriculum itself, how individuals perform will not be discussed with anyone outside of the research study.

Now for details about the mannequin, remember that we are not trying to train you to examine mannequins, there are some parts of the mannequin that will give you cues to help manage the case, and others that will be more of a guess on your part as to what the mannequin is demonstrating. Don't worry about it, if you state something like "the patient has decreased breath sounds on one side" and we didn't intend the mannequin to have asymmetric breath sounds, we will state loudly, "the breath sounds are equal." Just believe us if we override what you think the mannequin is showing you. Many times, there is a disconnection from the computer to the mannequin or we set it up wrong and caused the misunderstanding. The same can be done for parts of the mannequin which just aren't real. For example, check for cap refill on the mannequin and just guess what the refill would be. Once again, if you don't guess what we wanted, we will override it by stating the cap refill that we intended as instructors." Check these off as you show them on the mannequin:

- ☐ The patient can breathe and has breath sounds
- ☐ The patient has pulses (show them where)
- ☐ The patient has built in ECG attachment sites and for the quick combo "pads"
- ☐ The pulse ox probe will work once attached and connected to the monitor
- ☐ The BP cuff will cycle to obtain a BP once attached and asked aloud for the BP
- ☐ You can use everything on or in the mock code cart, yes you can tear the plastic and defibrillate
- ☐ You can place an IV in the right arm or an IO in the right leg.
- ☐ For medications, you have to have a working access, secured to the leg or arm and then hook up a syringe with the right volume of medication, BUT skip pushing the fluid in the leg, then disconnect the syringe, hook up a syringe filled with at least 5 mL of flush BUT skip pushing the plunger. Then announce what you have given as you normally would to the rest of your team.
- ☐ For labs, hook up an empty syringe to your IV/IO access and withdraw 5 mL of air, and hand it to the

computer operator who will keep track of timing for when your results will return.

- You can intubate with the equipment in the room, just don't put liquids in the airway
- Check for any other questions and answer any questions regarding functionality of the mannequin, but not how pieces of equipment work (e.g. defibrillator). If asked about equipment or procedures, state "I will cover this during the teaching session over the next hour."

"As for how the simulation will proceed, after the call for help, only one person can come and assess need for additional help. After first person enters, they will likely call for help; once asked for help the remainder of team must wait 10 seconds (since it takes time to get code cart) before entering.

- Confirm with computer operator and researcher before nurse instructor starts scenario with verbal prompt.
- Start your stopwatch, so you can help track the 1 hour time limit, adjust number of repetitions and details that are taught to finish at 1 hour

Training Session (2:00-3:00)

Scenario (2:00-2:20)

Verbal Prompt given by nurse instructor: "The charge nurse has asked you to go to the resuscitation room. The patient is a (1 or 6[pick based on size of mannequin)-year-old boy, previously healthy, now with fever, cough and congestion for 2 days, brought to the ED with worsening respiratory distress. I found him to be unresponsive and brought him to the resuscitation room immediately."

Possible issues:

*If team asks for **more history** at any time, say, "The mother is inconsolable and can't give any more details."*

Use good judgment, but if team doesn't flush medications, gently remind them that they have to flush medications for them to count.

- ☐ During the scenario, use debriefing worksheet to help keep notes

  Ideal actions of team are in appendix at end of packet

- ☐ At end of scenario, confer with nurse educator and computer operator about key actions that will be discussed

Debriefer worksheet:

Use this sheet with the other instructors to help debrief

Time to first compression: ___ (sec)

Time to first rhythm analysis: __ (min) __ (sec)

Time to first epinephrine: ____ (min) ___ (sec)

- **Clear team lead**
- **Clear team roles**
- **Closed loop communications**
- **Use of Action Linked Phrases**
- **Sharing of information with respect**
- **Coordinated choreography**
- **Minimize no-flow/ no-blow time by coordinated pulse check/rhythm check/ compressor switch**
- **Correct algorithm for PEA**
- **Search for Hs and Ts**

Role Specific Goals (circle and jot notes of specific feedback)

- **Compressor:**
- **Airway**
- **Bedside Provider 1:**
- **Bedside Provider 2:**
- **Bedside Provider 3:**
- **CPR Coach:**
- **Nurse Documenter:**
- **Physician Lead**

Transition and Debriefing (2:20-3:00)

Debriefing Script, this should last 40 minutes, including transition time from simulation to debriefing, save at least 10 minutes at end for summary
Intro Read by Nurse educator:
"Ground Rules: The purpose of this session is to find areas to improve and to emphasize actions which were done correctly. This is not a blaming session and we do ask that we focus on parts of simulation which are real, rather than on the parts which are different from real life because of the simulated nature of the experience.

Reactions: In one or two words, I would like each of you to share how you feel right now."

"Clarity (read as much as they completed… e.g. if they did not get to ROSC, stop with multiple rounds of CPR): This was a (1 or 6)-year-old child who presented in cardiopulmonary arrest with PEA and required compressions and multiple rounds of epinephrine, before converting to sinus rhythm with a pulse and then requiring stabilization.

Analysis: Based on worksheet, pick topics and adjust examples below to start conversations on objectives of case.

It is also acceptable to provide some direct feedback on topics like choreography or PALS algorithm.

Preview	Observation	Advocacy	Inquiry
I want to talk about priorities during the first phase of advanced life support…	I saw that you directed compressions, helped place a backboard, attached defibrillator pads, obtained a weight using the length based tape and turned on the defibrillator…	I am pleased that you did all of these and no other actions until ready for a pulse and rhythm check since it allows for rapid defibrillation in case of VF/pVT.	What's up with this?
	I saw that you placed full monitors including a pulse ox and BP cuff before stopping for a rhythm check…	I am concerned that extra actions especially when shorthanded are going to delay the first defibrillation in cases of VF/pVT	Tell me how you see this…
I want to talk about chest compressions…	I saw that the chest compressions varied between X and Y…	I am concerned that this rate is too fast/slow, this will not provide enough perfusion for the patient to recover.	Did anyone else notice the rate? Have you seen high-quality compressions in actual codes?
	I saw that the compression rate was at 110 BPM…	I am pleased that this is the AHA recommended rate.	How did you keep the pace? What app are you using for a metronome?
I want to talk about team choreography…	I noticed that it took X seconds to perform a pulse/rhythm check…	I am concerned that having more than 10 seconds of no-flow time or increasing the number of interruptions may decrease the success of CPR.	Tell me about that period of time and what was going on.
	I noticed that on the Nth pulse check, you paused for only 9 seconds,	This is great! By decreasing no flow time, but still getting a rhythm analysis/ pulse check complete, you increase survival	Let us review the choreography of what went right.

Follow up on responses, ensure that you discuss Action-linked phrases, the choreography of pulse-rhythm checks, CRM skills, the PALS algorithm.

Summarize: We have discussed several topics including … what did you learn that was new and that you plan to share with others?

Post Instruction Module NASA TLX (3:00-3:05)

Researcher will say “Now that you are finished, please open and complete the Post instruction TLX, this includes participants and instructors. Definitions are included on your cards”

- Fill out your own survey

Set up for Team Test (3:05-3:10)

Researcher will say “In this testing scenario, please start in the role that you just performed”

Help computer operator reset room per their checklist

VT Testing Case (3:10-3:20)

Briefly this is a pulseless VT case, which computer operator should stop at 10 minutes, you will observe and provide brief feedback to the team after they finish a NASA TLX Survey.

Post Team Testing NASA TLX: (3:20-3:25)

Researcher will have team fill out NASA TLX (You don't fill out a survey here)

3:25 – finish

After Test Teaching: This is up to the two other instructors and you. You will likely spend some time going over concepts that are missed during the testing case, praise things that were done particularly well. If desired, give the team a break and then move to a second kind of teaching, this can be focused on intubation, sedation, or use the SVT case.

Just don’t run more simulations about pulseless arrest.

Appendix: Ideal Actions of Team for PEA Scenario

(only single action required by computer operator, which is to restore pulses after 2nd Epinephrine)

Room Entry: See Choreography

Watch for wrong order, wrong side, or no roles assigned, use of PPE

- Responsiveness: First responder checks for responsiveness with verbal and gentle shake "**No response, get the code cart**"

- First responder becomes *compressor* and feels for carotid pulse 5-10 seconds
- Pulses should not be found, "**There is no pulse, I'm starting compressions**"
- *Remainder of team arrives* Second responder becomes *airway*, gets BVM, hooks up O_2 and starts coordinated CPR

Initial Priorities: See Choreography

Stool use, backboard, defibrillation pad placement, length based tape, set defibrillator dose

First Pulse-Rhythm Check See Choreography sheet, with ideal team <90 sec

- Move CPR Coach or 3rd person into position, and hold compressions as soon as initial priorities are finished. Also stop if more things being done before stop is made.
- Lead**: "Feel for a pulse, hold compressions, I will analyze rhythm"**
- CPR Coach/3rd person feels for 5-10 seconds and reports, "There is no pulse"
- "**I see sinus bradycardia, this is PEA, "CPR Coach/3rd person" resume compressions**,
- "3rd person" obtains access, draws up Epinephrine 0.01 mg/kg, 0.1 mL/kg = 1 mL of epinephrine"

First CPR Cycle See Choreography sheet

New *compressor* resumes CPR, 3rd person obtains IO access, draws up epinephrine and gives first epinephrine dose

Second Pulse-Rhythm Check See Choreography sheet

- Move CPR Coach or 3rd person into position, starting 1 min 45 second from resuming compressions, place hand on pulse.

- Lead: **"Hold Compressions, feel for a pulse, I will analyze rhythm"**
- CPR Coach/3rd person feels for 5-10 seconds and reports, "There is no pulse"
- Lead**: "We are still in PEA, resume compressions, no Epinephrine this round."**

Second CPR Cycle **See Choreography sheet**

- CPR Coach/3rd resumes CPR and becomes compressor
- Start search for Hs and Ts, it is unlikely team will complete entire list in this cycle
    - Hypoglycemia: bedside glucose
    - Hypo/hyperkalemia: VBG results
    - Hydrogen Ion/ Acidosis: VBG results
    - Hypoxia: VBG results
    - Hypothermia: check a rectal temp
    - Hypovolemia: history and consider US of IVC for filling
    - Tension pneumo: listen to breaths
    - Tamponade: US of heart
    - Thrombosis: PE and coronary, consider US and/or history
    - Toxins: history most likely source or information

Third Pulse-Rhythm Check **See Choreography sheet**

- Move CPR Coach or 3rd person into position, starting 1 min 45 second from resuming compressions, place hand on pulse.

- Lead: **"Feel for a pulse, hold compressions, I will analyze rhythm"**
- CPR Coach/ 3rd person feels for 5 seconds and reports, "There is no pulse"
- Lead**: "We are still in PEA, resume compressions, Epinephrine should be given this round."**

Third CPR Cycle **See Choreography sheet**

- CPR Coach/3rd resumes CPR and becomes compressor
- Start search for Hs and Ts, team should complete entire list in this cycle
    - Hypoglycemia: bedside glucose
    - Hypo/hyperkalemia: VBG results
    - Hydrogen Ion/ Acidosis: VBG results
    - Hypoxia: VBG results
    - Hypothermia: check a rectal temp
    - Hypovolemia: history and consider US of IVC for filling
    - Tension pneumothorax: listen to breaths
    - Tamponade: US of heart
    - Thrombosis: PE and coronary, consider US and/or history
    - Toxins: history most likely source or information

Scenario Progression:

- *When 2nd epinephrine given click Second Epinephrine Given, which will restore pulse,*

convert to sinus rhythm HR 95 bpm, BP 100/70, RR 0, SpO2 98%.

Fourth Pulse-Rhythm Check **See Choreography sheet**

- Move CPR Coach or 3rd person into position, starting 1 min 45 second from resuming compressions, place hand on pulse.

- Lead: **"Feel for a pulse, hold compressions, I will analyze rhythm"**
- CPR Coach/3rd person feels for 5 seconds and reports, "There is a pulse"
-
- Lead: "**We have ROSC, hold compressions, assess airway and breathing, get BP, temperature, draw labs and get an EKG**"
- Share Mental Model, continue respirations
- (including Ddx and possible next steps)

Stop and Break: Total ideal time is 7.5 minutes plus summary phase after ROSC Praise specific success, remind team, "We have ROSC, assess airway breathing, obtain BP and complete vitals, labs and EKG."

PSD Nurse Instructor Packet

Simulation Day Schedule

1:00 - 1:15 PM: Participants arrive, check in, and set up
1:15 - 1:45 PM: Simultaneous orientation of new participants and retention testing for repeat (second day) participants, randomization and briefing for simulation
1:45 - 2:00 PM: Briefing for training session
2:00 - 3:00 PM: Training session (randomized to RCDP or PSD)
3:00 - 3:05 PM: Post training session NASA TLX
3:05 - 3:10 PM: Instructors set up for test case
3:10 - 3:20 PM: Test case: VT
3:20 - 3:25 PM: Post team testing NASA TLX
3:25 - 3:40 PM: Break time for participants after completing text case TLX; instructors set up final case
3:40 - 4:30 PM: Extra educational time: can be used to fill out knowledge gaps detected during training or used to teach SVT case, or any other topic that the instructors that day desire. During this time, the researcher should be checking REDCap survey completion by running reports prior to departure of any learners.

PSD Nurse Instructor Packet

Pre-Work

Before arrival of participants, get

- ☐ Crash Cart
- ☐ Back Board
- ☐ Monitor Leads

See Computer Operator Packet for checklist

Arrival Activities (1:00-1:15)

- Researcher checks in participants arrive, and are handled by researcher who will gather names for data collection, divide group into new and repeat participants. Orientation to the mannequin and teaching and introduction comes later.
- Researcher will confirm consent of return participants and get them their ID numbers before taking new participants to consent

☐ Fill out your own demographic survey at tinyurl.com/TCHcognitiveload

Retention Testing (1:15-1:45)

(Simultaneous to consent of new participants)

Computer operator will ask repeat participants to wait their turn by service elevators, verify their ID numbers and confirm consent, prior to briefing them.

Your primary job is to provide information as needed to the test subject and to perform compressions if instructed to do so. If specifically instructed to perform other actions ("You, place the pulse oximeter on", complete orders and close loop of communication; if general desires are expressed ("we should get monitors on") don't do them or respond, just focus on your current job.

As test subject enters room

"Thank you for coming, Jim just passed out and is unresponsive, we started bagging since he isn't breathing."

If asked what is going on or for report:

"Jim is a 6-year-old boy who was brought back with vomiting and decreased urine output x 3 days. He has a history of multiple UTIs but is not currently on antibiotics. He is not taking any other medications. He has no allergies to medications, and mother reports that he hasn't been eating for the last two days."

If asked to check a pulse, check for the pulse and report no pulse. Do not automatically get step stool or back board and do not start compressions until ordered to do so.

Debriefing: Will be led by physician simulation instructor, but please teach

PSD Nurse Instructor Packet

Briefing for Training Session (1:45-2:00)

Randomization

Randomization of roles will be done by the researcher.

Briefing

Physician Team lead will start with introductions

There will be briefing on basic assumption, fiction contract, confidentiality and orientation to the mannequin. Please don't teach beyond the functionality of the mannequin.

Training Session (2:00-3:00)

Scenario (2:00-2:20)

Verbal Prompt given by you: "The charge nurse has asked you to go to the resuscitation room. The patient is a (1 or 6[pick based on size of mannequin]-year-old boy, previously healthy, now with fever, cough and congestion for 2 days, brought to the ED with worsening respiratory distress. I found him to be unresponsive and brought him to the resuscitation room immediately."

Possible issues:

*If team asks for **more history** at any time, say, "The mother is inconsolable and can't give any more details."*

Use good judgment, but if team doesn't flush medications, gently remind them that they have to flush medications for them to count.

- During the scenario, use debriefing worksheet to help keep notes

  Ideal actions of team are in appendix at end of packet

- At end of scenario, confer with physician educator and computer operator about key actions that will be discussed

Debriefer worksheet:

Use this sheet with the other instructors to help debrief

Time to first compression: ___ (sec)

Time to first rhythm analysis: ___ (min) ___ (sec)

Time to first epinephrine: ____ (min) ___ (sec)

- **Clear team lead**
- **Clear team roles**
- **Closed loop communications**
- **Use of Action Linked Phrases**
- **Sharing of information with respect**
- **Coordinated choreography**
- **Minimize no-flow/ no-blow time by coordinated pulse check/rhythm check/ compressor switch**
- **Correct algorithm for PEA**
- **Search for Hs and Ts**

Role Specific Goals (circle and jot notes of specific feedback)

- **Compressor:**
- **Airway**
- **Bedside Provider 1:**
- **Bedside Provider 2:**
- **Bedside Provider 3:**
- **CPR Coach:**
- **Nurse Documenter:**
- **Physician Lead**

PSD Nurse Instructor Packet

Transition and Debriefing (2:20-3:00)

Debriefing Script, this should last 40 minutes, including transition time from simulation to debriefing, save at least 10 minutes at end for summary

Introduction Read by YOU:

"Ground Rules: The purpose of this session is to find areas to improve and to emphasize actions which were done correctly. This is not a blaming session and we do ask that we focus on parts of simulation which are real, rather than on the parts which are different from real life because of the simulated nature of the experience.

Reactions: In one or two words, I would like each of you to share how you feel right now."

"Clarity (read as much as they completed… e.g. if they did not get to ROSC, stop with multiple rounds of CPR): This was a (1 or 6)-year-old child who presented in cardiopulmonary arrest with PEA and required compressions and multiple rounds of epinephrine, before converting to sinus rhythm with a pulse and then requiring stabilization.

Analysis: Based on worksheet, you and physician instructors will pick topics and adjust examples below to start conversations on objectives of case.

It is also acceptable to provide some direct feedback on topics like choreography or PALS algorithm.

Preview	Observation	Advocacy	Inquiry
I want to talk about priorities during the first phase of advanced life support…	I saw that you directed compressions, helped place a backboard, attached defibrillator pads, obtained a weight using the length based tape and turned on the defibrillator…	I am pleased that you did all of these and no other actions until ready for a pulse and rhythm check since it allows for rapid defibrillation in case of VF/pVT.	What's up with this?
	I saw that you placed full monitors including a pulse ox and BP cuff before stopping for a rhythm check…	I am concerned that extra actions especially when shorthanded are going to delay the first defibrillation in cases of VF/pVT	Tell me how you see this…
I want to talk about chest compressions…	I saw that the chest compressions varied between X and Y…	I am concerned that this rate is too fast/slow, this will not provide enough perfusion for the patient to recover.	Did anyone else notice the rate? Have you seen high-quality compressions in actual codes?
	I saw that the compression rate was at 110 BPM…	I am pleased that this is the AHA recommended rate.	How did you keep the pace? What app are you using for a metronome?
I want to talk about team choreography…	I noticed that it took X seconds to perform a pulse/rhythm check…	I am concerned that having more than 10 seconds of no-flow time or increasing the number of interruptions may decrease the success of CPR.	Tell me about that period of time and what was going on.
	I noticed that on the Nth pulse check, you paused for only 9 seconds,	This is great! By decreasing no flow time, but still getting a rhythm analysis/ pulse check complete, you increase survival	Let us review the choreography of what went right.

Follow up on responses, ensure that you discuss Action-linked phrases, the choreography of pulse-rhythm checks, CRM skills, the PALS algorithm.

Summarize: We have discussed several topics including … what did you learn that was new and that you plan to share with others?

Post Training Session NASA TLX (3:00-3:05)

Researcher will say “Now that you are finished, please open and complete the Post instruction TLX, this includes participants and instructors. Definitions are included on your cards”

- Fill out your own survey

Set up for Team Test (3:05-3:10)

Researcher will say “In this testing scenario, please start in the role that you just performed”

Help computer operator reset room per their checklist

VT Testing Case (3:10-3:20)

Briefly this is a pulseless VT case, which computer operator should stop at 10 minutes, you will observe and provide brief feedback to the team after they finish a NASA TLX Survey.
Briefly this is a pulseless VT case, which computer operator should stop at 10 minutes, you will observe and provide brief feedback to the team after they finish a NASA TLX Survey.

- Once the computer operator is ready, start the scenario by reading the prompt:

"The charge nurse has asked you to go to the resuscitation room. The patient is a (1 or 6[pick based on size of mannequin]-year-old boy, previous past history of UTIs, now with fever, vomiting and abdominal pain for 2 days, brought to the ED with lethargy. I found him to be unresponsive and brought him to the resuscitation room immediately.”

Post Team Testing NASA TLX: (3:20-3:25)

Researcher will have team fill out NASA TLX (You don't fill out a survey here)

3:25 – finish

After Test Teaching: This is up to the two other instructors and you. You will likely spend some time going over concepts that are missed during the testing case, praise things that were done particularly well. If desired, give the team a break and then move to a second kind of teaching, this can be focused on intubation, sedation, or use the SVT case.

Just don’t run more simulations about pulseless arrest.

Appendix: Ideal Actions of Team for PEA Scenario

(only single action required by computer operator, which is to restore pulses after 2nd Epinephrine)

Room Entry: See Choreography

Watch for wrong order, wrong side, or no roles assigned, use of PPE

- Responsiveness: First responder checks for responsiveness with verbal and gentle shake "**No response, get the code cart**"

- First responder becomes *compressor* and feels for carotid pulse 5-10 seconds
- Pulses should not be found, "**There is no pulse, I'm starting compressions**"
- *Remainder of team arrives* Second responder becomes *airway*, gets BVM, hooks up O_2 and starts coordinated CPR

Initial Priorities: See Choreography

Stool use, backboard, defibrillation pad placement, length based tape, set defibrillator dose

First Pulse-Rhythm Check See Choreography sheet, with ideal team <90 sec

- Move CPR Coach or 3rd person into position, and hold compressions as soon as initial priorities are finished. Also stop if more things being done before stop is made.
- Lead**: "Feel for a pulse, hold compressions, I will analyze rhythm"**
- CPR Coach/3rd person feels for 5-10 seconds and reports, "There is no pulse"
- "**I see sinus bradycardia, this is PEA, "CPR Coach/3rd person" resume compressions**,
- "3rd person" obtains access, draws up Epinephrine 0.01 mg/kg, 0.1 mL/kg = 1 mL of epinephrine"

First CPR Cycle See Choreography sheet

New *compressor* resumes CPR, 3rd person obtains IO access, draws up epinephrine and gives first epinephrine dose

Second Pulse-Rhythm Check See Choreography sheet

- Move CPR Coach or 3rd person into position, starting 1 min 45 second from resuming compressions, place hand on pulse.

- Lead: **"Hold Compressions, feel for a pulse, I will analyze rhythm"**
- CPR Coach/3rd person feels for 5-10 seconds and reports, "There is no pulse"
- Lead**: "We are still in PEA, resume compressions, no Epinephrine this round."**

Second CPR Cycle **See Choreography sheet**

- CPR Coach/3rd resumes CPR and becomes compressor
- Start search for Hs and Ts, it is unlikely team will complete entire list in this cycle
    - Hypoglycemia: bedside glucose
    - Hypo/hyperkalemia: VBG results
    - Hydrogen Ion/ Acidosis: VBG results
    - Hypoxia: VBG results
    - Hypothermia: check a rectal temp
    - Hypovolemia: history and consider US of IVC for filling
    - Tension pneumo: listen to breaths
    - Tamponade: US of heart
    - Thrombosis: PE and coronary, consider US and/or history
    - Toxins: history most likely source or information

Third Pulse-Rhythm Check **See Choreography sheet**

- Move CPR Coach or 3rd person into position, starting 1 min 45 second from resuming compressions, place hand on pulse.

- Lead: **"Feel for a pulse, hold compressions, I will analyze rhythm"**
- CPR Coach/ 3rd person feels for 5 seconds and reports, "There is no pulse"
- Lead**: "We are still in PEA, resume compressions, Epinephrine should be given this round."**

Third CPR Cycle **See Choreography sheet**

- CPR Coach/3rd resumes CPR and becomes compressor
- Start search for Hs and Ts, team should complete entire list in this cycle
    - Hypoglycemia: bedside glucose
    - Hypo/hyperkalemia: VBG results
    - Hydrogen Ion/ Acidosis: VBG results
    - Hypoxia: VBG results
    - Hypothermia: check a rectal temp
    - Hypovolemia: history and consider US of IVC for filling
    - Tension pneumothorax: listen to breaths
    - Tamponade: US of heart
    - Thrombosis: PE and coronary, consider US and/or history
    - Toxins: history most likely source or information

Scenario Progression:

- *When 2nd epinephrine given click Second Epinephrine Given, which will restore pulse, convert to sinus rhythm HR 95 bpm, BP 100/70, RR 0, SpO2 98%.*

Fourth Pulse-Rhythm Check **See Choreography sheet**

- Move CPR Coach or 3rd person into position, starting 1 min 45 second from resuming compressions, place hand on pulse.

- Lead: **"Feel for a pulse, hold compressions, I will analyze rhythm"**
- CPR Coach/3rd person feels for 5 seconds and reports, "There is a pulse"
-
- Lead: "**We have ROSC, hold compressions, assess airway and breathing, get BP, temperature, draw labs and get an EKG**"
- Share Mental Model, continue respirations
- (including Ddx and possible next steps)

Stop and Break: Total ideal time is 7.5 minutes plus summary phase after ROSC Praise specific success, remind team, "We have ROSC, assess airway breathing, obtain BP and complete vitals, labs and EKG."

RCDP Physician Instructor Packet

Simulation Day Schedule

1:00 - 1:15 PM: Participants arrive, check in, and set up
1:15 - 1:45 PM: Simultaneous orientation of new participants and retention testing for repeat (second day) participants, randomization and briefing for simulation
1:45 - 2:00 PM: Briefing for training session
2:00 - 3:00 PM: Training session (randomized to RCDP or PSD)
3:00 - 3:05 PM: Post training session NASA TLX
3:05 - 3:10 PM: Instructors set up for test case
3:10 - 3:20 PM: Test case: VT
3:20 - 3:25 PM: Post team testing NASA TLX
3:25 - 3:40 PM: Break time for participants after completing text case TLX; instructors set up final case
3:40 - 4:30 PM: Extra educational time: can be used to fill out knowledge gaps detected during training or used to teach SVT case, or any other topic that the instructors that day desire. During this time, the researcher should be checking REDCap survey completion by running reports prior to departure of any learners.

RCDP Physician Instructor Packet

Pre-Work

Before arrival of participants, get mannequin and computer and video set up.
See Computer Operator Packet for checklist

Arrival Activities (1:00-1:15)

- Researcher checks in participants arrive, and are handled by researcher who will gather names for data collection, divide group into new and repeat participants. Orientation to the mannequin and teaching and introduction comes later.
- Researcher will confirm consent of return participants and get them their ID numbers before taking new participants to consent

☐ Fill out your own demographic survey at tinyurl.com/TCHcognitiveload

Retention Testing (1:15-1:45)

(Simultaneous to consent of new participants)

Computer operator will ask repeat participants to wait their turn by service elevators, verify their ID numbers and confirm consent, prior to briefing them.

As Airway position, you are responsible for providing airway and ventilation and will also provide brief feedback at end of case.
Start bagging patient once every 2-3 seconds while looking for chest rise in mannequin.

"Help, we need help in here."

If asked about airway or breathing, respond: "He is easy to ventilate, there is no apparent airway obstruction. I do not see him breathing on his own between breaths."

For **Debriefing**, pick one item and provide education using Advocacy/ Inquiry Method, examples in table for anticipated problems/ successes, limited to 2-3 minutes.

Preview	Observation	Advocacy	Inquiry
I want to talk about the first steps of Basic Life Support…	I saw you enter room and state that the patient was unconscious and immediately asked for a pulse check…	I am pleased that you went straight to the BLS algorithm starting with CAB since this will expedite finding a pulseless condition that needs compressions.	Tell me your thoughts as you entered the room.
	I saw you enter the room and ask what was going on by saying " "…	I am concerned that you delayed BLS to find out more history when faced with an unresponsive patient.	Tell me your viewpoint
I want to talk about priorities during the first phase of advanced life support…	I saw that you directed compressions, helped place a backboard, attached defibrillator pads, obtained a weight using the length based tape and turned on the defibrillator…	I am pleased that you did all of these and no other actions until ready for a pulse and rhythm check since it allows for rapid defibrillation in case of VF/pVT.	What's up with this?
	I saw that you placed full monitors including a pulse ox and BP cuff before stopping for a rhythm check…	I am concerned that extra actions especially when shorthanded are going to delay the first defibrillation in cases of VF/pVT	Tell me how you see this…

RCDP Physician Instructor Packet

Briefing for Training Session (1:45-2:00)

Randomization

Randomization of roles will be done by the researcher.

Briefing

You will be in lead the briefing the team, after introductions please read out the statement below (if there is something missing, let Dan Lemke know). Please do not teach extra things such as IO placement, airway management or other procedural skills during this time.
"Welcome my name is Dr. Lemke [insert your name In place of Lemke], I have been here for many years…" once you go around read the following:

"The purpose of today's session is to find areas to improve and to emphasize actions which were done correctly. This is not a blaming session and we do ask that we assume that everyone here is smart intelligent and motivated to become better at resuscitation. Also, please focus on parts of simulation which are real, rather than on the parts which are different from real life because of the simulated nature of the experience. Finally, remember that everything here will be held confidential. While we will be asking you to be part of a study of the curriculum itself, how individuals perform will not be discussed with anyone outside of the research study.

Now for details about the mannequin, remember that we are not trying to train you to examine mannequins, there are some parts of the mannequin that will give you cues to help manage the case, and others that will be more of a guess on your part as to what the mannequin is demonstrating. Don't worry about it, if you state something like "the patient has decreased breath sounds on one side" and we didn't intend the mannequin to have asymmetric breath sounds, we will state loudly, "the breath sounds are equal." Just believe us if we override what you think the mannequin is showing you. Many times, there is a disconnection from the computer to the mannequin or we set it up wrong and caused the misunderstanding. The same can be done for parts of the mannequin which just aren't real. For example, check for cap refill on the mannequin and just guess what the refill would be. Once again, if you don't guess what we wanted, we will override it by stating the cap refill that we intended as instructors." Check these off as you show them on the mannequin:

- ☐ The patient can breathe and has breath sounds
- ☐ The patient has pulses (show them where)
- ☐ The patient has built in ECG attachment sites and for the quick combo "pads"
- ☐ The pulse ox probe will work once attached and connected to the monitor
- ☐ The BP cuff will cycle to obtain a BP once attached and asked aloud for the BP
- ☐ You can use everything on or in the mock code cart, yes you can tear the plastic and defibrillate
- ☐ You can place an IV in the right arm or an IO in the right leg.
- ☐ For medications, you have to have a working access, secured to the leg or arm and then hook up a syringe with the right volume of medication, BUT skip pushing the fluid in the leg, then disconnect the syringe, hook up a syringe filled with at least 5 mL of flush BUT skip pushing the plunger. Then announce what you have given as you normally would to the rest of your team.
- ☐ For labs, hook up an empty syringe to your IV/IO access and withdraw 5 mL of air, and hand it to the

computer operator who will keep track of timing for when your results will return.

- You can intubate with the equipment in the room, just don't put liquids in the airway
- Check for any other questions and answer any questions regarding functionality of the mannequin, but not how pieces of equipment work (e.g. defibrillator). If asked about equipment or procedures, state "I will cover this during the teaching session over the next hour."

"As for how the simulation will proceed, after the call for help, only one person can come and assess need for additional help. The remainder of team must wait 10 seconds (since it takes time to get code cart) before entering."

The instructors will provide ongoing feedback during the simulation, we may pause the action, run a micro-debriefing and rewind the scenario, restart the scenario or round up to the next scenario that will be more difficult. When we start a scenario, we may rotate the participants so everyone gets a chance in different positions. We call this RCDP. There will be no debriefing at the end of the hour."

- Confirm with computer operator and researcher before nurse instructor starts scenario with verbal prompt.
- Start your stopwatch, so you can help track the 1 hour time limit, adjust number of repetitions and details that are taught to finish at 1 hour

Training Session (2:00-3:00) (No debrief time)

Team Member Action Linked Phrases:	Team Leader Action Linked Phrases:
"No response, get the Code Cart"	**"This is Asystole/PEA, start compressions, …"**
"No pulse, start compressions."	**"This is VF/pVT, prepare to shock"**
"Not breathing, I am repositioning the	**"Shock delivered, start compressions"**
	"Pt has a pulse, assess the Airway, breathing, obtain a BP, get labs, and call for an EKG and CXR"

Team Management Objectives

1. **Assign team roles (5 minimum) [Lead, Recorder, Airway, Compressor, 3rd Person, +/- CPR Coach, +/- aid for 3rd person, see choreography sheets]**
2. **Use closed-Loop communication**
    a. **All messages or orders addressed to specific individuals**
    b. **Team members confirm each request is understood and inform leader when a task begins or ends**
    c. **All information is relayed to and facilitated by recorder**
3. **Respect each other with language and behavior**
    a. **Use specific names with eye contact or touch**
    b. **Share ideas and information as constructive interventions, (not as criticism)**
4. **Share a mental model across the team**
5. **Adjust team roles to needs of scenario (leader and individuals)**
6. **Provide rapid, coordinated action**
7. **Search for Hs&Ts**

BLS choreography: See Choreography Sheets

Template for most feedback: avoid A&I Debriefing or Socratic Methods, instead just tell them:
"I saw you do X, I would like for you to try Y."

- "I saw the team leader step up and check for a pulse, then directed the compressor to start compressions, I would like for the leader to direct the compressor to check for a pulse and for the compressor to state, 'No pulse, starting compressions.'"

If same mistake is being made multiple times, use A&I method to discuss

- "I saw X happen (facts). This is important since it might lead to Y (impact). How did you see it? (inquiry)"

<u>During Pauses, give specific, enthusiastic POSITIVE reinforcement while correcting mistakes.</u>

Timing of Corrections: If error occurs for Hard Stop, a pause and repeat should occur, but the timing of when to pause is up to primary instructor. *For example*, if first responder does not say "there is no pulse, I'm starting compressions" and moves onto an airway assessment, you can wait until compressions are actually started to show how long the delay would have been.

Soft Stops can be corrected without stopping or ignored if team needing more hard stop interventions

Round 1: Initial Priorities, Airway, and Breathing (Estimate of 1 minute for ideal team to run through once)

Vital Signs: HR 95 bpm (sinus rhythm), RR 0, BP 100/70 Sat 85%, eyes closed

Room Entry: See Choreography

Watch for wrong order, wrong side, or no roles assigned, use of PPE

Rapid Assessment, Open Airway, Start BVM

- Responsiveness: First responder checks for responsiveness with verbal and gentle shake

HARD STOP **"There is no response, get the code cart"**

HARD STOP - First responder becomes *compressor* and feels for carotid pulse 5-10 seconds
- Pulses should be found, **"There is a pulse, please check airway and breathing"**

HARD STOP - Second responder becomes *airway* and looks, listens and feels, reports, **"The patient is not breathing. I am opening the airway and will start BVM"**, 1st and 2nd responders work together to give chin lift (or jaw thrust) and repositioning the patient.
- Effective ventilations

Soft Stops
  - Insufflations over 1 second, occurring every 2-3 seconds, counted aloud
  - Chest should be examined for expansion
- *Remainder of team arrives and actions are directed by team lead*:
- Placement of ECG leads, pulse oximeter and BP Cuff
- Placement of length-based dosing tape (should call out correct weight)
- Prepare code medications/ intubation equipment
- Record on code sheet: names & roles

Scenario Progression:

After 30 seconds of high-quality ventilations: Click Team opens airway and begins BVM

- Trend over 1 minute: HR to 180, BP to 90/50, RR to 44, SaO2 to 95%; patient cries

Expected actions after progression:

- Recognize resumption of spontaneous breathing

Post Resuscitation Reassessment

- Reassess airway
- Obtain and document full vitals and neuro status (Pupils and AVPU)

Soft Stop - **Share mental model** (Including events, by system assessment and next steps given a differential diagnosis) Example: This is a 6 yo child with unknown history who presented in respiratory arrest with pulse, who after opening airway and less than a minute of ventilations began breathing again. By system, compensated shock with ddx of cardiac, septic, hypovolemia, please administer 10ml/kg of NS and reassess, Airway appears patent, please check for a gag reflex and get ready for intubation if needed, pulse ox is now improved… etc.

STOP and round up: praise success, remind team of action phase, "No pulse, start compressions", remind team to wear PPE

Round 2: Add Compressions to Initial Priorities (Estimate 2 minutes for ideal team to run through once)

Vital Signs: HR 54 bpm (sinus rhythm), RR 0, BP 0/0 Sat 85%, eyes closed

Room Entry: See Choreography

Watch for wrong order, wrong side, or no roles assigned, use of PPE

- Responsiveness: First responder checks for responsiveness with verbal and gentle shake

HARD STOP

"**No response, get the code cart**"

- First responder becomes *compressor* and feels for carotid pulse 5-10 seconds

HARD STOP

Pulses should not be found, "**There is no pulse, I'm starting compressions**"

- Second responder becomes *airway*, gets BVM, hooks up O_2 and starts coordinated CPR, remainder of team arrives

Scenario Progression:

- *Immediately after compressions started and **before** Pulse-Rhythm Check click Team Starts CPR, which will restore pulse, convert to sinus rhythm HR 95 bpm, BP 100/70, RR 0, SpO2 95%.*

Initial Priorities: See Choreography

Soft Stop

Stool use, backboard, defibrillation pad placement, length based tape, set defibrillator and charge. One way to handle this Soft Stop is to time how long it takes to get to pulse-rhythm analysis, then provide feedback.

First Pulse-Rhythm Check See Choreography sheet

- Move CPR Coach or 3rd person into position, and hold compressions as soon as initial priorities are finished. Also stop if more things being done before stop is made.

HARD STOP

- L Lead: **"At end of cycle of 15, feel for a pulse, hold compressions and step down, I will analyze rhythm, please be ready to start 2-minute timer"**
- CPR Coach/3rd person feels for 5-10 seconds and reports, "There **is** a pulse"

HARD STOP

"**We have ROSC, hold compressions, assess airway and breathing, get BP, temperature, draw labs and get an EKG**"

- Share Mental Model (see Round 1, continue respirations)

STOP and round up: Praise success (with data, i.e. it took you 180 seconds to get to first rhythm check) Remind team in advance of next round, "It the rhythm shows PEA, resume compressions and draw up epinephrine at…."

Round 3: Add Epinephrine (estimate 6 minutes for ideal team to run through once)

Vital Signs: HR 54 bpm (sinus rhythm), RR 0, BP 0/0 Sat 85%, eyes closed

Room Entry: See Choreography

Watch for wrong order, wrong side, or no roles assigned, use of PPE

- Responsiveness: First responder checks for responsiveness with verbal and gentle shake

HARD STOP "**No response, get the code cart**"

-

- First responder becomes *compressor* and feels for carotid pulse 5-10 seconds

HARD STOP Pulses should not be found, "**There is no pulse, I'm starting compressions**"

- *Remainder of team arrives and* Second responder becomes *airway*, gets BVM, hooks up O_2 and starts coordinated CPR

Initial Priorities: See Choreography

Soft Stop Stool use, backboard, defibrillation pad placement, length based tape, set defibrillator dose

First Pulse-Rhythm Check See Choreography sheet

- Move CPR Coach or 3rd person into position, and hold compressions as soon as initial priorities are finished. Also stop if more things being done before stop is made.

HARD STOP - Lead: **"At end of cycle of 15, feel for a pulse, hold compressions and step down, I will analyze rhythm, please be ready to start 2-minute timer"**

- CPR Coach/3rd person feels for 5-10 seconds and reports, "There is no pulse"

HARD STOP - "**I see sinus bradycardia, this is PEA, "new compressor" resume compressions, start 2-minute timer"**,
3rd person obtains access, draws up Epinephrine 0.01 mg/kg, 0.1 mL/kg = 1 mL of epinephrine" (Often need to teach using Bristajet)

First CPR Cycle See Choreography sheet

New *compressor* resumes CPR, 3rd person obtains IO access, draws up epinephrine and gives first epinephrine dose with flush.

Scenario Progression:

- When epinephrine given, click Epinephrine administered, which will restore pulse, convert to sinus rhythm HR 95 bpm, BP 100/70, RR 0, SpO2 95%.

Second Pulse-Rhythm Check See Choreography sheet

- Move CPR Coach or 3rd person into position, starting 1 min 45 second from resuming compressions, place hand on pulse.

HARD STOP - Lead: **"At end of cycle of 15, feel for a pulse, hold compressions and step down, I will analyze rhythm, please be ready to start 2-minute timer"**

- CPR Coach/3rd person feels for 5-10 seconds and reports, "There is a pulse"

HARD STOP - **Lead: "We have return of spontaneous circulation, assess airway and breathing, get a Blood pressure and temperature, then draw labs, and get an EKG."**

- Lead gives mental model

Stop and round up: Praise specific success, remind team, "We have ROSC, assess airway breathing, obtain a BP, vitals, labs and EKG.

Round 4: Add Search for Hs and Ts
(This round is for high-functioning teams, if more time is needed on mechanics and choreography, repeat Round 3 multiple times, estimate is 8 minutes sim time for ideal team)
Vital Signs: HR 54 bpm (sinus rhythm), RR 0, BP 0/0 Sat 85%, eyes closed

Room Entry: See Choreography

Watch for wrong order, wrong side, or no roles assigned, use of PPE

- Responsiveness: First responder checks for responsiveness with verbal and gentle shake

HARD STOP

"**No response, get the code cart**"

- First responder becomes *compressor* and feels for carotid pulse 5-10 seconds

HARD STOP

Pulses should not be found, "**There is no pulse, I'm starting compressions**"

- *Remainder of team arrives* Second responder becomes *airway*, gets BVM, hooks up O_2 and starts coordinated CPR

Initial Priorities: See Choreography

Soft Stop

Stool use, backboard, defibrillation pad placement, length based tape, set defibrillator dose

First Pulse-Rhythm Check See Choreography sheet

- Move CPR Coach or 3rd person into position, and hold compressions as soon as initial priorities are finished. Also stop if more things being done before stop is made.

HARD STOP

- Lead: **"At end of cycle of 15, feel for a pulse, hold compressions and step down, I will analyze rhythm, please be ready to start 2-minute timer"**
- CPR Coach/3rd person feels for 5-10 seconds and reports, "There is no pulse"

HARD STOP

- "**I see sinus bradycardia, this is PEA, "CPR Coach/3rd person" resume compressions**,
- "3rd person" obtains access, draws up Epinephrine 0.01 mg/kg, 0.1 mL/kg = 1 mL of epinephrine"

First CPR Cycle See Choreography sheet

New *compressor* resumes CPR, 3rd person obtains IO access, draws up epinephrine and gives first epinephrine dose

Second Pulse-Rhythm Check See Choreography sheet

- Move CPR Coach or 3rd person into position, starting 1 min 45 second from resuming compressions, place hand on pulse.

HARD STOP

- Lead: **"At end of cycle of 15, feel for a pulse, hold compressions and step down, I will analyze rhythm, please be ready to start 2-minute timer"**
- CPR Coach/3rd person feels for 5-10 seconds and reports, "There is no pulse"

HARD STOP

Lead**: "We are still in PEA, resume compressions, no Epinephrine this round."**

Second CPR Cycle See Choreography sheet

- CPR Coach/3rd resumes CPR and becomes compressor
- Start search for Hs and Ts, it is unlikely team will complete entire list in this cycle
  - Hypoglycemia: bedside glucose
  - Hypo/hyperkalemia: VBG results
  - Hydrogen Ion/ Acidosis: VBG results
  - Hypoxia: VBG results

Soft Stop

  - Hypothermia: check a rectal temp
  - Hypovolemia: history and consider US of IVC for filling
  - Tension pneumo: listen to breaths
  - Tamponade: US of heart
  - Thrombosis: PE and coronary, consider US and/or history
  - Toxins: history most likely source or information

Third Pulse-Rhythm Check **See Choreography sheet**

- Move CPR Coach or 3rd person into position, starting 1 min 45 second from resuming compressions, place hand on pulse.

HARD STOP

- Lead: **"At end of cycle of 15, feel for a pulse, hold compressions and step down, I will analyze rhythm, please be ready to start 2-minute timer"**

HARD STOP

- CPR Coach/ 3rd person feels for 5 seconds and reports, "There is no pulse"
- Lead**: "We are still in PEA, resume compressions, Epinephrine should be given this round."**

Third CPR Cycle **See Choreography sheet**

- CPR Coach/3rd resumes CPR and becomes compressor
- Start search for Hs and Ts, team should complete entire list in this cycle
  - Hypoglycemia: bedside glucose
  - Hypo/hyperkalemia: VBG results

Soft Stop

  - Hydrogen Ion/ Acidosis: VBG results
  - Hypoxia: VBG results
  - Hypothermia: check a rectal temp
  - Hypovolemia: history and consider US of IVC for filling
  - Tension pneumothorax: listen to breaths
  - Tamponade: US of heart
  - Thrombosis: PE and coronary, consider US and/or history
  - Toxins: history most likely source or information

Scenario Progression:

- *When 2nd epinephrine given click Second Epinephrine Given, which will restore pulse, convert to sinus rhythm HR 95 bpm, BP 100/70, RR 0, SpO2 98%.*

Fourth Pulse-Rhythm Check **See Choreography sheet**

- Move CPR Coach or 3rd person into position, starting 1 min 45 second from resuming compressions, place hand on pulse.

HARD STOP

- Lead: **"At end of cycle of 15, feel for a pulse, hold compressions and step down, I will analyze rhythm, please be ready to start 2-minute timer"**
- CPR Coach/3rd person feels for 5 seconds and reports, "There is a pulse"

HARD STOP

- Lead: "**We have ROSC, hold compressions, assess airway and breathing, get BP, temperature, draw labs and get an EKG**"
- Share Mental Model, continue respirations
- (including ddx and possible next steps)

Stop and Break: Praise specific success, remind team, "We have ROSC, assess airway breathing, obtain a BP, vitals, labs and EKG.

Post Instruction Module NASA TLX (3:00-3:05)

Researcher will say “Now that you are finished, please open and complete the Post instruction TLX, this includes participants and instructors. Definitions are included on your cards”

- Fill out your own survey

Set up for Team Test (3:05-3:10)

Researcher will say “In this testing scenario, please start in the role that you just performed”

Help computer operator reset room per their checklist

VT Testing Case (3:10-3:20)

Briefly this is a pulseless VT case, which computer operator should stop at 10 minutes, you will observe and provide brief feedback to the team after they finish a NASA TLX Survey.

Post Team Testing NASA TLX: (3:20-3:25)

Researcher will have team fill out NASA TLX (You don't fill out a survey here)

3:25 – finish

After Test Teaching: This is up to the two other instructors and you. You will likely spend some time going over concepts that are missed during the testing case, praise things that were done particularly well. If desired, give the team a break and then move to a second kind of teaching, this can be focused on intubation, sedation, or use the SVT case.

Just don’t run more simulations about pulseless arrest.

RCDP Nurse Instructor Packet

Simulation Day Schedule

1:00 - 1:15 PM: Participants arrive, check in, and set up
1:15 - 1:45 PM: Simultaneous orientation of new participants and retention testing for repeat (second day) participants, randomization and briefing for simulation
1:45 - 2:00 PM: Briefing for training session
2:00 - 3:00 PM: Training session (randomized to RCDP or PSD)
3:00 - 3:05 PM: Post training session NASA TLX
3:05 - 3:10 PM: Instructors set up for test case
3:10 - 3:20 PM: Test case: VT
3:20 - 3:25 PM: Post team testing NASA TLX
3:25 - 3:40 PM: Break time for participants after completing text case TLX; instructors set up final case
3:40 - 4:30 PM: Extra educational time: can be used to fill out knowledge gaps detected during training or used to teach SVT case, or any other topic that the instructors that day desire. During this time, the researcher should be checking REDCap survey completion by running reports prior to departure of any learners.

RCDP Nurse Instructor Packet

Pre-Work

Before arrival of participants, get

- ☐ Crash Cart
- ☐ Back Board
- ☐ Monitor Leads

See Computer Operator Packet for checklist

Arrival Activities (1:00-1:15)

- Researcher checks in participants arrive, and are handled by researcher who will gather names for data collection, divide group into new and repeat participants. Orientation to the mannequin and teaching and introduction comes later.
- Researcher will confirm consent of return participants and get them their ID numbers before taking new participants to consent

☐ Fill out your own demographic survey at tinyurl.com/TCHcognitiveload

Retention Testing (1:15-1:45)

(Simultaneous to consent of new participants)

Computer operator will ask repeat participants to wait their turn by service elevators, verify their ID numbers and confirm consent, prior to briefing them.

Your primary job is to provide information as needed to the test subject and to perform compressions if instructed to do so. If specifically instructed to perform other actions ("You, place the pulse oximeter on", complete orders and close loop of communication; if general desires are expressed ("we should get monitors on") don't do them or respond, just focus on your current job.

As test subject enters room

"Thank you for coming, Jim just passed out and is unresponsive, we started bagging since he isn't breathing."

If asked what is going on or for report:

"Jim is a 6-year-old boy who was brought back with vomiting and decreased urine output x 3 days. He has a history of multiple UTIs but is not currently on antibiotics. He is not taking any other medications. He has no allergies to medications, and mother reports that he hasn't been eating for the last two days."

If asked to check a pulse, check for the pulse and report no pulse. Do not automatically get step stool or back board and do not start compressions until ordered to do so.

Debriefing: Will be led by physician simulation instructor, and please teach

RCDP Nurse Instructor Packet

Briefing for Training Session (1:45-2:00)

Randomization

Randomization of roles will be done by the researcher.

Briefing

Physician Team lead will start with introductions

There will be briefing on basic assumption, fiction contract, confidentiality and orientation to the mannequin. Please don't teach beyond the functionality of the mannequin.

Training Session (2:00-3:00)

Verbal Prompt given by you whenever you start scenario rounds: "The charge nurse has asked you to go to the resuscitation room. The patient is a (1 or 6[pick based on size of mannequin]-year-old boy, previously healthy, now with fever, cough and congestion for 2 days, brought to the ED with worsening respiratory distress. I found him to be unresponsive and brought him to the resuscitation room immediately."

- Start your stopwatch, so you can help track the 1 hour time limit, adjust number of repetitions and details that are taught to finish at 1 hour

Training Session (2:00-3:00) (No debrief time)

Team Member Action Linked Phrases:	Team Leader Action Linked Phrases:
"No response, get the Code Cart"	**"This is Asystole/PEA, start compressions, …"**
"No pulse, start compressions."	**"This is VF/pVT, prepare to shock"**
"Not breathing, I am repositioning the	**"Shock delivered, start compressions"**
	"Pt has a pulse, assess the Airway, breathing, obtain a BP, get labs, and call for an EKG and CXR"

Team Management Objectives

1. **Assign team roles (5 minimum) [Lead, Recorder, Airway, Compressor, 3rd Person, +/- CPR Coach, +/- aid for 3rd person, see choreography sheets]**
2. **Use closed-Loop communication**
    a. **All messages or orders addressed to specific individuals**
    b. **Team members confirm each request is understood and inform leader when a task begins or ends**
    c. **All information is relayed to and facilitated by recorder**
3. **Respect each other with language and behavior**
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4. **Share a mental model across the team**
5. **Adjust team roles to needs of scenario (leader and individuals)**
6. **Provide rapid, coordinated action**
7. **Search for Hs&Ts**

BLS choreography: See Choreography Sheets

Template for most feedback: avoid A&I Debriefing or Socratic Methods, instead just tell them:
"I saw you do X, I would like for you to try Y."

- "I saw the team leader step up and check for a pulse, then directed the compressor to start compressions, I would like for the leader to direct the compressor to check for a pulse and for the compressor to state, 'No pulse, starting compressions.'"

If same mistake is being made multiple times, use A&I method to discuss

- "I saw X happen (facts). This is important since it might lead to Y (impact). How did you see it? (inquiry)"

<u>During Pauses, give specific, enthusiastic POSITIVE reinforcement while correcting mistakes.</u>

Timing of Corrections: If error occurs for Hard Stop, a pause and repeat should occur, but the timing of when to pause is up to primary instructor. *For example*, if first responder does not say "there is no pulse, I'm starting compressions" and moves onto an airway assessment, you can wait until compressions are actually started to show how long the delay would have been.

Soft Stops can be corrected without stopping or ignored if team needing more hard stop interventions

Round 1: Initial Priorities, Airway, and Breathing (Estimate of 1 minute for ideal team to run through once)

Vital Signs: HR 95 bpm (sinus rhythm), RR 0, BP 100/70 Sat 85%, eyes closed

Room Entry: See Choreography

Watch for wrong order, wrong side, or no roles assigned, use of PPE

Rapid Assessment, Open Airway, Start BVM

- Responsiveness: First responder checks for responsiveness with verbal and gentle shake

HARD STOP **"There is no response, get the code cart"**

HARD STOP
- First responder becomes *compressor* and feels for carotid pulse 5-10 seconds
- Pulses should be found, **"There is a pulse, please check airway and breathing"**

HARD STOP
- Second responder becomes *airway* and looks, listens and feels, reports, **"The patient is not breathing. I am opening the airway and will start BVM"**, 1st and 2nd responders work together to give chin lift (or jaw thrust) and repositioning the patient.
- Effective ventilations

Soft Stops
  - Insufflations over 1 second, occurring every 2-3 seconds, counted aloud
  - Chest should be examined for expansion
- *Remainder of team arrives and actions are directed by team lead*:
- Placement of ECG leads, pulse oximeter and BP Cuff
- Placement of length-based dosing tape (should call out correct weight)
- Prepare code medications/ intubation equipment
- Record on code sheet: names & roles

Scenario Progression:

After 30 seconds of high-quality ventilations: Click Team opens airway and begins BVM

- Trend over 1 minute: HR to 180, BP to 90/50, RR to 44, SaO2 to 95%; patient cries

Expected actions after progression:

- Recognize resumption of spontaneous breathing

Post Resuscitation Reassessment

- Reassess airway
- Obtain and document full vitals and neuro status (Pupils and AVPU)

Soft Stop
- **Share mental model** (Including events, by system assessment and next steps given a differential diagnosis) Example: This is a 6 yo child with unknown history who presented in respiratory arrest with pulse, who after opening airway and less than a minute of ventilations began breathing again. By system, compensated shock with ddx of cardiac, septic, hypovolemia, please administer 10ml/kg of NS and reassess, Airway appears patent, please check for a gag reflex and get ready for intubation if needed, pulse ox is now improved… etc.

STOP and round up: praise success, remind team of action phase, "No pulse, start compressions", remind team to wear PPE

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Vital Signs: HR 54 bpm (sinus rhythm), RR 0, BP 0/0 Sat 85%, eyes closed

Room Entry: See Choreography

Watch for wrong order, wrong side, or no roles assigned, use of PPE

- Responsiveness: First responder checks for responsiveness with verbal and gentle shake

HARD STOP

"**No response, get the code cart**"

- First responder becomes *compressor* and feels for carotid pulse 5-10 seconds

HARD STOP

Pulses should not be found, "**There is no pulse, I'm starting compressions**"

- Second responder becomes *airway*, gets BVM, hooks up O_2 and starts coordinated CPR, remainder of team arrives

Scenario Progression:

- *Immediately after compressions started and **before** Pulse-Rhythm Check click Team Starts CPR, which will restore pulse, convert to sinus rhythm HR 95 bpm, BP 100/70, RR 0, SpO2 95%.*

Initial Priorities: See Choreography

Soft Stop

Stool use, backboard, defibrillation pad placement, length based tape, set defibrillator and charge. One way to handle this Soft Stop is to time how long it takes to get to pulse-rhythm analysis, then provide feedback.

First Pulse-Rhythm Check See Choreography sheet

- Move CPR Coach or 3rd person into position, and hold compressions as soon as initial priorities are finished. Also stop if more things being done before stop is made.

HARD STOP

- L Lead: **"At end of cycle of 15, feel for a pulse, hold compressions and step down, I will analyze rhythm, please be ready to start 2-minute timer"**
- CPR Coach/3rd person feels for 5-10 seconds and reports, "There **is** a pulse"

HARD STOP

"**We have ROSC, hold compressions, assess airway and breathing, get BP, temperature, draw labs and get an EKG**"

- Share Mental Model (see Round 1, continue respirations)

STOP and round up: Praise success (with data, i.e. it took you 180 seconds to get to first rhythm check) Remind team in advance of next round, "It the rhythm shows PEA, resume compressions and draw up epinephrine at…."

Round 3: Add Epinephrine (estimate 6 minutes for ideal team to run through once)
Vital Signs: HR 54 bpm (sinus rhythm), RR 0, BP 0/0 Sat 85%, eyes closed

Room Entry: See Choreography

Watch for wrong order, wrong side, or no roles assigned, use of PPE

- Responsiveness: First responder checks for responsiveness with verbal and gentle shake
HARD STOP "**No response, get the code cart**"
-
- First responder becomes *compressor* and feels for carotid pulse 5-10 seconds
HARD STOP Pulses should not be found, "**There is no pulse, I'm starting compressions**"
- *Remainder of team arrives and* Second responder becomes *airway*, gets BVM, hooks up O_2 and starts coordinated CPR

Initial Priorities: See Choreography

Soft Stop Stool use, backboard, defibrillation pad placement, length based tape, set defibrillator dose

First Pulse-Rhythm Check See Choreography sheet

- Move CPR Coach or 3rd person into position, and hold compressions as soon as initial priorities are finished. Also stop if more things being done before stop is made.
HARD STOP - Lead: **"At end of cycle of 15, feel for a pulse, hold compressions and step down, I will analyze rhythm, please be ready to start 2-minute timer"**
- CPR Coach/3rd person feels for 5-10 seconds and reports, "There is no pulse"

HARD STOP - "**I see sinus bradycardia, this is PEA, "new compressor" resume compressions, start 2-minute timer"**,
3rd person obtains access, draws up Epinephrine 0.01 mg/kg, 0.1 mL/kg = 1 mL of epinephrine" (Often need to teach using Bristajet)

First CPR Cycle See Choreography sheet

New *compressor* resumes CPR, 3rd person obtains IO access, draws up epinephrine and gives first epinephrine dose with flush.

Scenario Progression:

- When epinephrine given, click Epinephrine administered, which will restore pulse, convert to sinus rhythm HR 95 bpm, BP 100/70, RR 0, SpO2 98%.

Second Pulse-Rhythm Check See Choreography sheet

- Move CPR Coach or 3rd person into position, starting 1 min 45 second from resuming compressions, place hand on pulse.

HARD STOP - Lead: **"At end of cycle of 15, feel for a pulse, hold compressions and step down, I will analyze rhythm, please be ready to start 2-minute timer"**
- CPR Coach/3rd person feels for 5-10 seconds and reports, "There is a pulse"
HARD STOP - **Lead: "We have return of spontaneous circulation, assess airway and breathing, get a Blood pressure and temperature, then draw labs, and get an EKG."**
- Lead gives mental model

Stop and round up: Praise specific success, remind team, "We have ROSC, assess airway breathing, obtain a BP, vitals, labs and EKG.

Round 4: Add Search for Hs and Ts
(This round is for high-functioning teams, if more time is needed on mechanics and choreography, repeat Round 3 multiple times, estimate is 8 minutes sim time for ideal team)
Vital Signs: HR 54 bpm (sinus rhythm), RR 0, BP 0/0 Sat 85%, eyes closed

Room Entry: See Choreography

Watch for wrong order, wrong side, or no roles assigned, use of PPE

- Responsiveness: First responder checks for responsiveness with verbal and gentle shake

HARD STOP

"**No response, get the code cart**"

- First responder becomes *compressor* and feels for carotid pulse 5-10 seconds

HARD STOP

Pulses should not be found, "**There is no pulse, I'm starting compressions**"

- *Remainder of team arrives* Second responder becomes *airway*, gets BVM, hooks up O_2 and starts coordinated CPR

Initial Priorities: See Choreography

Soft Stop

Stool use, backboard, defibrillation pad placement, length based tape, set defibrillator dose

First Pulse-Rhythm Check See Choreography sheet

- Move CPR Coach or 3rd person into position, and hold compressions as soon as initial priorities are finished. Also stop if more things being done before stop is made.

HARD STOP

- Lead: **"At end of cycle of 15, feel for a pulse, hold compressions and step down, I will analyze rhythm, please be ready to start 2-minute timer"**
- CPR Coach/3rd person feels for 5-10 seconds and reports, "There is no pulse"

HARD STOP

- "**I see sinus bradycardia, this is PEA, "CPR Coach/3rd person" resume compressions**,
- "3rd person" obtains access, draws up Epinephrine 0.01 mg/kg, 0.1 mL/kg = 1 mL of epinephrine"

First CPR Cycle See Choreography sheet

New *compressor* resumes CPR, 3rd person obtains IO access, draws up epinephrine and gives first epinephrine dose

Second Pulse-Rhythm Check See Choreography sheet

- Move CPR Coach or 3rd person into position, starting 1 min 45 second from resuming compressions, place hand on pulse.

HARD STOP

- Lead: **"At end of cycle of 15, feel for a pulse, hold compressions and step down, I will analyze rhythm, please be ready to start 2-minute timer"**
- CPR Coach/3rd person feels for 5-10 seconds and reports, "There is no pulse"

HARD STOP

Lead**: "We are still in PEA, resume compressions, no Epinephrine this round."**

Second CPR Cycle See Choreography sheet

- CPR Coach/3rd resumes CPR and becomes compressor
- Start search for Hs and Ts, it is unlikely team will complete entire list in this cycle
  - Hypoglycemia: bedside glucose
  - Hypo/hyperkalemia: VBG results
  - Hydrogen Ion/ Acidosis: VBG results
  - Hypoxia: VBG results

Soft Stop

  - Hypothermia: check a rectal temp
  - Hypovolemia: history and consider US of IVC for filling
  - Tension pneumo: listen to breaths
  - Tamponade: US of heart
  - Thrombosis: PE and coronary, consider US and/or history
  - Toxins: history most likely source or information

Third Pulse-Rhythm Check **See Choreography sheet**

- Move CPR Coach or 3rd person into position, starting 1 min 45 second from resuming compressions, place hand on pulse.

HARD STOP

- Lead: **"At end of cycle of 15, feel for a pulse, hold compressions and step down, I will analyze rhythm, please be ready to start 2-minute timer"**

HARD STOP

- CPR Coach/ 3rd person feels for 5 seconds and reports, "There is no pulse"
- Lead**: "We are still in PEA, resume compressions, Epinephrine should be given this round."**

Third CPR Cycle **See Choreography sheet**

- CPR Coach/3rd resumes CPR and becomes compressor
- Start search for Hs and Ts, team should complete entire list in this cycle
  - Hypoglycemia: bedside glucose
  - Hypo/hyperkalemia: VBG results

Soft Stop

  - Hydrogen Ion/ Acidosis: VBG results
  - Hypoxia: VBG results
  - Hypothermia: check a rectal temp
  - Hypovolemia: history and consider US of IVC for filling
  - Tension pneumothorax: listen to breaths
  - Tamponade: US of heart
  - Thrombosis: PE and coronary, consider US and/or history
  - Toxins: history most likely source or information

Scenario Progression:

- *When 2nd epinephrine given click Second Epinephrine Given, which will restore pulse, convert to sinus rhythm HR 95 bpm, BP 100/70, RR 0, SpO2 98%.*

Fourth Pulse-Rhythm Check **See Choreography sheet**

- Move CPR Coach or 3rd person into position, starting 1 min 45 second from resuming compressions, place hand on pulse.

HARD STOP

- Lead: **"At end of cycle of 15, feel for a pulse, hold compressions and step down, I will analyze rhythm, please be ready to start 2-minute timer"**
- CPR Coach/3rd person feels for 5 seconds and reports, "There is a pulse"

HARD STOP

- Lead: "**We have ROSC, hold compressions, assess airway and breathing, get BP, temperature, draw labs and get an EKG**"
- Share Mental Model, continue respirations
- (including ddx and possible next steps)

Stop and Break: Praise specific success, remind team, "We have ROSC, assess airway breathing, obtain a BP, vitals, labs and EKG

Post Training Session NASA TLX (3:00-3:05)

Researcher will say “Now that you are finished, please open and complete the Post instruction TLX, this includes participants and instructors. Definitions are included on your cards”

- Fill out your own survey

Set up for Team Test (3:05-3:10)

Researcher will say “In this testing scenario, please start in the role that you just performed”

Help computer operator reset room per their checklist

VT Testing Case (3:10-3:20)

Briefly this is a pulseless VT case, which computer operator should stop at 10 minutes, you will observe and provide brief feedback to the team after they finish a NASA TLX Survey.

- Once the computer operator is ready, start the scenario by reading the prompt:

"The charge nurse has asked you to go to the resuscitation room. The patient is a (1 or 6[pick based on size of mannequin]-year-old boy, previous past history of UTIs, now with fever, vomiting and abdominal pain for 2 days, brought to the ED with lethargy. I found him to be unresponsive and brought him to the resuscitation room immediately.”

Post Team Testing NASA TLX: (3:20-3:25)

Researcher will have team fill out NASA TLX (You don't fill out a survey here)

3:25 – finish

After Test Teaching: This is up to the two other instructors and you. You will likely spend some time going over concepts that are missed during the testing case, praise things that were done particularly well. If desired, give the team a break and then move to a second kind of teaching, this can be focused on intubation, sedation, or use the SVT case.

Just don’t run more simulations about pulseless arrest.

Researcher Packet: Both Days

Simulation Day Schedule

1:00 - 1:15 PM: Participants arrive, check in, and set up
1:15 - 1:45 PM: Simultaneous orientation of new participants and retention testing for repeat (second day) participants, randomization and briefing for simulation
1:45 - 2:00 PM: Briefing for training session
2:00 - 3:00 PM: Training session (randomized to RCDP or PSD)
3:00 - 3:05 PM: Post training session NASA TLX
3:05 - 3:10 PM: Instructors set up for test case
3:10 - 3:20 PM: Test case: VT
3:20 - 3:25 PM: Post team testing NASA TLX
3:25 - 3:40 PM: Break time for participants after completing text case TLX; instructors set up final case
3:40 - 4:30 PM: Extra educational time: can be used to fill out knowledge gaps detected during training or used to teach SVT case, or any other topic that the instructors that day desire. During this time, the researcher should be checking REDCap survey completion by running reports prior to departure of any learners.

Researcher Packet: Both Days

Pre-Work

- ☐ Before arrival of participants, have iPhone up with spreadsheet open, check for laminated cards, stop watch, clip boards
- ☐ Randomize to type of training, so you can pull the packets for the instructors. Look up randomization list in iPhone and enter today's date on next entry of randomized list, you can announce which arm of the study today's session will be using. If a fellow is present use the second set (column C)

Arrival Activities (1:00-1:15)

1:00 - 1:15 PM: Participants arrive, check in with researcher, and set up of mannequin and room
"Thank you for coming today, I will help get you enrolled in today's research session. If you have been part of this study already, I can help you get your number again and when you last participated. If this is your first time, you will come with me and I will tell you about the research part of the day."

Today's Date: _____

Names (include participants and all 3 instructors)	Prior Participation Date or NA	Study Number

If prior participant, "Do you continue to consent to participating in this study? If so, we ask that you wait near room 43 and fill out demographics survey at http://tinyurl.com/tchcognitiveload. Once you finish your simulation, please fill out Post Retention Testing (individual) NASA TLX."

If more than one returning participant, ask them to wait by service elevators (outside of double doors so they do not see or hear the other participants individual retention testing)

For new participants, take them to between rooms 38 and 39.

While you are talking to new participants, the return participants will fill out demographics, take retention test with instructors and NASA TLX.

Researcher Packet: Both Days

Consent of new participants (1:15-1:45) **(Simultaneous to retention testing)**

Consent to Study

"Today, as part of the simulation team experience, we will be collecting data as part of a research study comparing different clinical simulation designs. We are trying to determine the best way to train teams in pediatric resuscitation and measure the cognitive load faced by members of the team during the simulation and discussions. We are comparing simulation followed by debriefing (PSD), with rapid cycle deliberate practice, a method of training where simulations can be interrupted by instructors to provide feedback and more opportunities to practice.

Your participation in this study is voluntary and will not affect your ability to participate in the simulation day or in any of your evaluations or assessments. As part of the study, your team will be randomized to participate in one of two different types of simulation, and you will be assigned a role in which to participate during this day.

Should you choose to participate, you will be matched with an ID number, the key to which will be stored in a secure file and on an encrypted iPhone in a locked closet. No one but the investigators will be able to link your data to your identity. Data collected from you will include surveys regarding your experience of the simulation, as well as anonymized data regarding team performance. Should you agree to participate in the study, on your second simulation day (during your next TCH ER rotation), prior to starting the simulation day you will undergo an individual simulation case where performance data linked to your study ID (but not your name) will be recorded. These performance data will not be shared with anyone and will not impact your participation in the later simulation or your evaluations in any way."

- ☐ Do you have questions about the research?
- ☐ Do you each agree to participation in the study? Circle this Yes if all agree

"Even if you all agree, but later you decide you do not want your data included, you can always approach Cara Doughty or Daniel Lemke and let them know that you are withdrawing consent."

- ☐ Assign each consenting participant a study ID number and fill in chart above.

Researcher Packet: Both Days

Consent of new participants (1:15-1:45)

REDCap Survey Orientation and demographics

"Before your first case today, you will be asked to fill out several surveys. The first is a demographic survey collecting information about your dates of participation and experiences with simulation. After you complete this demographic survey, **KEEP THE WINDOW OPEN ON YOUR PHONE** as it contains the link to the next survey. After the instruction module, you will fill out a survey that will measure your cognitive load during the session. Then after a team testing scenario, you will be asked to fill out the last survey. Keep the browser window open after each survey. There are 3 total surveys to complete: one demographic survey and two cognitive load surveys. If you accidentally close the window, we will ask you to start over from the beginning and duplicate the entries you made the first time to the best of your recollection.

The link is

Tinyurl.com/TCHcognitiveload

[hold up sheet with link printed on it]

Again, remember to KEEP THE WINDOW OPEN after you're done with each survey so it will provide the link to the next survey. Lastly, before you leave today, I will verify that all your data was correctly submitted to the database, so please do not leave until I have verified your data has been submitted."

- ☐ Verify that everyone filled out demographics and didn't close window
- ☐ When return testing is finished, bring back new participants to room 43 and start Briefing teaching session.
- ☐ Check with second-time participants and instructors that they have filled out demographics and for the retention study participants that they filled out the retention individual survey

Briefing for Training Session (1:45-2:00)

Randomization

"Before we get to introductions and briefing, I will let you know which arm of the study we are on and what roles everyone will be taking during the first case. These are the roles you should start with on entry to the simulation, remember just as in real life, you are not tied to a position and can help wherever needed."

- ☐ Let team know which arm of the study it is
- ☐ Randomize participants to roles they will start with using cards

Step 1: Select the right number of cards for participants.

For 5 participants, include First Responder, Airway, Bedside Provider, Nurse Recorder, and Physician Lead

For 6 participants, add CPR coach

For more than 6 participants, add more bedside providers as needed.

Step 2: Nurse Roles: If one nurse, give him/her the nurse recorder card, if two, have them pick from the nurse recorder card and randomly pick another role (excluding the physician lead card) that is randomly picked by you.

Step 3: Physician Roles, have them randomly pick from the remaining cards to determine roles.

This role is the only role for PSD arm both training and testing, for RCDP, have team members rotate (keeping physicians as lead and nurses as recorder, whatever role individuals take during final RCDP round is role in which they should be tested)

[Note to researcher: For PSD format, you can also enter roles into phone at this time, but for RCDP format, wait until rotations are finished and you know which role team members land on in final round of training.]

During briefing for teaching session, which will be conducted by simulation instructors, get ready to start stopwatch to record and limit duration of teaching session.

Briefing

Briefing will include introductions, orientation to the mannequin, and ground rules of simulation (tailored to RCDP or PSD).

Researcher Packet: Both Days

Training Session (2:00-3:00)

- ☐ Record total time from verbal prompt of first case, to end of teaching session: _____

Post Instruction Module NASA TLX (3:00-3:05)

"Now that you are finished, please open and complete the Post instruction TLX, this includes participants and instructors. Definitions are included on your cards"

- ☐ Verify completion of NASA TLX by instructors and participants

Set up for Team Test (3:05-3:10)

"In this testing scenario, please start in the role that you just performed [in RCDP: the final round or in PSD: the only simulation]"

Open iPhone Work Insight (Blue arrow up to the right)

Put in number of person team lead into Name ID

- ☐ Get the iPhone ready for the secondary task analysis and state to the team leader: "Please hold this phone in your hand and when it flashes and buzzes, tap anywhere on the screen. This is another way to measure cognitive load, by giving you a secondary task to perform. It will buzz randomly every 30 seconds or so and record how long it takes you to respond. I do ask that you do not put the phone down since you will likely stop responding to the buzz altogether. When complete, give it back to me and I will stop the recording."

VT Testing Case, Data Collection Sheet (3:10-3:20)

- ☐ Today's Date_____
  ID numbers of participants (list, no names):
- ☐ Role (during last RCDP round or only role in PSD case) of each participant by ID number:
  This should be the testing roles for the team members
  - First responder:
  - Physician lead:
  - Airway:
  - Nurse Recorder:
  - Bedside provider:
  - CPR Coach:
  - Bedside provider:
  - Bedside provider:
- ☐ Start secondary task app just before case is started
- ☐ Start timer as verbal prompt is started
- ☐ Time from beginning of verbal prompt- 1st compression _____
- ☐ Time from beginning of verbal to delivery of shock: _____
- ☐ Time from beginning of verbal to first epinephrine dose: _____
- ☐ Time of administration of second dose epinephrine: _____
  Take this data and enter it into the numbers file with in the columns to the right of the role assessment.

Post Team Testing NASA TLX: (3:20-3:25)

"Now that you are finished, please open and complete the Post instruction TLX, this includes participants. Definitions are included on your cards. Please do not leave until I can verify that all of your data has been submitted."

3:25 – finish Verification During Verification, instructors will likely conduct more teaching, give team break and continue teaching until about 4:30. It is up to them how much to teach and details of what to teach.

Verify video saved Open sessions and check for date stamp on session for testing case

Verifying that surveys have been submitted to REDCap (BEFORE participants leave)

1. Log into the redcap website Direct link is on home page (bottom right under Quick links)
   Or type: **https://tch-redcap.texaschildrens.org/REDCap/**
2. Click on "My Projects" >> "RCDP Cognitive Load"
3. On the left-hand side, under "Applications" click "Data Exports, Reports, and Stats"
4. Find the line that says "Verification of Participation Report" and on the far right under "Management Options" click "Edit"
5. Wait for the full report to load (can take a few moments)
6. Under "Step 3", the first section named "Filters (optional)", on the far right, click the small calendar icon and select today's date.
7. Click the blue "Save Report" at the bottom of the page.
8. A pop-up saying "Your report has been saved!" will appear. Click "View Report" and the page should populate with a list of all the records that were submitted for today including study IDs.
9. Each study participant, depending on their status, will have a different set of completed surveys depending on their status in the study: see sample report run below for the 3 participant types
   a. FIRST TIME PARTICIPANT (First line): "Complete" for Demographic Survey, Post Instruction Module, Post Team Testing
   b. RETURN PARTICIPANT (Second line): "Complete" for Demographic Survey, Post Retention (individual) Testing, Post Instruction Module (day 2), Post Team Testing (day2)
   c. SIMULATION INSTRUCTOR (Third line): "Complete" under Demographic Survey, Post Instruction Module for Simulation Instructor / Nurse Educator
   d. If a participant is missing a survey that they should have completed, please have them check their phone to insure it was submitted. If they did not submit anything at all or have closed the browser window, have them start over from the beginning.

	Today's Date date_ demographic	**Study ID (please have your instructor look up your study ID)** study_id_demographic	**Complete?** demographic_ survey_ complete	**Complete?** post_ instruction_ module_nasa_ tlx_complete	**Complete?** post_team_ testing_ nasa_tlx_ complete	**Complete?** post_retention_ testing_ individual_nasa_ tlx_complete	**Complete?** post_instruction_ module_day_2_ nasa_tlx_ complete	**Complete?** post_team_ testing_day_ 2_nasa_tlx_ complete	**Complete?** post_instruction_ module_for_ simulation_ instructor_complete
First time	12-19-2017	999	Complete (2)	Complete (2)	Complete (2)	Incomplete (0)	Incomplete (0)	Incomplete (0)	Incomplete (0)
Repeat	12-19-2017	999	Complete (2)	Incomplete (0)	Incomplete (0)	Complete (2)	Complete (2)	Complete (2)	Incomplete (0)
Instructor	12-19-2017	999	Complete (2)	Incomplete (0)	Incomplete (0)	Incomplete (0)	Incomplete (0)	Incomplete (0)	Complete (2)