NOELLE®

Maternal and Neonatal Birthing Simulator

S554.100

Gaumard®

Simulators for Health Care Education

NOELLE is an interactive educational system developed to assist a certified instructor. It is not a substitute for a comprehensive understanding of the subject matter and not intended for clinical decision making.

User Guide 14.11.1

© Gaumard Scientific Company, 2014
All Rights Reserved

www.Gaumard.com

Contents

Contents **3**

End User License Agreement **5**

Care and Cautions **7**

Overall Warnings 8

Getting Started **11**

Overview 12
Terminology 13

Equipment Set-up **14**

Leg Assembly 15
NOELLE Power Supply 15
Newborn Power Supply 15
Control Computer 16
Virtual Monitor 17

Working with UNI **19**

Initializing the Simulator 20
UNI Interface 20
Quick Launch 22
Status / Details Controls 24
Model (Newborn) 40

Working with NOELLE **42**

Airway 43
Breathing 43
Circulation 43
Obstetrics 45
Systemic 59
Other 59

Working with Newborn **61**

Airway 62
Breathing 62

Cardiac 62
Circulation 62
Cephalic 63
Systemic 63
Other 63

Appendix 64

Factory Preset Labor Scenarios 65
Tips on Creating Scenarios 129
Troubleshooting 132
Wireless Network 136
Selected Consumables and Replacements Parts 140
Warranty 146
Contact Us 148

End User License Agreement

This is a legal agreement between you, the end user, and Gaumard® Scientific Company, Inc. (“Gaumard”). This software is protected by copyright laws and remains the sole property of Gaumard. By installing the GaumardUI simulation (the "Software") media, you agree to be bound by the terms of this agreement. If you do not agree to the terms of this agreement, promptly return the uninstalled media and accompanying items to Gaumard at the address indicated below.

1. Grant of License. Gaumard hereby grants to you (an individual or institution) the right to install and activate the Software on one computer for use with one Code Blue III Interactive patient simulator system. The software may also be installed on any number of other computers at the same institution so that students may access the learning resources. One copy of the software may be made for backup purposes. You may not network this Software, or allow multiple users unless you purchased a multi-user workstation license. Sharing this Software with other individuals or allowing other individuals to view the contents of this Software is in violation of this license.

2. Copyright. The Software is owned by Gaumard and protected by United States copyright laws and international treaty provisions. Therefore, you must treat this Software like any other copyrighted material. You may not make this Software or copies thereof available in any manner or form or use, copy or transfer the Software, in whole or in part, except as provided herein.

3. Other Restrictions. You may not rent or lease this Software to any other party. You may not alter, merge, modify, adapt, reverse engineer, decompile or disassemble the software, or disclose the contents of this Software to any other party.

4. Electronic Transmission of Software. If you received the Software by electronic transmission or by Internet delivery, by installation of the Software, you acknowledge that you have read and understand this license agreement and agree to be bound by its terms and conditions.

5. Term of Agreement. The term of this Agreement and the license granted to you pursuant hereto shall commence upon installation of this Software. This Agreement and the license granted herein may otherwise be terminated by Gaumard in the event that you are in breach of any provision of this Agreement. In the event of termination, you agree to immediately return this Software, accompanying items, and any copies thereof to Gaumard.

6. LIMITED WARRANTY

(A) THE CD-ROM MEDIA (THE "MEDIA") WHICH CONTAINS THIS SOFTWARE IS WARRANTED, FOR A PERIOD OF 30 DAYS FROM THE DATE OF PURCHASE, TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP. ELECTRONIC TRANSMISSION IS WARRANTED TO BE FREE FROM DEFECTS AT THE MOMENT OF TRANSMISSION. YOUR SOLE AND EXCLUSIVE REMEDY, AND GAUMARD'S SOLE LIABILITY, IS TO REPLACE THE DEFECTIVE MEDIA OR TO REPEAT THE ELECTRONIC TRANSMISSION PROVIDED THAT YOU NOTIFY GAUMARD IN WRITING OF SUCH DEFECT OR

DEFECTIVE TRANSMISSION AND RETURN THE DEFECTIVE MEDIA, IF ANY, DURING THE 30-DAY WARRANTY PERIOD.

(B) EXCEPT AND TO THE EXTENT EXPRESSLY PROVIDED IN PARAGRAPH (A), THE SOFTWARE AND ACCOMPANYING WRITTEN MATERIALS ARE PROVIDED ON AN "AS IS" BASIS, WITHOUT ANY WARRANTIES OF ANY KIND, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. NO ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY GAUMARD, ITS DEALERS, DISTRIBUTORS, AGENTS OR EMPLOYEES SHALL CREATE A WARRANTY OR IN ANY WAY INCREASE THE SCOPE OF THIS WARRANTY, AND YOU MAY NOT RELY ON ANY SUCH INFORMATION OR ADVICE. GAUMARD DOES NOT WARRANT, GUARANTEE, OR MAKE ANY REPRESENTATIONS REGARDING THE USE OR THE RESULTS OF USE, OF THE SOFTWARE OR WRITTEN MATERIALS IN TERMS OF CORRECTNESS, ACCURACY, RELIABILITY, CURRENTNESS, OR OTHERWISE, AND THE ENTIRE RISK AS TO THE RESULTS AND PERFORMANCE OF THE SOFTWARE IS ASSUMED BY YOU. IF THE SOFTWARE OR WRITTEN MATERIALS ARE DEFECTIVE, YOU AND NOT GAUMARD OR ITS DEALERS, DISTRIBUTORS, AGENTS, OR EMPLOYEES, ASSUME THE ENTIRE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION OTHER THAN EXPRESSLY DESCRIBED ABOVE.

(C) NEITHER GAUMARD NOR ANYONE ELSE WHO HAS BEEN INVOLVED IN THE CREATION, PRODUCTION OR DELIVERY OF THIS PRODUCT SHALL BE LIABLE FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES (INCLUDING DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, AND THE LIKE) ARISING OUT OF THE USE OR INABILITY TO USE SUCH PRODUCT OR RELATED TO THIS AGREEMENT EVEN IF GAUMARD HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. GAUMARD SHALL NOT BE LIABLE TO YOU FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OR LOST PROFITS ARISING OUT OF OR RELATED TO THIS AGREEMENT OR YOUR USE OF THE SOFTWARE AND/OR THE RELATED DOCUMENTATION, EVEN IF GAUMARD HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL GAUMARD'S LIABILITY HERE UNDER, IF ANY, EXCEED THE PURCHASE PRICE PAID BY YOU FOR THE SOFTWARE.

ALL RIGHTS NOT EXPRESSLY GRANTED IN THIS LICENSE AGREEMENT ARE RESERVED BY GAUMARD.

ACKNOWLEDGMENT

BY INSTALLATION OF THIS SOFTWARE, YOU ACKNOWLEDGE THAT YOU HAVE READ AND UNDERSTAND THE FORE GOING AND THAT YOU AGREE TO BE BOUND BY ITS TERMS AND CONDITIONS. YOU ALSO AGREE THAT THIS AGREEMENT IS THE COMPLETE AND EXCLUSIVE STATEMENT OF AGREEMENT BETWEEN THE PARTIES AND SUPERSEDES ALL PROPOSED OR PRIOR AGREEMENTS, ORAL OR WRITTEN, AND ANY OTHER COMMUNICATIONS BETWEEN THE PARTIES RELATING TO THE LICENSE DESCRIBED HEREIN.

Care and Cautions

Overall Warnings

Remember that damage caused by misuse is not covered by your warranty. It is critical to understand and comply with the following guidelines:

PROCEDURES

Do not attempt to intubate without lubricating the airway adjunct with silicone lubricant (provided). Failure to do so will make intubation very difficult and is likely to result in damage.

When simulating drug administration via endotracheal tube, providers must use an empty syringe. Passing liquids into the trachea or esophagus may cause internal damage.

Mouth to mouth resuscitation without a barrier device is not recommended, as it will contaminate the airway. Treat the simulator with the same precautions that would be used with a real patient.

Always keep clear of the birthing mechanism while the system is on.

Never operate the birthing mechanism without the tummy cover in place.

NOELLE IV ARM

Only use Gaumard's provided simulated blood. Any other simulated blood containing sugar or any additive may cause blockage and/or interruption of the vasculature system.

The use of needles larger than 22 gauge will reduce the lifetime of the lower arms' skin and veins.

When the arm veins require replacement, contact Gaumard to arrange for a lower arm exchange. For a small fee, we will deliver reconditioned and warrantied lower arm assemblies to your facility. After receiving the replacement arms, use the same box and the enclosed shipping label to return the old arms to Gaumard. For international and express service, additional fees may be charged. Refer to the Consumables and Replacement Parts section of this guide, and contact customer service for more information.

Vein tubing contains latex which may cause allergic reactions. Users allergic or sensitive to latex should avoid contact. Discontinue use of this product and seek medical attention if an allergic reaction occurs.

STORAGE

Store NOELLE in a cool, dry place. Extended storage above 85 degrees Fahrenheit (29 Celsius) will cause the simulator to soften and slowly warp. It is acceptable to *operate* NOELLE at an ambient temperature of 95 degrees Fahrenheit (35 Celsius).

Do not store the simulator with a discharged battery. It is good practice to re-charge the battery at the end of every simulation session. In addition, make sure the battery is re-charged at least once every 6 months even if the simulator is not being used; otherwise

permanent loss of capacity might occur because of self-discharge.

CLEANING

The simulator should be cleaned with a cloth dampened with diluted liquid dishwashing soap. If medical adhesives remain on the skin, clean with alcohol wipes. **DO NOT USE "GOO GONE"** as the citric acid in the formula will cause pitting of the various materials comprising your simulator.

NOELLE is "splash-proof" but not water-proof. Do not submerge or allow water to enter the interior of the simulator. Do not expose the tablet computer to water or excessive dust.

SET UP

NOELLE will only power on when connected to the power supply. NEVER disconnect the communications module while the GaumardUI software is running. The software will halt, and the module may be damaged.

BIRTH CANAL MAINTENANCE

Ball point pens, ink and markers permanently stain the birth canal insert.

Do not wrap this or any other Gaumard product in newsprint.

The birth canal insert can be cleaning by wiping with a mild solution of soap and water. After cleaning, dust with talcum powder.

After exercise is completed, **DO NOT** leave birthing baby in contact with the birth canal.

POST-PARTUM HEMORRHAGE CHECK LIST AND WARNINGS

Use only Gaumard's provided simulated blood. Any other simulated blood brand containing sugar or any additive may cause blockage and/or interruption of the vasculature system.

Always ensure that the distal end of the uterus is inserted through the cervical opening of the birth canal until the cervix closes around the built in recess. Failure to do so could result in liquid accumulating in the pelvic cavity and damage to the birthing mechanism.

Always position the simulator so post-partum hemorrhage fluid flows away from the birth canal and the simulator itself.

Do not allow post-partum hemorrhage fluid to puddle beneath the simulator or reach the lower back.

At the end of every simulation, always flush the system with distilled water to prevent clogging.

To prevent staining or molding, always clean NOELLE using diluted soap and water. Remove the birth canal and clean thoroughly.

LABOR

Always lubricate the fetus and the birth canal before every delivery. Failure to do so will result in damage to the birthing mechanism and the birth canal.

Do not pull the baby upward in contrast to the birthing mechanism's linear trajectory. Doing so can bend the motor arm and cause damage to the birthing mechanism.

Getting Started

Overview

The NOELLE S554.100 is a comprehensive package of simulator technology, scenario-based training, and performance measurement and debriefing tools designed to build competencies needed to help manage OB emergencies.

HIGHLIGHTS

- Prepare for OB emergencies; evaluate and report on training and clinical outcomes
- Full size NOELLE maternal and neonatal birthing simulator with eclampsia and hemorrhage capabilities
- Mobility allows training to be in L+D and postpartum units
- Build team and technical competencies
- Maternal vital signs monitor
- Fetal heart tones and neonatal vital signs monitor
- Set up and run OB emergency simulations for shoulder dystocia, postpartum hemorrhage, eclampsia, umbilical cord prolapse, breech vaginal delivery, operative vaginal delivery, neonatal resuscitation

GENUINE NOELLE SIMULATOR

- IV arms for meds/fluids
- Intubatable airway with chest rise
- Removable stomach cover
- Chest compressions and ventilations are measured and logged
- Programmable eclampsia
- Advanced birthing mechanism
- Programmable postpartum hemorrhage
- Birthing fetus with placentas and umbilical cords

NEWBORN

- Full term intubatable newborn with cyanosis and umbilical pulse
- Chest compressions and ventilations are measured and logged
- Realistic heart and lung sounds
- Realistic crying

SIMULATED VITAL SIGNS MONITOR

- Single large 23 inch touchscreen monitor with desktop controller and wireless communication to laptop
- Display up to 8 numeric values including HR, ABP, RR, CO2, SpO2, temperature, NIBP, and time
- Select up to 5 dynamic waveforms including ECG II, ABP, respiration, CO2, and pulse oximetry
- Fetal Heart Rate monitor

OTHER

- Simulation transport case for electronic products
- FCC, IC, CE Certifications
- One year warranty; extend to three years
- Installation and training available

Terminology

Apply - In the context of a simulation, to apply settings is to send details of the patient's condition to the simulator itself. When settings are successfully applied, NOELLE's condition should match that shown on the Status panel.

GaumardUI - the Gaumard User Interface software application, used to control the simulator and evaluate care providers.

Facilitator - the person conducting the simulation; an instructor or lab staff member.

Palette Item - Any full or partial set of physiological parameters saved together under a single name.

Profile - a unique GaumardUI configuration, including custom palettes, scenarios, and options. Each profile acts as a separate program whereby changes made to one profile have no effect on the others.

Provider - a person participating in the simulation as a healthcare provider.

Scenario - a saved sequence of physiological states, which flow like a "play list." Scenarios provide a level of automation that unburdens the facilitator and allows standardized presentation of symptoms.

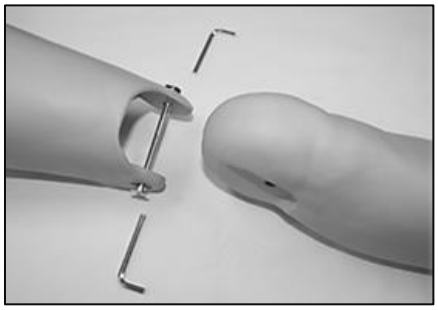
Scenario Item - a Palette Item that is part of a scenario. Scenario Items may also represent a fixed delay period ("Wait") or a pause ("Wait Indefinitely").

Equipment Set-up

Leg Assembly

Follow the steps below to install the lower legs. Always, remove the lower legs when transporting NOELLE inside the protective case.

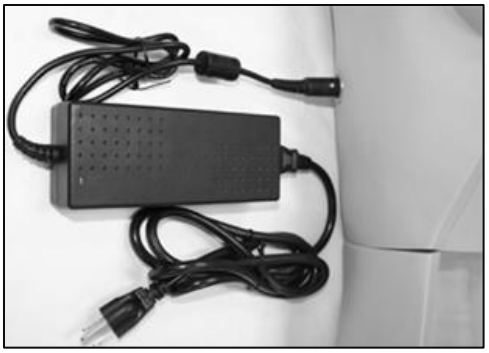
1. Remove the fixed bolts from the knee joints using the hexagonal wrench included.



2. Position the lower legs and insert the bolts. Use the two provided hexagonal wrenches to secure the knee bolts. Do not over tighten.

NOELLE Power Supply

Connect the power adapter labeled NOELLE to the power input located on NOELLE's right side.



NOELLE is equipped with an internal backup battery to maintain functionality in the event the power adapter is unplugged, or the simulator is requires transportation from one room to another.

Always operate NOELLE with the power supply connected.

The backup battery level is displayed on the GaumardUI status panel. For more information about the battery indicator, refer to page **Error! Bookmark not defined.**.

Warning:
Do not store the simulator with a discharged battery.

Re-charge the system at least once every 3 months if the simulator is not being used; otherwise permanent loss of capacity might occur.

Newborn Power Supply

Connect the power adapter labeled Newborn to the power input located on Newborn's right side.

Always operate Newborn with the power supply connected. Newborn is not equipped with an internal battery.

Control Computer

The laptop computer is the simulator's control center. Startup and control commands are sent from the Gaumard control software (GaumardUI) to the simulator using the wired communication module shown in the next section.

Review all manufacturer warnings and procedural information included with the laptop's documentation before continuing.

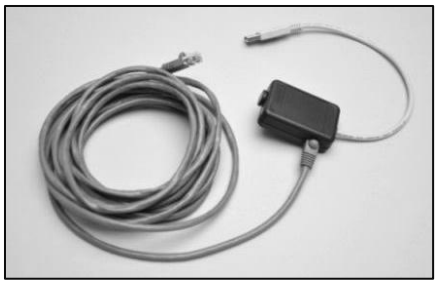
COMMUNICATIONS MODULE

Follow the steps below to connect the communication module to the simulator and the laptop computer.

GaumardUI controls only one simulator at a time. To switch between NOELLE and Newborn, first exit the GaumardUI software and reconnect the communications cable to the simulator you wish to control.

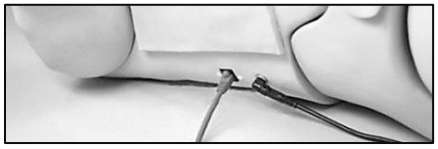
Warning:
Do not connect the simulator to Ethernet cards, LAN networks or unauthorized diagnostic equipment. Doing so may cause damage to the system.

1. Connect the communication cable to the USB communication module.



2. Connect the USB communication module to an available USB port and power on the laptop computer.

3. Connect the communication cable to the communications port located on the simulator's right side.



Virtual Monitor

The mobile virtual monitor system works with GaumardUI to display the vital signs of NOELLE, birthing baby and Newborn.

EQUIPMENT INSTALLATION

Refer to the manufacturer's documentation included with the virtual monitor system components for important safety, installation and start-up information before turning on the computer for the first time.

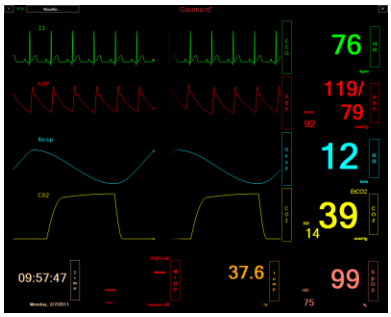
VIRTUAL MONITOR WIRELESS CONNECTIVITY

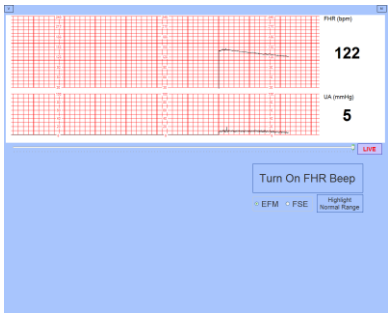
The control laptop and the all-in-one virtual monitor computer automatically establish an ad-hoc wireless connection at startup. The wireless connection allows the GaumardUI control software to send vital signs information to the Gaumard Monitors software. To verify the wireless ad-hoc connection, click on the wireless icon located on the task tray. To troubleshoot connection issues, please go to page 132.

GAUMARD MONITORS

After the wireless connection is established, double click or tap the **Gaumard Monitors** icon on the virtual monitor's home screen.

The Gaumard Monitors software is now ready to receive vital signs information generated by the UNI control software.





Continue to the next section to begin working with the UNI control software and the simulator.

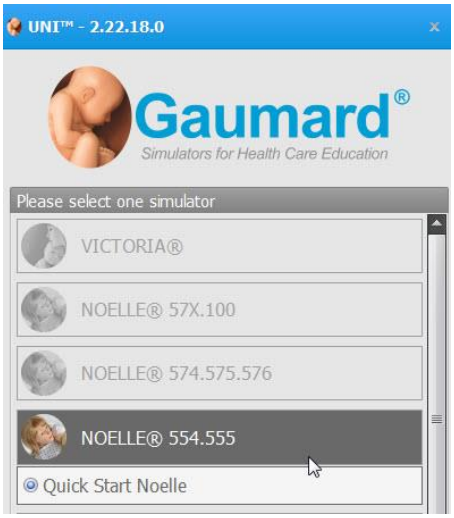
Working with UNI

Initializing the Simulator

After reading the manufacturer's care and caution information, press the power button to turn on the Tablet PC.

The UNI software initializes the simulator. Double click the UNI icon on the tablet's home screen to start.

The simulator selection menu is shown. Select Noelle and click "Start".



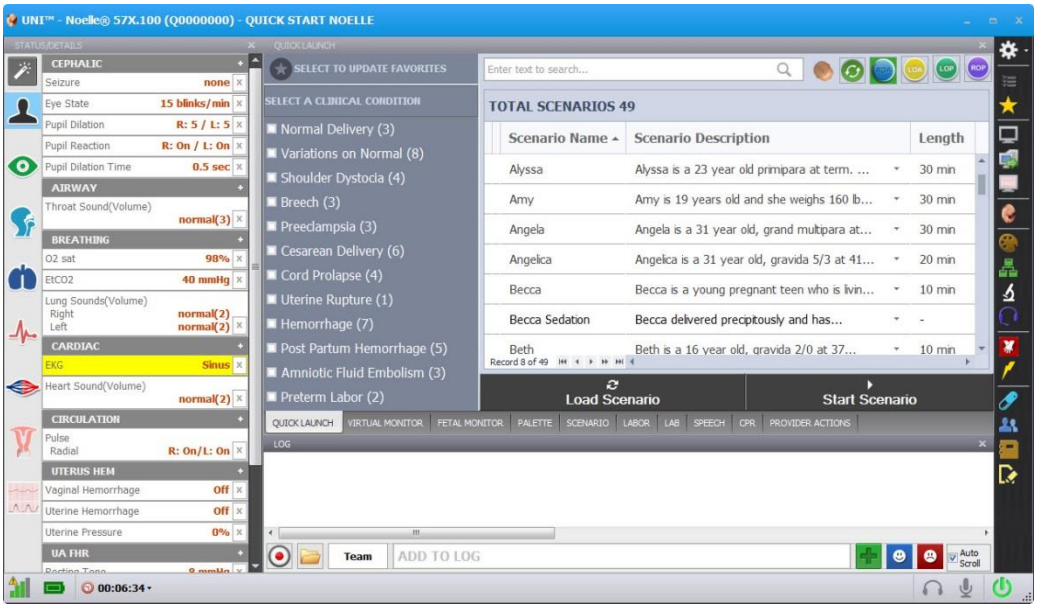
The wireless link between UNI and the simulator is established within 1 minute.

The available profiles for each simulator will be displayed when the simulator is selected. For more information about managing and creating new profiles, refer to the digital UNI User Guide under Menu/Help/Instructional Manual.

UNI Interface

The UNI software is used to control the simulator, monitor the vital signs, and evaluate the provider's performance. The simulation technician or instructor carrying out the simulation operates the UNI software.

The UNI components and programming procedures are consistent throughout the Gaumard family of high fidelity simulators. Some software controls and features covered in this guide may be hidden depending on the simulator's hardware configuration and optional upgrades.



CONNECTION STATUS

The communication indicator displays the status of the radio link between the tablet's USB RF module and the simulator. Full bars indicate excellent communication (i.e., normal operation).

BACK-UP BATTERY INDICATOR

The battery status indicator updates as the backup battery in the simulator is used. The exclamation mark indicator is shown when there is no communication with the simulator and the program cannot retrieve battery information from the simulator.

When the battery icon is depleted, the simulator is set to STAND-BY mode automatically to protect some of the simulator's internal components.

Simulator will not initialize until connected to the charger or the battery is replaced with a fully charged spare.

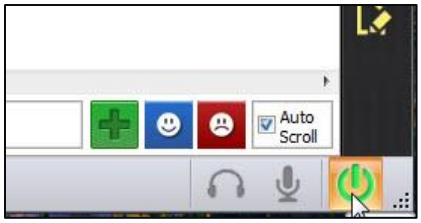
Internal battery duration is approximately 2 hours

SESSION CLOCK

The session timer displays the duration of the current session. Click the timer to reset the clock or to start a new session. Event entries in the text log are synchronized with the session timer.

POWER/STAND BY

The power button is located at the bottom right corner of the UNI software. Toggle the power button to set the simulator to stand-by mode and then again to resume.

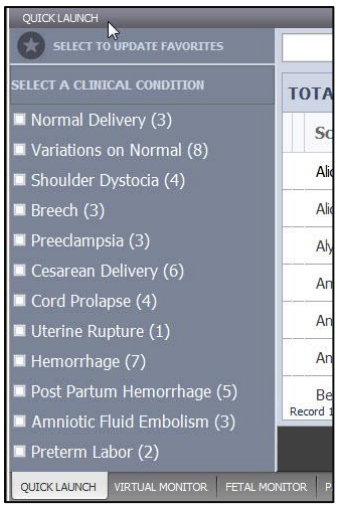


Quick Launch

The UNI interface opens up showing the quick launch page for the scenarios. This page is used to easily access the preprogrammed scenarios saved on each profile.

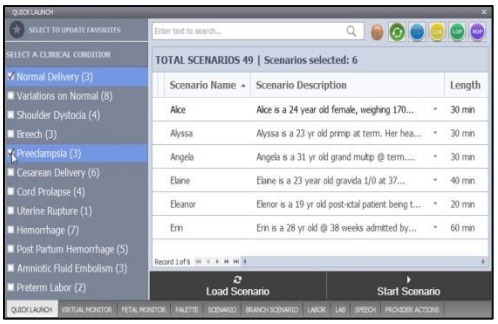
CLINICAL CONDITION

The scenarios are categorized by clinical condition to the left of this page; i.e. shoulder dystocia, cord prolapse, etc.



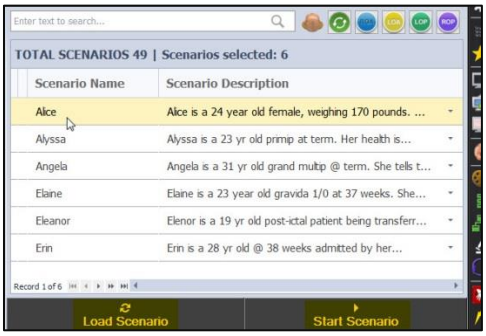
Select the scenario type as show below.

Notice that one or more scenario types can be selected at the time and the list of scenarios on the right will display only the scenarios included on the selected categories.

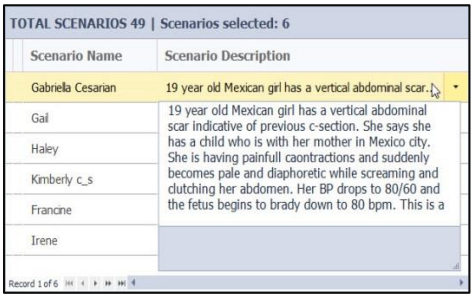


SELECTING THE SCENARIO

Click on one of the scenarios listed to highlight it and the scenario can be started immediately or loaded.

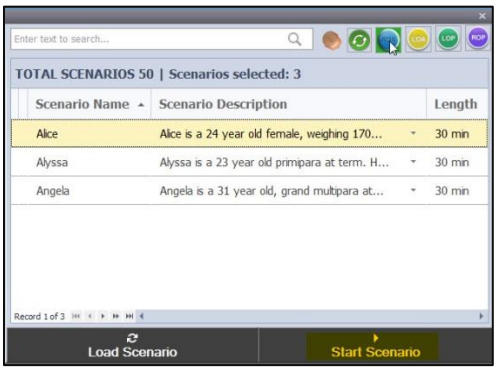


Click on the drop down arrow to the right to read a scenario description.



Clicking “Start Scenario” loads the appropriate scenario and starts it playing without the user having to do anything else with the control computer.

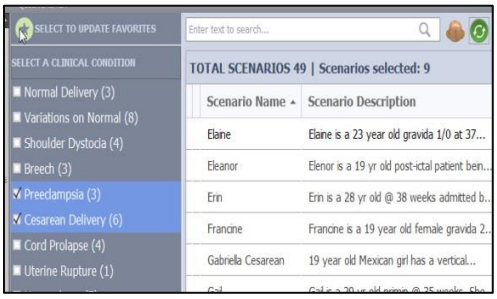
Notice that the position of the fetus should be selected before to click “Start scenario’ as shown below.



Preparing the actual simulator for delivery must be done before activating quick launch scenarios. For complete information refer to the “Working with Simulator” section.

FAVORITES

There is also a “Favorites” feature added to the quick launch program. This feature allows users to reduce the number of scenarios highlighted to those within the categories that will be used most frequently.



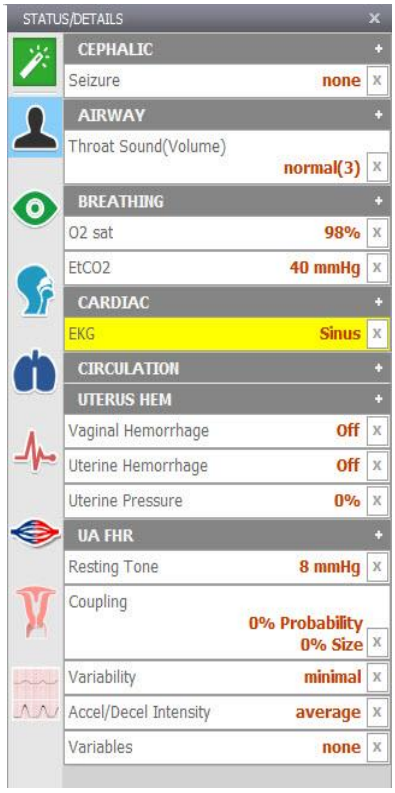
Enable the “Favorites” feature by clicking the start icon. Then select the categories or scenario types to be stored under this feature.

Status / Details Controls

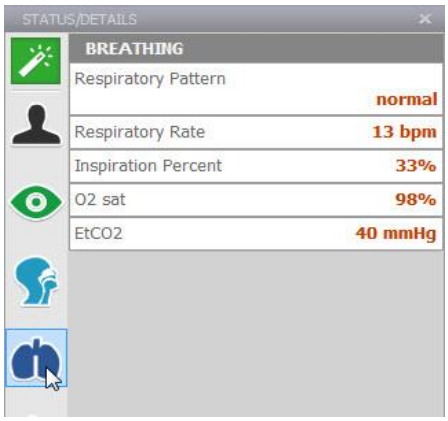
The Status/Details panel is used to monitor and control the simulator's vital signs. The individual parameter controls displayed on the details tab provide the simplest method for controlling the simulator's vital signs, sounds, and features.

The Status/Details tab displays the vital signs controls in a list format.

SYSTEMS LIST VIEW



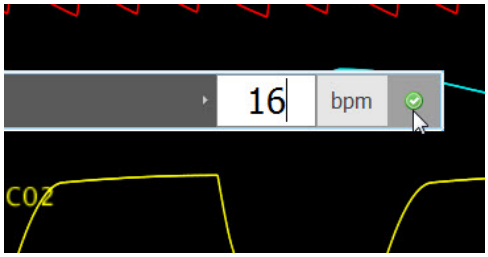
The Status/Details panel is used to monitor and control the simulator's vital signs. The individual parameter controls displayed on the details tab provide the simplest method for controlling the simulator's vital signs, sounds, and features.



CHANGING VITAL SIGNS

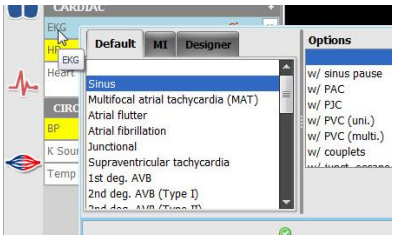
To adjust numerical values click the slider control. (e.g. heart rate, blood pressure, respiratory rate, etc.).

Alternatively, use the keyboard for manual entry and click the green checkmark to confirm the change.

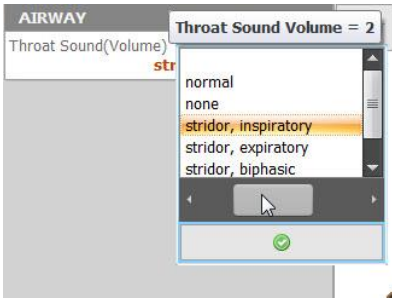


To change patterns, sounds, and rhythms, click on the

specific control to display the library (e.g. EKG rhythms, throat sounds, respiratory patterns, etc.)



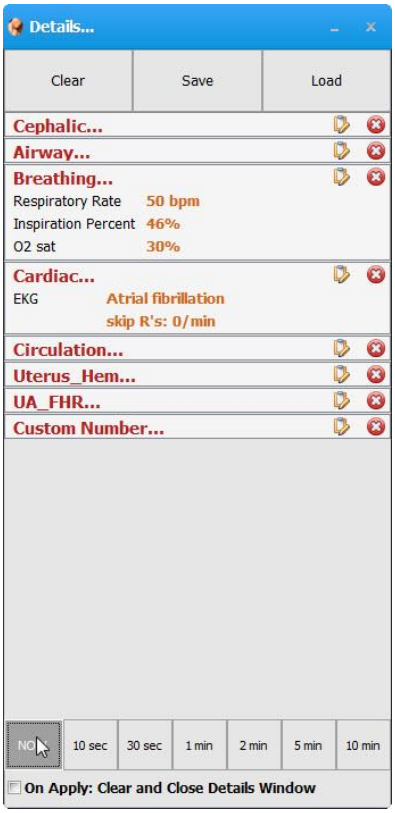
Click the slider control below the sound library to adjust the volume of the sounds.



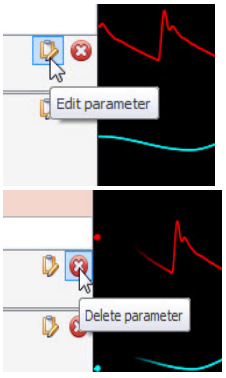
APPLYING CHANGES

No changes will be made to the simulator's condition until the new settings are submitted using the "Apply" panel.

After the list of changes is created, click "NOW" to update the vital signs instantly. Alternatively, click a trending timer to update numerical vital sign parameters (e.g. heart rate, blood pressure) gradually.



Vital sign parameters can be edited or removed using the edit and remove parameter tabs



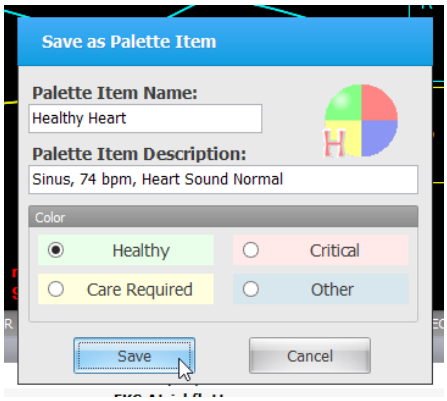
Enable the “instant apply” option and click the control to change the vital sign to a new value without the need to use “Apply” panel. Vital signs undergoing change blink yellow.

CREATING PALETTE ITEMS

A palette item stores one or more vital sign settings into a single loadable object. Use a palette item to update a set of vital signs quickly. For example, one palette item can be created to update all the cardiac parameters to a healthy state.

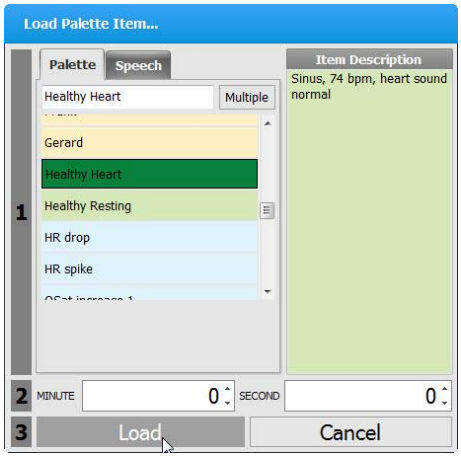
To create a new palette item, set the values for the desired vital signs parameters using the details controls and click “Save”.

Enter a name for the palette, a description, and choose color code. Click “Save” to create the new palette Item. Palette items are stored in the active profile.

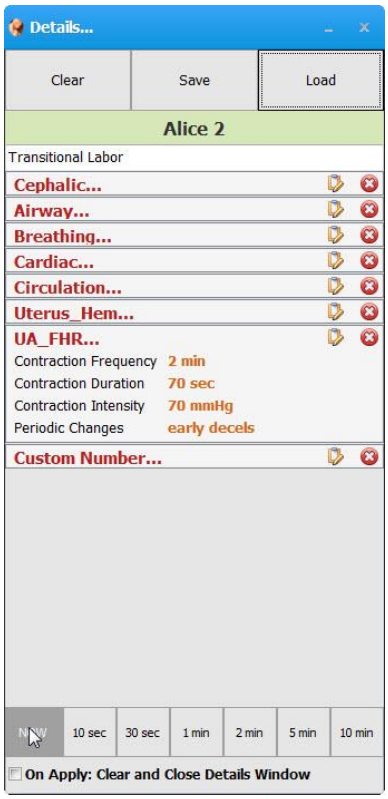


When the palette is needed, click the Load button to select the palette from the library.

Select the palette item from the “Load Palette Item” menu and click “Load”



Click the apply option to submit the changes.



FACTORY PRESET LABOR SCENARIOS

NOELLE has a total of thirty-six factory preset labor scenarios, which were designed in conjunction with healthcare professionals. The scenarios are divided into two separate profiles. Below is information on the scenarios available under the quick start and NOELLE Advanced scenarios.

QUICK START SCENARIOS

Scenario Name	Labor Type	History	Overview
Alice	Normal	Alice is a 24 year old gravida 2/1 at 39 weeks. She weighs 170 pounds. She has had prenatal care. She has not been using medications of any kind.	Runs for 30 minutes. Labor progresses normally and fetal heart tones remain within normal limits. The normal male infant earns good APGAR scores.
Alicia	Variations on Normal	Alicia is a 24 year old gravida 2/1 at 39 weeks. She weighs 160 pounds. She has had prenatal care. She has not been using medications of any kind.	Runs for 20 minutes. Labor progresses normally and fetal heart tones remain within normal limits. The normal infant earns good APGAR scores.
Amy	Variations on Normal	Amy is 19 years old 1/0 at 40 weeks. She weighs 160 lbs.	Runs for 30 minutes. Labor progresses normally and fetal heart tones remain within normal limits. The baby earns good APGAR scores.
Angelica	Variations on Normal	Angelica is a 31 year old gravida 5/3 at 41 weeks. She weighs 160 lbs. She has experienced no prenatal complications and has a history of fast labors.	Runs for 20 minutes. Labor progresses normally and fetal heart tones remain within normal limits. The normal infant earns good APGAR scores.
Beth	Variations on Normal	Beth is a 16 year old gravida 2/0 at 37 weeks. She has had one elective abortion. She has had prenatal care.	Runs for 10 minutes. Fetal descent is rapid. Fetal baseline is maintained at 150. Nuchal chord is evident and moderate bleeding is noted immediately following delivery from a second degree perineal laceration. The normal female infant is limp, dusky and does not cry spontaneously. Baby is hypothermic and tachypneic.

Scenario Name	Labor Type	History	Overview
Cynthia	Shoulder Dystocia	Cynthia is a 31 year old gravida 3/1 at 41 weeks. She weighs 170 lbs.	Runs for 30 minutes. Labor progresses normally and fetal heart tone baseline remains within normal limits. Patient is unable to fully "crown." Vacuum extractor is required to deliver the head. Shoulder dystocia is encountered and McRobert's and suprapubic pressure maneuvers are required. Male infant is centrally cyanotic, limp, and flaccid and requires immediate resuscitation. Stat CXR reveals a fractured right clavicle and right pneumothorax.
Donna	Breech	Donna is a 20 year old gravida 4/2 at 31 weeks. She weighs 180 lbs. She has had one elective abortion. She has had prenatal care.	Runs for 20 minutes. Labor progresses quickly and breech is delivered by the nurse. Meconium is noted. The preterm female baby cries weakly with stimulation but color and tone are poor. She is transferred to the nursery for stabilization and continuing care.
Elaine	Preeclampsia	Elaine is a 23 year old gravida 1/0 at 37 weeks. She weighs 140 lbs. She has had prenatal care. She complains of mind frontal headache. 3+tibial edema and 4+ DTRs with 2 beats clonus are noted.	Runs for 40 minutes. Progressive cervical change and fetal descent are noted during 9 hour induction. Fetal descent continues with little active pushing. FHTs show decreased variability and mild to moderate decelerations. Delivery is accompanied with outlet forceps. Female infant is dusky, limp and does not breathe spontaneously at delivery. Meconium is noted and a small amount is observed below vocal cords. Baby is suctioned and is eventually transferred to NICU for continued observation.
Francine	Cesarean Delivery	Francine is a 19 year old female gravida 2/1 at 37 weeks. She weighs 145 lbs. She has had prenatal care. She has STD, Herpes.	Runs for 10 minutes. Delivery of male infant is accomplished through a low transverse uterine incision. The infant exhibits good tone and cries spontaneously at delivery, peripheral.
Gloria	Cord Prolapse	Gloria is a 34 years old gravida 1/0 at 25 weeks. She	Runs for 10 minutes. Gloria arrives at the hospital with ruptured membranes and an

Scenario Name	Labor Type	History	Overview
		weighs 190 lbs. She has had prenatal care.	obviously prolapsed cord. Profound fetal bradycardia is noted. Delivery occurs almost immediately after the patient is moved to the delivery room. C&S is obtained and sent to pathology. The male infant is placed on infant warmer. His earns APGAR score
Helen	Hemorrhage	Helen is a 25 year old gravida 1/0 at 35 weeks. She weighs 180 lbs. She has had prenatal care.	Runs for 30 minutes. FHT remain WNL. Midline episiotomy is performed and the delivery is spontaneous. The placenta delivers but is not intact. Bimanual uterine exploration removes small amount of placental tissue. The male infant is pale and flaccid. He is covered with vernix and blood. Neonatal resuscitation is begun immediately.
Irene	Cesarean Delivery	Irene is a 19 year old gravida 2/0 at 29 weeks. She has had one spontaneous abortion.	Runs for 45 minutes. Sterile speculum exam indicates a shortened cervix with a cerclage in place. Fluid is noted in the vaginal vault and ferning is positive. Break-through contractions occur and sterile speculum reveals cervical change. Cerclage is removed. Fetal heart tones remain stable throughout the short labor. Sponta-neous delivery occurs. The female infant born earns good APGARs.

Patient Name	Labor Type	History	Overview
Alyssa	Normal Labor	Alyssa is a 23 year old primip at term. She has received prenatal care in a multidisciplinary practice. Her general health is good and she has experienced no prenatal complications. She wants to have an unmedicated natural birth.	Runs for approximately 30 minutes. Simulates 8 hour labor without complications resulting in SVD over intact perineum. Baby is vigorous and earns good APGARS.
Angela	Normal Labor	Angela is a 31 year old grand multip. Even though she has had only a few contractions she came in anyway because she has a history of rapid labors.	Runs for approximately 30 minutes. Simulates normal labor and delivery of grand multip resulting in shorter labor duration.
Becca	Variations on Normal	Becca is a young pregnant teen who is living on the streets. She is a heavy smoker and drug user. She was seen twice in the Adolescent Clinic and referred to Social Services, but she only saw the social worker once and did not go to the follow-up appointment. The extremely precipitous delivery and patient's agitated state should point participants to order tox screen to check for illicit drug use.	Runs for approximately 18-22 minutes. Following ROM, nurse must support fetal head to prevent explosive delivery. Patient has retained secundes therefore bimanual exam is required. **Safety Note**: Instructor is required to reset motor before allowing learner to perform bimanual exam.
Bianca	Variations on Normal	Bianca is a 16 year old gravida 2/1. She had an elective abortion at age 13. She lives with her 17 year old boyfriend and has no contact with her family. She has been inconsistent with appointments at the teen clinic due to transportation issues.	Runs for approximately 30 minutes.La3-25 **Note**: To run full scenario, load Bianca at Admit from scenario tab. Instructor has to set up fetus with Nuchal chord prior to running scenario.

Patient Name	Labor Type	History	Overview
Candice	Shoulder Dystocia	Candice is a 19 year old multip. She and her boyfriend and 3-year-old daughter are homeless and currently living in a car. She has not seen a doctor, but believes that she is about 8 months pregnant.	Full scenario runs for approximately 23-25 minutes. Dystocia drill runs for 15 min. Labor progresses normally for about 6 hours, but after 45 minutes of pushing, patient is unable to bring vertex to perineum. A vacuum extractor is necessary to bring the head to the perineum. Patient is still unable to deliver. McRobert's, suprapubic pressure, Woods and Rubin maneuvers fail. Baby is finally delivered using Gaskin maneuver. **Note**: To run full scenario, load Candice Admit from scenario tab. To run dystocia drill only, load Candice from labor tab.
Charlotte	Shoulder Dystocia	Charlotte is a 31 year old gravida 3/1 at 41+5/7 weeks. Her physician stripped her membranes yesterday and she began contracting during the night. She is admitted in active labor.	Scenario runs for approximately 40 minutes. Baby is delivered after basic shoulder dystocia maneuvers such as McRoberts and stiff arm suprapubic pressure.
Dana	Breech Presentation	Dana is a 24 yr. old multip @ 29 weeks who was admitted because she began contracting. Upon V/E physician discovers that she is 4-5cm with bulging membranes. She was given Terbutaline subQ and then transported to the regional medical center.	Runs for approximately 45 minutes. Instructor must set up baby for double footling breech delivery. To skip resolution of contractions portion of scenario, it is suggested that the instructor warp to around 20 minute mark on the timeline.

Patient Name	Labor Type	History	Overview
Demaris	Breech Presentation	Demaris is a young Hispanic teen who has received prenatal care in the Adolescent OB clinic. She kept the pregnancy a secret as long as was possible and did not attend any childbirth classes. Her plan is to return to high school while her mother cares for the baby. The baby's father will not accept any responsibility and does not wish to be involved.	Runs for approximately 30 minutes. Frank breech position has been confirmed by real time U/S. Patient refuses Cesarean delivery. Pinard maneuver must be utilized to bring the legs down. MLE is performed and baby is delivered.

Patient Name	Labor Type	History	Overview
Eleanor	Preeclampsia	The ER is notified that EMS is about 4 minutes away with a 19 year old pregnant, post-ictal patient named Eleanor. Her aunt found her convulsing in the bathroom and called 911. The aunt told the EMS providers that Eleanor was 8½ months pregnant with her first baby and that it was a difficult family situation. She added that Eleanor had just moved in with them and had not yet seen a doctor. The paramedic reports to the ER physician by radio that the patient is responsive only to pain. Her initial blood pressure is 180/120. The EMS crew applies a C-collar and move her onto a backboard for transport. The paramedic initiates ECG monitoring and does a genital exam before they move her. She notes a small amount of vaginal bleeding. The crew moves her to the ambulance and the paramedic starts an IV of LR and initiates oxygen @ 10L by non-rebreather mask. She monitors the ECG and VS during transport, and also tilts the backboard about 15º to the left with a blanket roll to decrease vena caval compression. Eleanor has no further seizure activity during transport, but her BP remains consistently 180/110. The ER notifies L&D about the patient and asks that an OB nurse come to the ER to assist.	Runs for approximately 20 minutes. Instructor must place C-collar on NOELLE simulator before beginning scenario. During delivery, patient has tonic-clonic seizure followed by tetanic contractions. Fetal baseline drops to approximately 60 bpm. SVD occurs very quickly. Infant is cyanotic and limp, and no respiratory effort is evident. Baby is pronounced dead after 20 minutes of resuscitation.

Patient Name	Labor Type	History	Overview
Erin	Preeclampsia	Erin is a 28 yr old @ 38 weeks admitted by her physician for preeclampsia. She is started on Magnesium sulfate per protocol, induced with pitocin and her membranes are ruptured. Light meconium staining is noted following AROM.	Runs for approximately 60 minutes. Upon induction of pitosin and rupture of membranes, instructor should tell participants to switch audio output on fetal monitors to FSE tones.
Faye	Cord Prolapse	Faye is a 34 year old gravida 1/0 @ 25 weeks' gestation. She had been involved with a married man and this unexpected and unwanted pregnancy caused a great deal of stress in her life. After much emotional upheaval, she decided to have the baby. The affair ended and she is no longer involved with the father of the baby. None of her family or friends are aware of the pregnancy. She began cramping about 3 hours ago and decided to drive herself to the hospital when she began leaking clear fluid. An admitting clerk helps her into a wheelchair and takes her to L&D.	Runs for approximately 20 minutes. Prolapsed cord is protruding into the vaginal opening. Faye is put into deep Trendelenburg position. There is no palpable cord pulsation and FHTs are not audible with Doppler. Upon VE, fetus presents as double footling breech and is already partially into birth canal. Therefore, baby has to be delivered vaginally. Fetus is non viable.
Frances	Cord Prolapse	Frances is admitted into a small town hospital due to regular contractions @ 4 minutes apart and bloody show. She labors without problems for about 4 hours and then the fetus starts to brady down after SROM. A V/E reveals a prolapsed coed in the vagina.	Runs for approximately 22-27 minutes. Instructor must set up prolapse cord prior to beginning scenario. Instructor may disconnect NOELLE simulator from power outlet and continue running scenario while transferring the NOELLE birthing simulator to the OR.

Patient Name	Labor Type	History	Overview
Gabriella	Uterine Rupture	Gabriella is a young Hispanic woman who presents to a small hospital just across the Mexican border. She is alone and speaks little English. Her nurse is fluent in Spanish, but Gabriella is very quiet and gives little information.	Runs for approximately 25 minutes. Shortly after admission, patient clutches her abdomen and fetal baseline bradys down to the 80s. Patient becomes very pale and diaphoretic. BP drops to 80/60 and pulse is 120. She suffers heavy vaginal bleeding. Patient is rushed for emergency C-Section. Baby is limp and severely depressed, needs to be intubated and ventilated.
Gail	Uterine Rupture	Gail is a 29 year old primip @ 35 weeks. She was admitted to L&D from the ER after being involved in car accident. Both she and her husband, Alan, were seriously injured and she is on a backboard wearing a c-collar to stabilize the spine. Her right humerus is fractured and seat belt marks are visible across the abdomen.	Runs for approximately 181-20 minutes. Use file sharing feature to display pictures of C-spine x-ray as patient was involved in car crash.
Haley	Peripartum Hemorrhage - Previa	Haley is a 33yr old G2 @ 35 weeks. Previous U/S revealed a low lying placenta and this is the 5th time in 11 weeks she been admitted for bleeding. This time the bleeding is is heavier and is not resolving. Her OB is on the way to the hospital; bimanual palpation shows the uterus to be soft and non-tender.	Runs for approximately 15 minutes. Instructor must set up for partial placenta previa. Instructor must fill hemorrhage kit with fluids before running the scenario
Heidi	Peripartum Hemorrhage - Previa	Heidi is a 25 yr old primip @ 35 weeks. She has experienced several mild bleeding episodes during pregnancy and is known to have a low lying placenta. She arrives in L&D complaining of ab-dominal cramps and has bright red vaginal bleeding.	Runs for 35-45 minutes. This scenario utilizes a vaginal delivery even though there is a low lying placenta. Instructor has option to run a linear or a branching postpartum section of the scenario. Instructor must fill hemorrhage kit with fluids before running the scenario

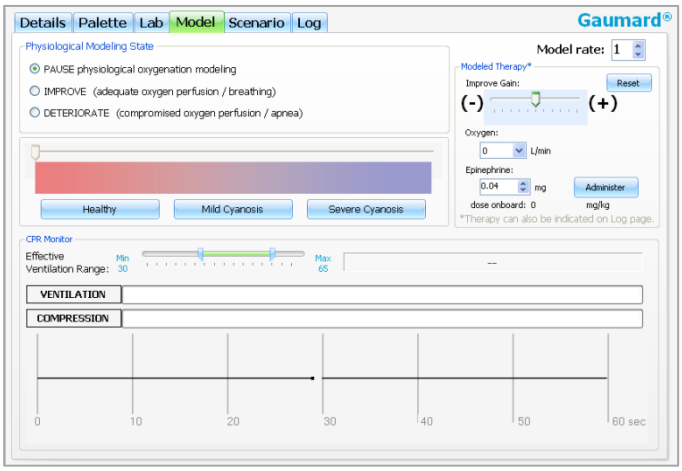
Patient Name	Labor Type	History	Overview
India	Peripartum Hemorrhage - Abruption	India is a 19 yr old gravida 2 @ 37 weeks. She arrives at hospital with her husband who says she fell down the stairs and she has been cramping and bleeding for about an hour. During admitting interview husband answers all the questions and India doesn't make eye contact. The nurse palpates uterus, initiates fetal monitoring and starts a pad count.	Runs for approximately 25 minutes. This scenario is a suspected spousal abuse case. Patient has a central abruption of the placenta. Instructor must fill hemorrhage kit with fluids before running the scenario.
Inez	Peripartum Hemorrhage - Abruption	Inez is a 27 yr old primip @ 35 weeks. She arrives at hospital one evening crying and doubled over in pain. She is admitted to a birthing room and the nurse notices bright red blood on Inez's panties. She is having very intense and close contractions.	Runs for approximately 18 minutes. This scenario involves a precipitous delivery with heavy bleeding due to placental abruption. Abruption was brought on by use of alcohol and cocaine. Instructor must fill hemorrhage kit with fluids before running the scenario.
Janie	Peripartum Hemorrhage/PPH	Janie is a 23 yr old G 2 @ 38 weeks. She has experienced several bleeding episodes due to a low lying placenta. She has been counseled about the potential for postpartum hemorrhage. Her religious beliefs prohibit the administration of any blood products.	Runs for approximately 25 minutes. Even though patient suffers heavy blood loss, blood products are not to be used so alternative methods must be found. Instructor must fill hemorrhage kit with fluids before running the scenario.

Patient Name	Labor Type	History	Overview
June	Peripartum Hemorrhage/PPH	June is a 31 year old who is about to deliver her 5th baby. She has had a normal pregnancy and plans natural childbirth and breastfeeding. Her husband and oldest daughter attended the CBE refresher course and she has arranged for the 11 year old to attend the delivery.	Full scenario runs approximately for 22-25 minutes. PPH runs for 8-10 minutes. Labor and delivery progress uneventfully. Heavy bleeding begins immediately upon delivery of placenta. Uterus remains atonic de-spite Fundal massage and rapid pitosin infusion. Patient's BP drops to 80/50 and uterus begins to clamp down following Cytotec rectal insertion. **Note:** Running full scenario requires retraction of motor mechanism and insertion of PPH kit following delivery. To run PPH only, load June PPH from the scenario tab.
Kelly	Amniotic Fluid Embolism	Kelly is a 34 year old gravida 5/2 @ 38 weeks. She is scheduled for an induction due to problems with her last pregnancy. That baby weighed almost 10 pounds, and she had experienced a severe shoulder dystocia with the delivery. She has gained 43 pounds with this pregnancy and her glucose tolerance test (GTT) is borderline. An ultrasound a few days ago estimated current fetal weight at 3800 to 4000 grams. Kelly's physician feels that her cervix is favorable, so he has re-commended an elective induction.	Runs approximately for 35-40 minutes. Shortly following SROM, Kelly begins having mild variable decels that are associated with contractions. Over the next few minutes, variables become more severe. Kelly vomits and begins gasping then suddenly becomes unresponsive. Decels now have late characteristics. She is given SQ Terbutaline and fetal baseline drops to 90. She is intubated and very difficult to ventilate. Patient develops VFib and then arrests. Baby is removed by emergency C-Section. Kelly remains on a ventilator. Baby is limp and unresponsive and requires resuscitation, and suffers repetitive seizure activity.

Patient Name	Labor Type	History	Overview
Kimberly	Amniotic Fluid Embolism	Kimberly is a 27 yr old multip @ 42 weeks. She began having contractions at home and now they are becoming stronger. She is excited to be finally going into labor. By the time the nurse completes admission Kimberly is requesting pain meds as her labor is progressing quickly.	Runs for approximately 30 minutes. In this scenario, patient has an AFE and resuscitation efforts are in vain. Fetus is delivered via perimortem C-section.
Madonna	Preterm Labor	Madonna is a 41 year old multip @ 31 weeks. She has experienced difficult pregnancies in the past and has one Downs Syndrome baby, so she is very apprehensive. An early U/S and genetic studies showed this baby to be a normal female. She has had several episodes of preterm contractions that resolved with LLP bed rest and oral hydration. She began contracting again 3 hours ago and again tried LLP bed rest and oral hydration, but the contractions have continued & become stronger.	Runs for approximately 35 minutes. Patient starts having contractions and is given SQ Terbutaline to stop contractions. She begins to have unfavorable reactions to the drug, and contractions break through about 30 minutes later. Another dose of Terbutaline is given, and her reaction is worse, and contractions break through yet again. Eventually, she's given Procardia which resolves the contractions and does not give adverse reactions.
Maria	Preterm Labor	Maria is a 30 yr old multip @ 27 weeks. She has an 11 yr old and has been trying for more children. She has had 2 miscarriages in the last 4 years and she lost both due to an incompetent cervix. This time a McDonalds suture was placed @ 14 weeks.	A run for approximately 15 minutes and it is a tocolysis emergency. Patient has reaction to overmedication of magnesium sulfate.

Model (Newborn)

The physiologic cyanosis model adjusts vital signs and skin color in response to ventilation effectiveness. Set the physiological modeling state to deteriorate and monitor the provider's intervention effectiveness using the CPR monitor window. The model speed can be controlled through the Model warp-factor, which goes from 1 to 5 (1 representing real-time).



PHYSIOLOGICAL MODELING STATE

Pause: Model will pause at the current state.

Improve: Model trend to a healthy state. Once the model reaches the complete Healthy state, the model will go to *Pause* mode.

Deteriorate: Model will trend to a severe cyanotic state. If ventilations given to the neonate are of correct depth and between 40 and 60 per minute, the vital signs will improve. Otherwise, they will continue to deteriorate.

CYANOSIS LEVELS

The facilitator can quickly jump to any of the three points in the state of the model.

Healthy: Pedi is pink with adequate oxygenation.

Mild Cyanosis: Pedi is bluish and vital signs are starting to deteriorate.

Severe Cyanosis: Pedi is blue, apneic and vital signs are rapidly worsening.

MODELED THERAPY

Improve Gain: Moving this slider will help increase or decrease the cyanotic response to ventilations.

Oxygen: By selecting an oxygen rate, the baby will improve faster with proper ventilation. Flow On must be selected to activate the oxygen response.

Epinephrine: Select the desired epinephrine dose and then select “Administer”. Immediately the heart rate of the Newborn should rise and the dose on board should start diminishing over time. The dose should be enough to increase the heart rate a small percentage in order to help the oxygen delivery in the system, therefore helping improve the neonate with proper ventilation.

Reset: By selecting “Reset” the oxygen flow and the epinephrine dose onboard will be eliminated.

Working with NOELLE

Airway

NASAL AND ORAL INTUBATION

Airway management techniques can be practiced on NOELLE including BVM, nasal/oral intubation, and suctioning. Endotracheal tubes, NG tubes and LMAs can be used.

Procedure	Recommended Device Size
Intubation(Blade size)	Miller 4 or MAC 3.5
LMA	Size 4
Nasal Intubation	8 mm outer diameter max
Oral Intubation	ETT Fr 7 or 7.5

Warning:
Do not introduce liquids when performing nasal and oral intubation. Doing so can permanently damage the system.

Always lubricate tubing, airway and nasal opening prior to performing any nasal or oral intubation.

Breathing

Software controlled breathing patterns: Kussmaul's, Cheyne-Stokes, Biot's, Apneustic, apnea, and normal.

PULMONARY VENTILATION

The airway contains nominal landmarks permitting either BVM or intubation exercises including the use of a LMA. The trachea extends to the bronchi and lungs.

CPR

Use a normal size adult BVM which will seal around the mouth and nose. The ribs have normal anatomic landmarks and the lungs permit an adequate chest rise. Normal CPR procedures can be followed with aid of GaumardUI's CPR trainer.

Circulation

PALPABLE PULSES

Palpable bilateral radial pulses are blood pressure dependent.

BILATERAL IV ARMS

NOELLE has a bilateral IV training arms that can be used for bolus or intravenous infusions as well as for drawing fluids.

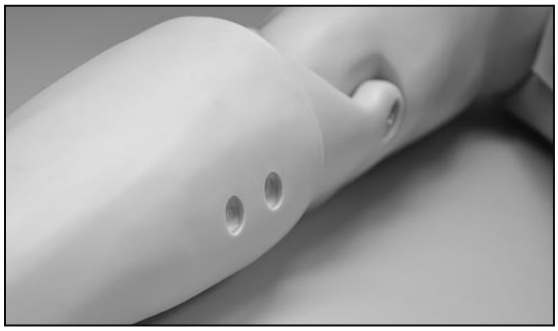
Warning:
Do not attempt to fill IV system without the drain connector in place.

Always leave the drain port connected when injecting fluids into the system.

Use only Gaumard's provided simulated blood. Any other simulated blood brand containing sugar or any additive may cause blockage and/or interruption of the vasculature system.

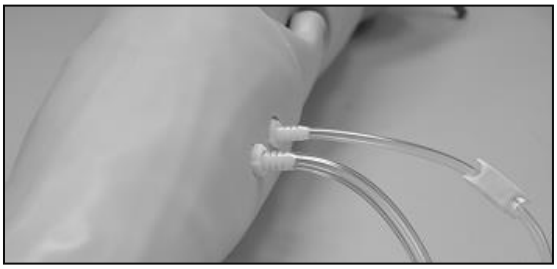
Always purge the system with 70% isopropyl alcohol solution at the end of every simulation.

1. First, locate the fill syringe with tubing and the drain tube with pinch-clamp. Fill the syringe with the desired fluid -- water or simulated blood.



2. Connect the syringe with tubing to one port and the drain tube with clamp to the other port as shown.

3. Leave the drain tube clamp opened and depress the syringe until all air has been pushed from the IV system and fluid runs from the drain.



4. To simulate a patient with no accessible peripheral IV sites, connect only the syringe. Pull the plunger to create suction, which will collapse the veins. Disconnect the syringe tube from the arm port while maintaining suction. The port will seal, and the veins will remain collapsed.

Obstetrics

NORMAL LABOR AND DELIVERY

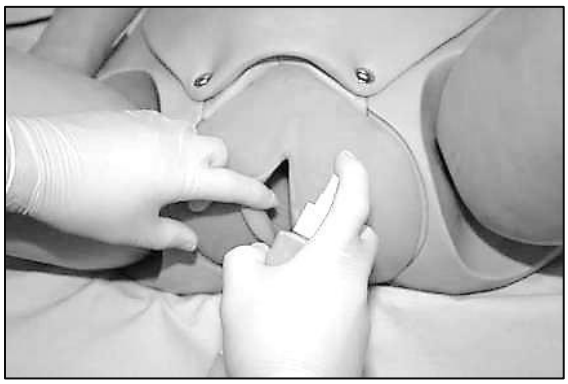
BIRTH CANAL MAINTENANCE:

- Ball point pens, ink and markers permanently stain the birth canal insert.
- Do not wrap this or any other Gaumard product in newsprint.
- The birth canal insert can be cleaning by wiping with a mild solution of soap and water. After cleaning, dust with talcum powder.
- Store the unit in a cool, dry place.
- After exercise is completed, **DO NOT** leave birthing baby in contact with the birth canal.
- Always lubricate the birth canal prior to delivery.

PREPARING FOR A DELIVERY

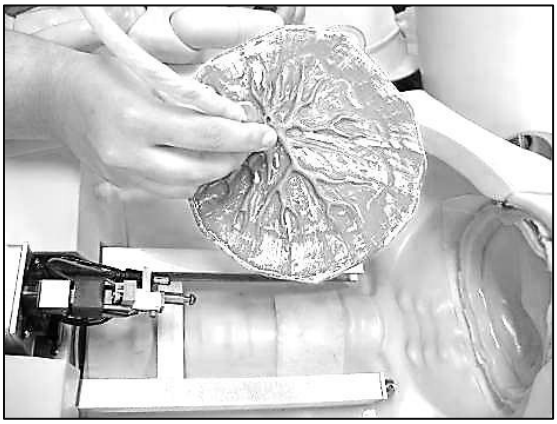
1. Lubricate the fetal head and shoulders, plus the inside of the birth canal insert, using the silicone oil provided.

> **Warning:**
> Always lubricate the fetus and the birth canal before every delivery. Failure to do so will result in damage to the birthing mechanism and the birth canal.



2. Lubricate the head and shoulders of the fetus.

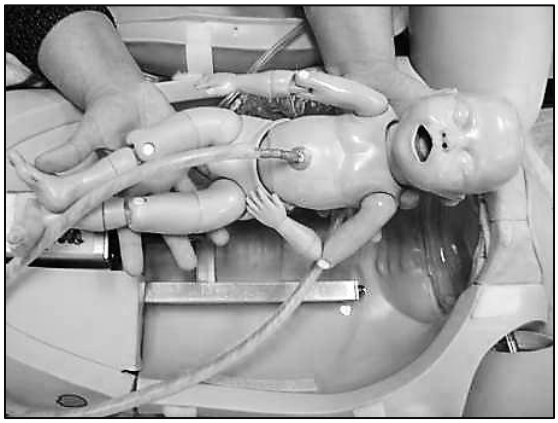
3. Attach the umbilicus to the placenta.



4. Attach placenta to either side of the abdominal wall. Orienting the Velcro patches in parallel causes segments of the placenta to be retained, if secundes are reversed; orienting them at right angles causes the placenta to release with modest traction.

5. Attach the umbilical cord to the baby, route the cord so it does not bind in the mechanism and attach the placenta to the pelvic cavity using the Velcro® fastener. Note that the fetus has 2 receptacles at the perineum into which the matching pins located on the birthing mechanism are inserted.

6. Position the fetal arms and legs as shown.



7. Umbilical cord can be wrapped around the neck, demonstrating a nuchal cord.

LOCKING MECHANISM

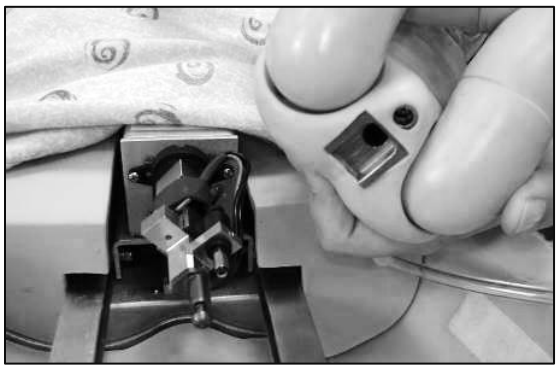
The birthing mechanism arm attaches and locks into the fetus attachment port. The motor arm low voltage cable feeds power to the locking mechanism and fetal heart tones speaker inside the fetus.

There will be one actuation of the locking mechanism when the articulating baby is inserted, which is normal.

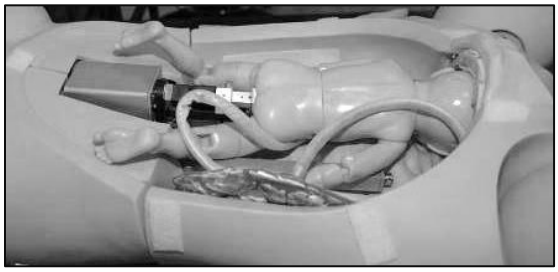
Warning:
Never operate the birthing mechanism without the tummy cover in place.

1. Position the baby so that its face is upward (anterior). Connect the baby to the birthing mechanism while the manikin

is "ON" so that the electromechanical mechanism allows the baby to be locked into place.



2. Once the baby is connected and locked onto the mechanism, position the baby to its initial birthing position. The user has the choice of ROP, LOP, ROA, LOA.

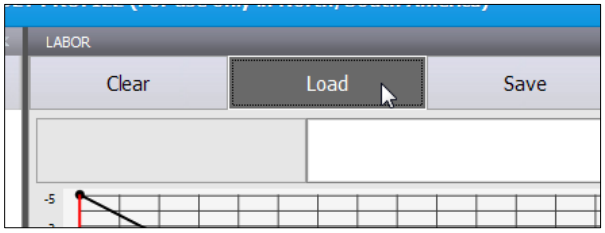


3. On the labor tab, select the fetal position that matches the birthing baby's initial position on the simulator.

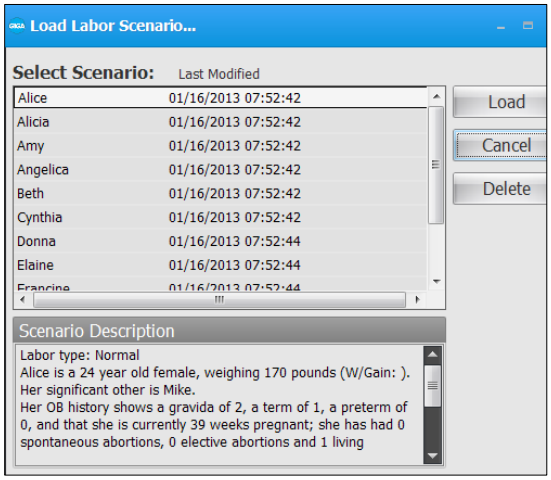
LOADING A LABOR SCENARIO

Several prebuilt labor scenarios are included in the Quick Start NOELLE Profile. Click the **Load Labor** button to load a labor scenario.

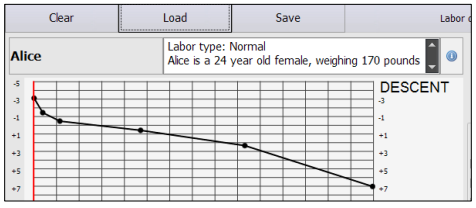
Tip: Navigate to Menu> File>Profile from the menu bar to quickly change between profiles.



On the **Load Labor Scenario…** window, select the **Alice** labor from and click **Load**.

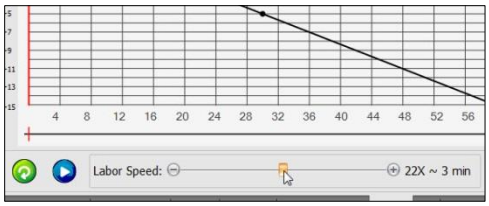


The labor is now loaded.



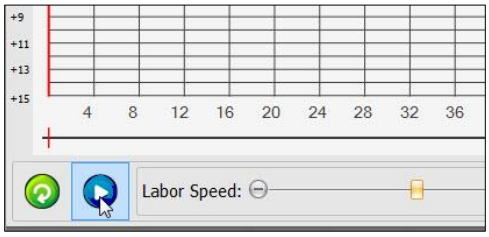
STARTING THE LABOR SCENARIO

Before starting the labor, increase the labor speed to complete the simulated labor in a fraction of the time.



Always secure the abdominal cavity on the abdomen prior to starting the labor mechanism for safety.

Click “Play” to start the labor scenario.

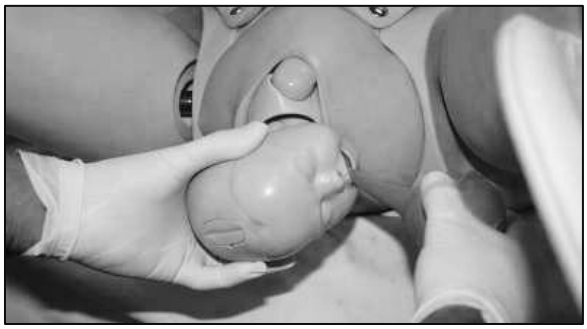


The green vertical bar on the labor graph moves to the right indicating the labor progress. For more information about the labor graph and the labor stations, go to the Labor section in the UNI software user guide.

The fetus produces heart sounds during the labor and delivery process. Auscultate the abdomen to listen to the fetal heart sounds. Alternatively, enable the fetal heart rate sounds on the virtual monitor screen.

COMPLETING THE DELIVERY

The first few centimeters of movement normally take about half the total delivery time. The fetus rotates internally as it moves forward, then after the head is delivered, and again before the shoulders are delivered.

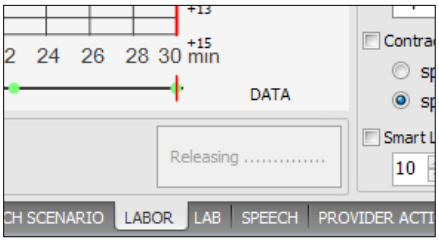


The provider may help the fetal head and shoulders through the vulva just as in real life or turn the fetus into its final position if necessary.

RELEASE MECHANISM

The lock and release mechanism built into the fetus is used to simulate the resistance felt when the fetus is pulled too early during the delivery.

The fetus is released from the birthing arm when the vertical progress bar reaches the end of the labor graph. The release button displays “Releasing…” to indicate that the fetus is unlocking.

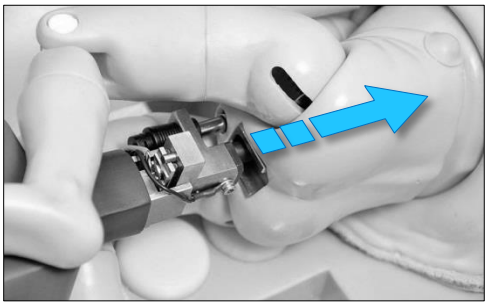


DELIVERY

Once the progress line reaches the end of the labor graph, the birthing mechanism will push the fetus until the shoulders are delivered. The mechanical process that simulates the end of stage 2 is transparent to a provider using standard techniques to deliver the fetus.

To prevent adding stress to the birthing arm:

1. After the final push, gently pull the fetus a few inches in line with the birthing arm to disengage the connectors.
2. Once the fetus is disengaged, complete the delivery using standard practices.



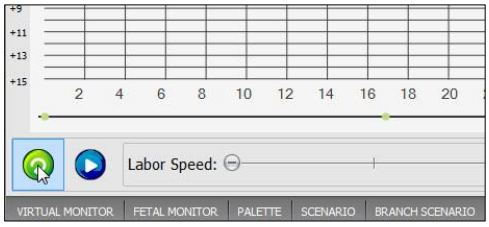
Avoid lifting or pulling the fetus upward while it is still engaged to the birthing arm. Doing so could make delivering the fetus difficult even if the fetus latching mechanism is unlocked.

FETAL MONITOR

The labor activity window displays feedback data recorded by the force sensors. The “Activity on Fetus” window provides feedback on pull force, uterine contractions, fetus heart rate.

RESETTING THE DELIVERY MECHANISM AND RETRIEVING THE PLACENTA

After the delivery is complete, click the reset button to return the delivery mechanism to its initial position.



PLACENTA DELIVERY

During the setup process, the placenta may be positioned so that it requires both modest cord traction and manual removal.

The placenta features two removable placental fragments. These fragments are attached to the body of the placenta with hook and loop fabric. Reverse one or both fragments and attach them to the abdominal wall to cause one or both to remain affixed to the uterine wall after the placenta is retrieved.

Providers should carefully inspect the placenta to make sure it is complete and that no fragments have been retained. If retained fragments are noted, the provider must retrieve them using a gloved hand under appropriate sterile conditions.

Warning: Ensure that the birthing mechanism is completely retracted before allowing the provider to retrieve the placenta. Do not attempt to retrieve the placenta or placenta fragments while the birthing mechanism is moving.

Do not turn off the simulator until the birthing mechanism has retracted to its initial position.

Never store the fetus inside the abdomen or leave the fetus in contact with the birth canal.

Vacuum-Assisted Delivery

Vacuum-assisted delivery is a technique for the management of arrest during the second stage of labor. Criteria for successful delivery include: (1) cervical dilation is complete;(2) cephalic presentation is confirmed ;(3) the fetal head is no more than 1/5 palpable above the pubic bone; (4) effective uterine contractions continue; (5) maternal expulsive efforts continue. A soft skin scalp cover for the articulating baby is provided for vacuum-assisted deliveries.

Warning:
The soft skin scalp cover is to be used during the process of a vacuum delivery only.

Do not allow the head to rest against the cervix during non-simulation times. If pressure is left on the cervix from the scalp cover for lengthy times, both pieces will be damaged.

Always remove and store the soft skin after simulation is complete.

Vacuum-assisted delivery may be practiced with the NOELLE simulator using a vacuum cup available from a number of suppliers. Vacuum-assist device attaches to fetal scalp between fontanelles:

Await the next contraction that may be simulated by asking NOELLE to bear down, and have the student apply steady traction perpendicular to the plane of the cup. Some vacuum-assisted delivery devices are equipped with a means for measuring the amount of traction, which may be on the order of about fifteen pounds.

The software will also give the instructor a graph that indicates applied force, as the delivery mechanism is equipped with a strain gauge. The student must stop traction when the simulated contraction ceases. Repeat this procedure of waiting for the simulated contraction and providing traction during the contraction if and only if the fetus is moving down the birth canal with each contraction.

Leopold Maneuver

To perform Leopold Maneuvers, retract the birthing mechanism fully and remove the articulating birthing baby. Place the elevating cushion within the birthing torso. Route the inflation bulb outside NOELLE through any space open on the left side. Place the birthing baby in the elevating cushion in the vertex, breech, or transverse positions. Install the “tummy cover”.

Inflate the elevating cushion until the fetus can be felt under the abdomen cover.

Warning:
Do not enable the motorized birthing mechanism while performing this exercise.

Placing elevating pillow within simulator:

Place fetus onto elevating pillow and lift fetus anteriorly using the squeeze bulb:

Set abdominal cover into place:

Lift fetus anteriorly using squeeze bulb until it can be felt under the cover.

Conduct the four Leopold Maneuvers.

Shoulder Dystocia

Shoulder dystocia is a dangerous condition defined in the NOELLE Guide as the “arrest of

delivery of the fetal body after the successful delivery of the fetal head". It may be characterized by the so-called "turtle-sign" wherein the fetal head moves forward and then retracts.

During dystocia, the fetal shoulders become wedged behind the symphysis pubis. NOELLE may be used to practice the resolution of dystocia using episiotomy techniques, the McRobert's maneuver, suprapubic pressure, posterior arm sweep, or elbow-knee delivery.

The McRobert's maneuver causes pelvic tilt that helps release the fetal shoulder from behind the pubic bone:

Suprapubic pressure may also release the fetal shoulder:

To demonstrate shoulder dystocia, place the fetal baby in the ROA position. Activate the delivery mechanism moving the fetus down the birth canal until the fetal head is delivered. Simulate dystocia by clicking the "Turn ON Dystocia" button on the Labor Tab. Once the dystocia mode is active, the fetal traces will automatically convert to real-time mode, and with each subsequent contraction there will be a "Turtle Sign".

Students must use the various maneuvers including fetal manipulation to deliver the baby. Once the students perform all of the appropriate maneuvers required by the instructor, the dystocia mode can be deactivated by clicking on the "Turn OFF Dystocia" button. Once the dystocia mode is off, the fetal traces and labor warp factor will adjust to the previous settings, and the labor will continue resulting in delivery of the baby.

It is *very important* that the students are aware of the "Turtle Signs". If, for any reason, the students fail to recognize the proper corrective procedures required, the labor can be stopped completely and set up again. The instructor can then add an unsatisfactory note to the log of the providers' actions.

Normally, the fetus is retained by the delivery mechanism so that it can be rotated but not delivered. The facilitator can either turn off the dystocia mode to allow the baby to be delivered in the normal fashion, or press the "Release Baby" button on the Labor tab. This action unlocks the baby allowing students to pull the baby through the birth canal.

Cesarean Delivery

Cesarean birth is the delivery of the fetus through an abdominal and uterine incision. A Cesarean delivery, also called a C-section, may be performed as a result of breech presentation, pre-term or dysfunctional labor, fetal distress, prolapsed umbilical cord, placenta previa, placental abruption, or a variety of other abnormalities.

Demonstrate a C-section using NOELLE by unfastening the snaps just above the pubic bone and birthing the baby between the tummy cover and the pubic bone. An optional abdominal cover is available if the Instructor wishes to demonstrate midline or "bikini" incisions.

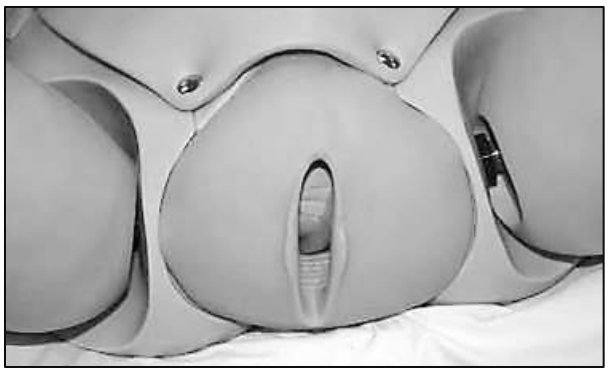
Delivery mechanism fully retracted and inflatable cushion inserted:

NOELLE C-section delivery using abdominal cover with “bikini” incision. P/N S575.029

Warning:
Do not enable the motorized birthing mechanism while performing this exercise

Prolapse of the Umbilical Cord

Prolapse of the umbilical cord is a dangerous complication which involves the presence of the umbilical cord in the birth canal in front of the presenting fetal part. This condition may occur as a result of breech presentation, transverse lies, a small fetus, an overly long cord, a placenta placed low in the uterus, or other abnormalities.



If the cord is observed in the birth canal ahead of the presenting part, gloved fingers should be inserted and the presenting part lifted off the cord to relieve pressure from the cord. This procedure must be maintained until the prolapse has been resolved, either by termination of the compression of the cord, or until delivery of the fetus by C-section.

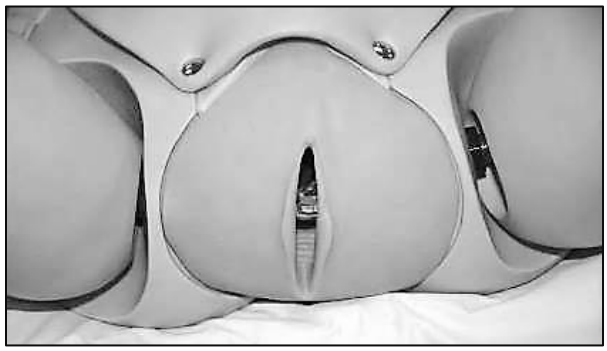
Placenta Previa

Placenta previa is a condition in which the placenta is in the lower half of the uterus, located near to or covering the cervical os. There are three types of placenta previa: Total, partial and marginal.

- Total placenta previa is when the placenta completely covers the cervical os.
- Partial placenta previa is when the cervical os is partially covered by the placenta.

- Marginal placenta previa is when the edge of the placenta extends to the internal os where the uterus opens into the vaginal canal.

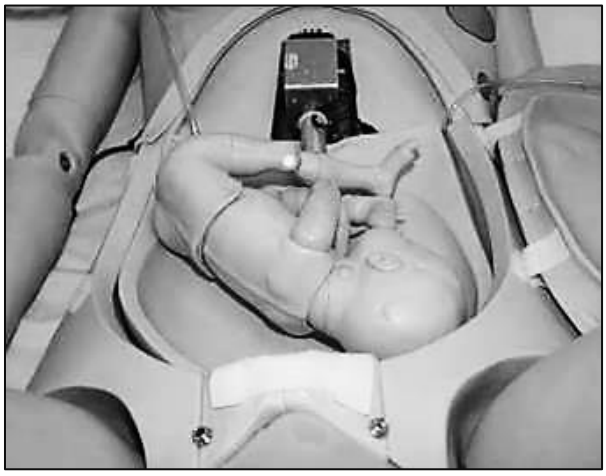
To simulate placenta previa with NOELLE, place the placenta in the desired position to simulate the condition with the maternal side against the uterine wall, or the cervical os. Then position the fetus within the uterine cavity with the presenting part closest to the placenta.



External Version

Version may be attempted by the care provider to rotate the fetus from a breech position into one permitting normal vertex presentation. To practice "version" remove the abdominal cover and the fetus, retract the delivery mechanism fully and insert the inflatable cushion. Thoroughly lubricate the inside surface of the abdominal cover, the fetus, and the inflatable cushion.

Place the lubricated fetus onto the lubricated inflatable cushion and snap the lubricated abdominal cover into place. Inflate the cushion lifting the fetus anteriorly. Inflate the cushion at the base of the pelvic cavity to position fetus.



Confirm the breech position and attempt to manually turn the fetus within the uterus by trans-abdominal manipulation.

Breech Birth

Breech birth occurs when either the buttocks or lower extremities of the fetus are the presenting part. There are three types of breech birth: frank, complete and incomplete, or footling.

- Frank breech occurs when the buttocks are the presenting part and the legs of the fetus are extended up toward the baby's head.

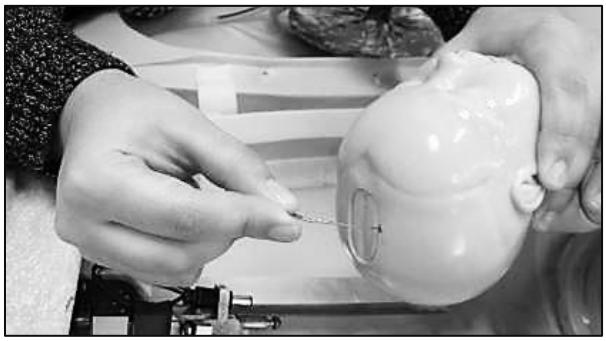
- Complete breech occurs when the buttocks are the presenting part and the baby's legs are flexed along the lower torso.
- Footling or incomplete breech occurs when one or both of the legs are the presenting part.

There are many differences in labor between the breech presentation and the vertex presentation. During the descent, the posterior hip encounters the pelvic floor and internal rotation takes place, allowing the anterior hip to move beneath the pubic arch. The anterior hip then delivers, followed by the posterior hip, the legs and the feet. External rotation allows the shoulders to move into the maternal pelvis and internal rotation allows the shoulders to deliver. Downward traction allows the delivery of the anterior shoulder, with a finger inserted into the birth canal to free the arm. Upward traction allows the posterior shoulder to deliver and the posterior arm is freed in the same manner. After the delivery of the shoulders, the fetal head delivers in a flexed or heads up position.

Although it is possible for a vaginal delivery of breech presentations, once a breech presentation has been confirmed, a Cesarean is often performed to lower the risk of infant mortality due to cord prolapse or birth asphyxia.

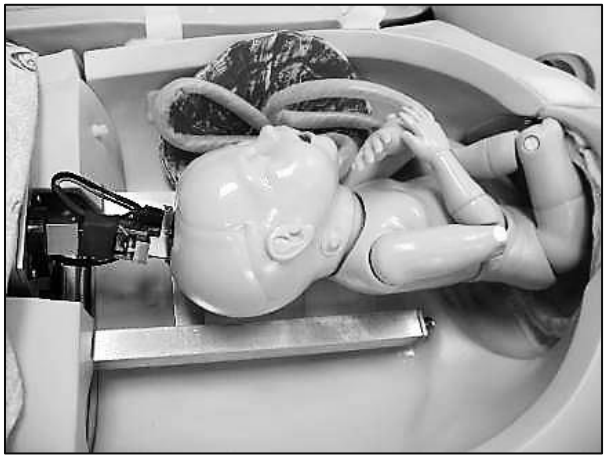
To simulate breech presentations with the NOELLE, retract the birthing mechanism fully, remove the cover in the fetal head, insert the birthing mechanism into the fetal head and place the fetal legs in either an extended position to simulate "footling" delivery or retract the legs for a "frank" delivery.

Remove plug in fetal head for breech delivery:



Removing plug reveals aperture for birthing mechanism:

Attach the fetal head to the birthing mechanism:



FRANK DELIVERY

The Pinard or leg-flip maneuver frees one leg then another.

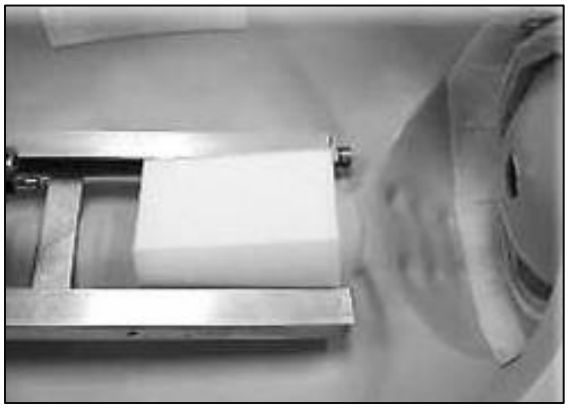
The fetal arms may also require a similar maneuver during delivery.

The fetal arms are delivered and the fetus rotated anteriorly to birth the head.

Postpartum Activity

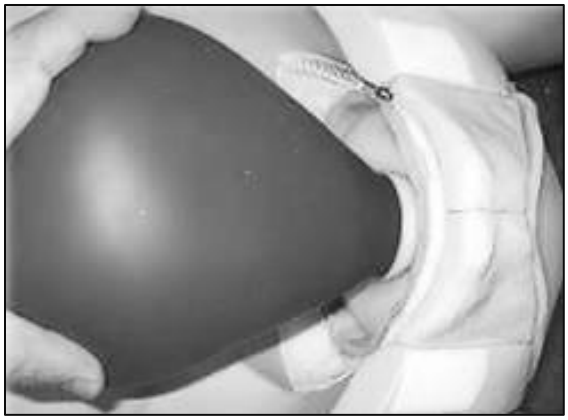
After delivery, the uterus normally contracts reducing postpartum bleeding. Under certain conditions contraction does not occur and hemorrhaging may continue. Postpartum hemorrhaging can be simulated with the Noelle system via use of the 48 hour uterus. Use the following steps to set the Noelle simulator for postpartum hemorrhage scenarios.

1. Place the white Styrofoam block between the rails of the birth mechanism.



2. Secure the uterus on the Styrofoam Velcro attachment to prevent it from moving or shifting. Then, insert the distal end of the uterus inside the cervix.

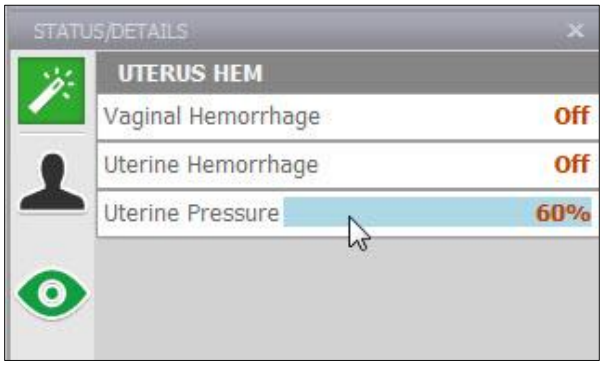
Warning:
Always ensure that the distal end of the uterus is inserted through the cervical opening of the birth canal until the cervix closes around the built in recess. Failure to do so could result in liquid accumulating in the pelvic cavity and damage to the birthing mechanism.



3. Connect the center hose to the air pressure port, and then the lateral hose to the uterine hemorrhage fluid port inside the abdomen.

UTERINE PRESSURE

Use bimanual massage to shrink the “boggy” uterus into a smaller and firmer condition. Adjust the uterine pressure using the control in the Details tab, or a palette item. Uterine pressure settings are also programmable into both linear and branching scenarios.



Hemorrhaging

Simulate cervix or birth canal hemorrhage complications with real fluid. Follow the steps below to fill the hemorrhage fluid reservoir and start the hemorrhage.

Warning:
Prior to starting an exercise, always position the simulator so the post- partum hemorrhage fluid will flow away from the birth canal and the simulator itself.

Do not allow post- partum hemorrhage fluid to puddle beneath the simulator or reach the lower back panel. Failure to do so will result in damage to the simulator.

FILLING THE HEMORRHAGE RESERVOIR

The hemorrhage fluid reservoir fill port is located behind the right knee. Using the “PPH Fill Kit Syringe”, fill the PPH reservoir with water or diluted Gaumard simulated blood mix. The hemorrhage reservoir has a maximum capacity of 850 mL or approximately 15 fill kit syringes.

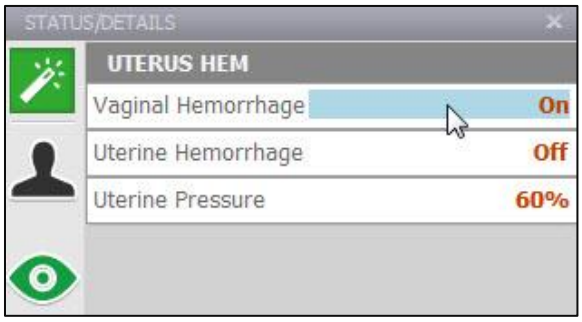
Warning:
Only use Gaumard provided simulated blood. Any other simulated blood brand containing sugar or any additive may cause blockage and/or interruption of the vasculature system.

At the end of every simulation, always flush the system with distilled water to prevent clogging.

Do not overfill the reservoir.

STARTING THE HEMORRHAGE

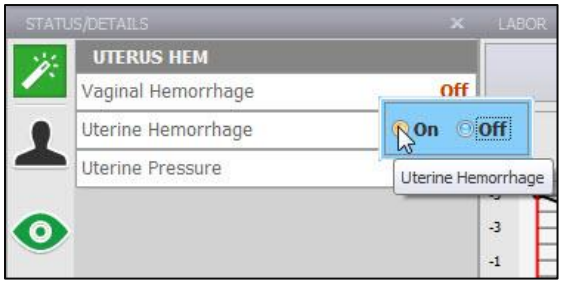
To start the bleeding, go to the Details tab and click the “Hemorrhage” feature icon to the “active” status (Blue). Then, click the Apply **NOW** button to submit the change and start the hemorrhage.



To stop the hemorrhage, click the control icon to black (disabled) and then click apply **NOW**.

If the uterus insert is connected to the uterine hemorrhage fluid port inside the abdomen,

activate the “Uterine Hemorrhage” option to start bleeding from the cervix.



UNI includes several built-in labors preprogrammed with post-partum hemorrhage activity. For more information, go to page 28 for more information.

Episiotomy Repair

To perform episiotomy repair exercises, remove the birth canal used during delivery and snap-in the episiotomy holder into place. Finally, snap the episiotomy insert into the holder. Use a “000” size suture and small curved needle to repair the surgical incision or repair. For replacement episiotomy inserts part number information go to page 140.

Systemic

INTRAMUSCULAR INJECTION SITES

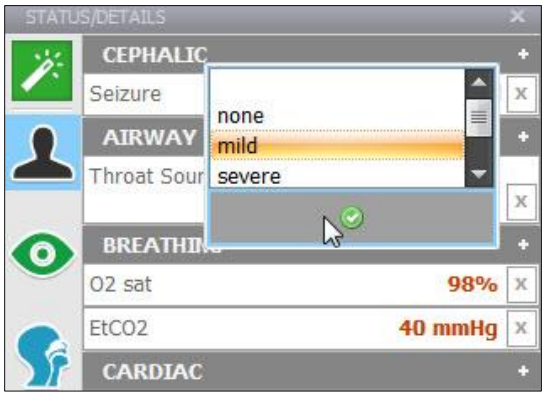
IM sites for placement exercises are located on both deltoids and quadriceps.

Warning:
Do not inject fluids into the IM sites.

Other

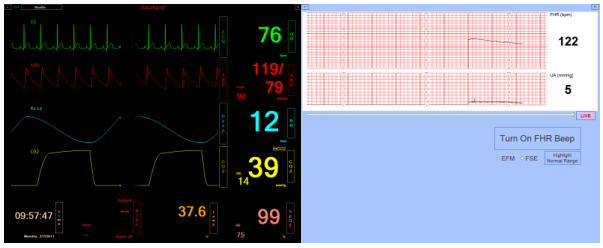
SEIZURES

NOELLE is outfitted with a convulsion mechanism that can be used in conjunction with scenarios, preeclampsia for example.



Vital Signs Monitor

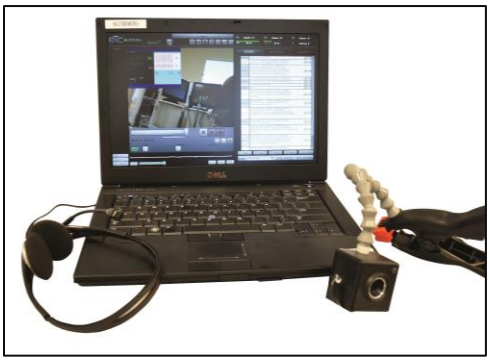
The vital signs monitor simulates a vital signs monitor attached to the simulated patient. The vital signs are synchronized through a wireless network between the facilitator's tablet and the computer running the monitor. You can customize each trace independently of each other; users can set alarms, time scales, boundaries and grid options.



For information on how to setup Gaumard Monitors with GUI, please refer to the Appendix.

MICRO + (OPTIONAL)

The Micro+ system is an all-in-one debriefing and simulator control solution for facilitators working in a lab or mobile environment. The system combines UNI and powerful audio/video recording software in one control laptop.



Working with Newborn

Airway

Newborn's airway can be intubated orally using LMA or endotracheal tubes and nasally using a nasogastric tube.

Procedure	Recommended Device Size
Intubation (Blade size)	Miller 0
LMA	Size 1
Nasal Intubation	8 Fr catheter
Oral Intubation	ETT 3.0 no cuff, 6 Fr suction catheter

Warning:
Always lubricate tubing, airway and nasal opening prior to performing any nasal or oral intubation. Failure to do so will make intubation very difficult and is likely to result in damage.

Do not place silicone oil directly into the mouth and airway.

The nasogastric intubation feature is used for placement techniques only. Fluids cannot be inserted through nasogastric tubes as internal damage will result.

Breathing

Control the breathing and lung sounds synchronized with selectable breathing patterns.

Use a BVM which will seal around the mouth and nose. The ribs have normal anatomic landmarks and the lungs permit an adequate chest rise. Normal CPR procedures can be followed with aid of UNI's CPR trainer.

Cardiac

Newborn is equipped with several realistic heart sounds which are tied to heart rates and selectable rhythms.

Circulation

Newborn's software controlled umbilical pulse is blood pressure and heart rate dependent.

To install or the umbilical cord, first turn the simulator off (by clicking on File, Exit on the UNI software), or set the manikin on STAND-BY mode. The replacement of the umbilical cords should also be done while the manikin is turned off or set on STAND-BY mode.

Warning:
Do not remove or install umbilical cord while Newborn is in ON.

Newborn's umbilical cord can be catheterized or injected with up to 2ccs.

To fill the umbilical cord with fluid, inject any of the three blood vessels with 2 cc of water using the fill syringe. For catheterization, use a 6 Fr urethral round tip catheter lubricated with silicon oil.

The umbilical cord can be trimmed or clipped for simulations and is therefore considered a consumable item.

Cephalic

Newborn displays central and peripheral cyanosis at various intensities – healthy, mild, and severe.

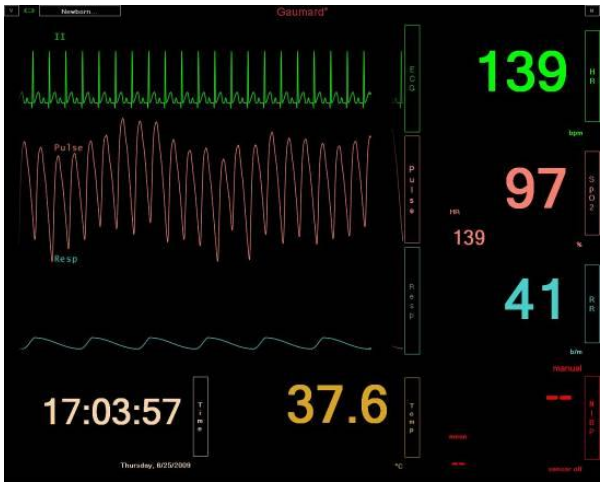
Systemic

Intramuscular Injection sites are located on both deltoids and quadriceps for placement and technique exercises.

Other

VITAL SIGNS MONITOR

The Virtual Signs Monitor simulates a vital signs monitor attached to Newborn. The vital signs are synchronized through a wireless network between the facilitator's tablet and the computer running the monitor. Each trace can be customized independently of each other; users can set alarms, time scales, boundaries and grid options. In addition, it allows the facilitator to display lab reports, x-rays, and other files on the virtual monitor screen for use by the provider.



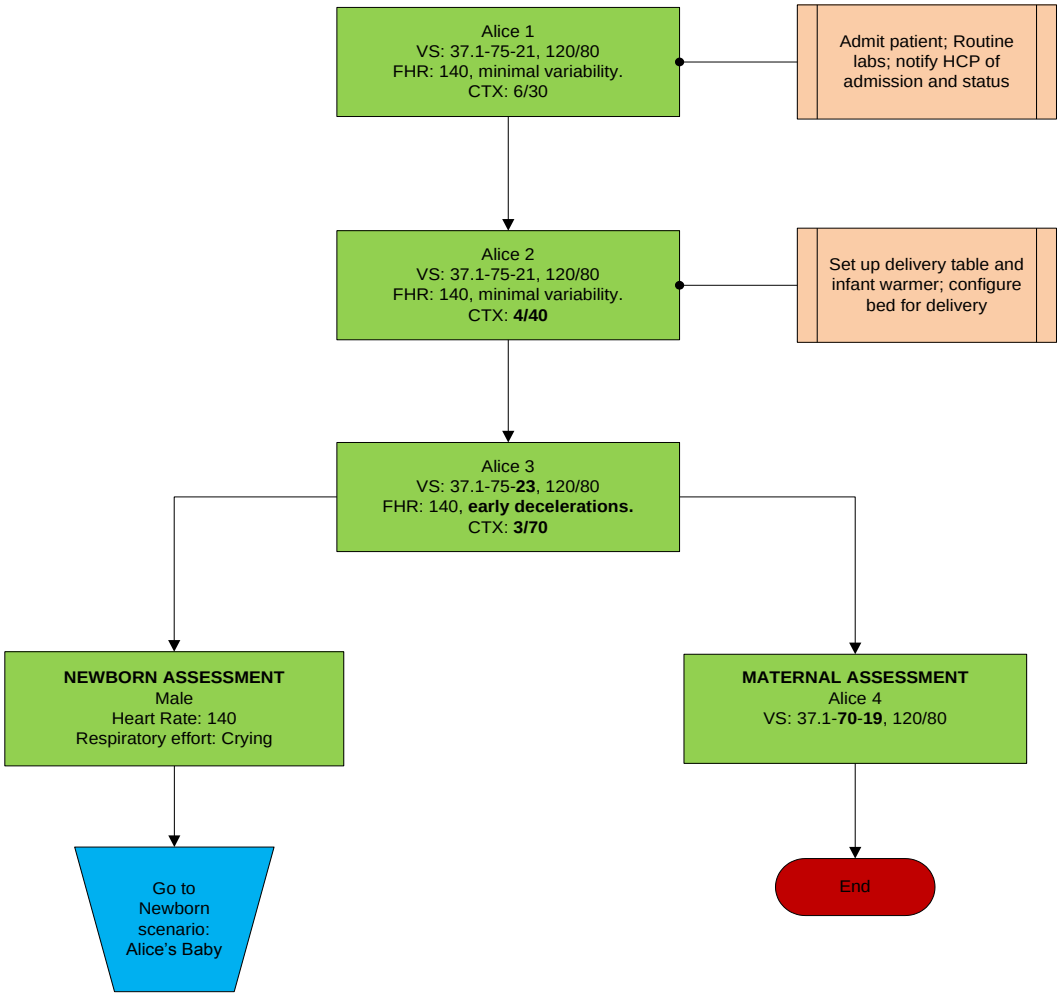
Appendix

Factory Preset Labor Scenarios

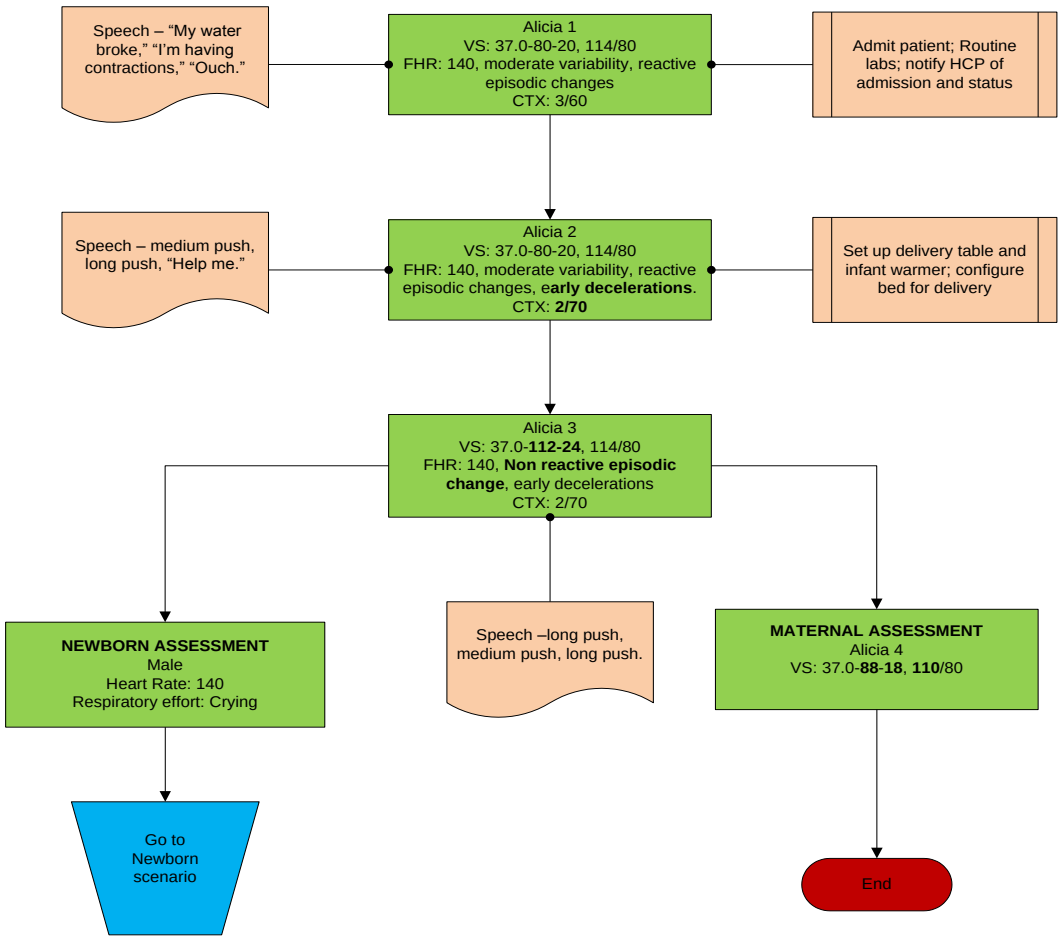
QUICK START SCENARIOS

	Scenario Name	Labor Type
1	Alice	Normal
2	Alicia	Variations on Normal
3	Amy	Variations on Normal
4	Angelica	Variations on Normal
5	Beth	Variations on Normal
6	Cynthia	Shoulder Dystocia
7	Donna	Breech
8	Elaine	Preeclampsia
9	Francine	Cesarean Delivery
10	Gloria	Cord Prolapse
11	Helen	Hemorrhage
12	Irene	Cesarean Delivery

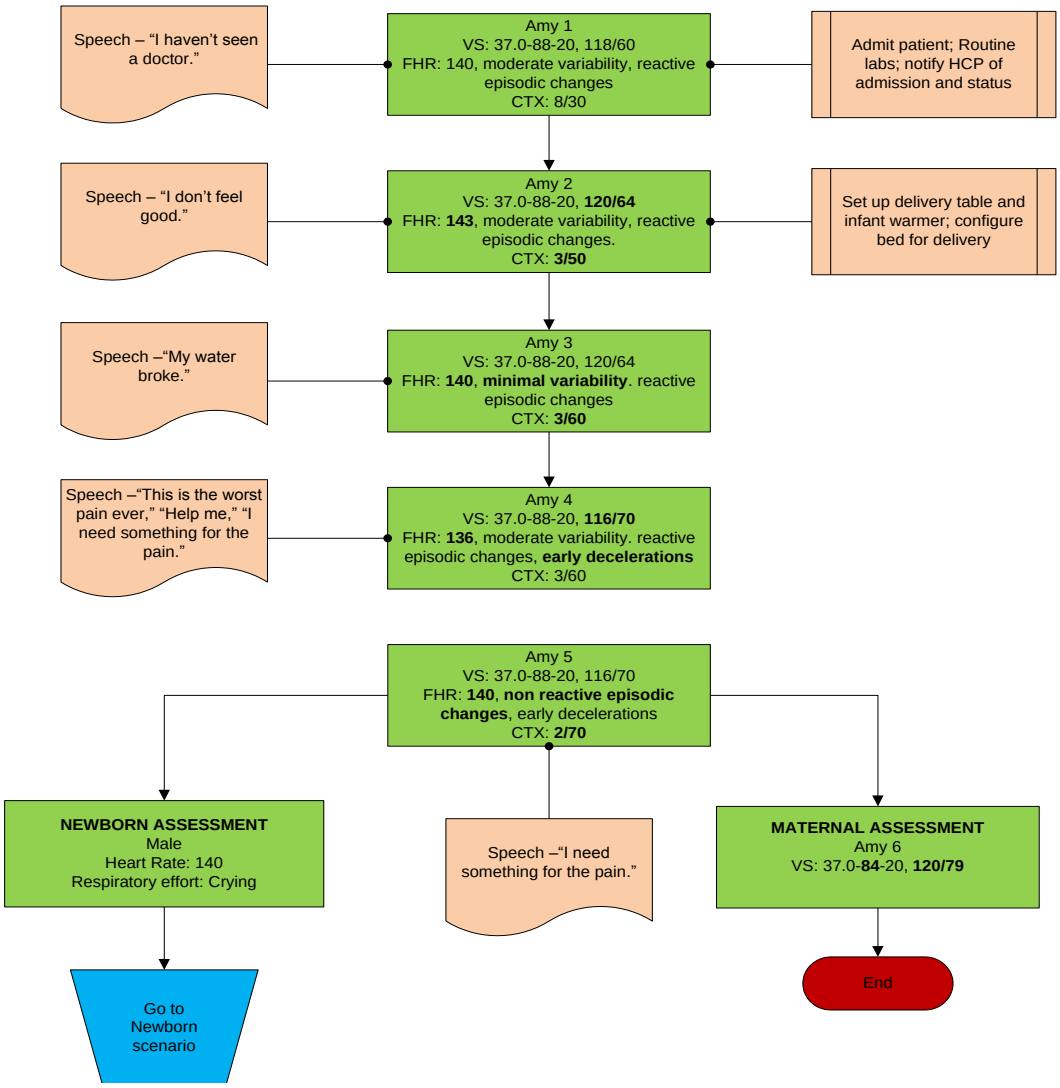
Gaumard® Simulators for Health Care Education	Noelle® - Labor Scenario **Alice** Normal
Alice is a 24 year old female, weighing 170 pounds. Her OB history shows a gravida of 2 and a term of 1. She is currently 39 weeks pregnant and has one living child. She has had prenatal care. She has not been using medications of any kind. Labor duration: 30 minutes.	



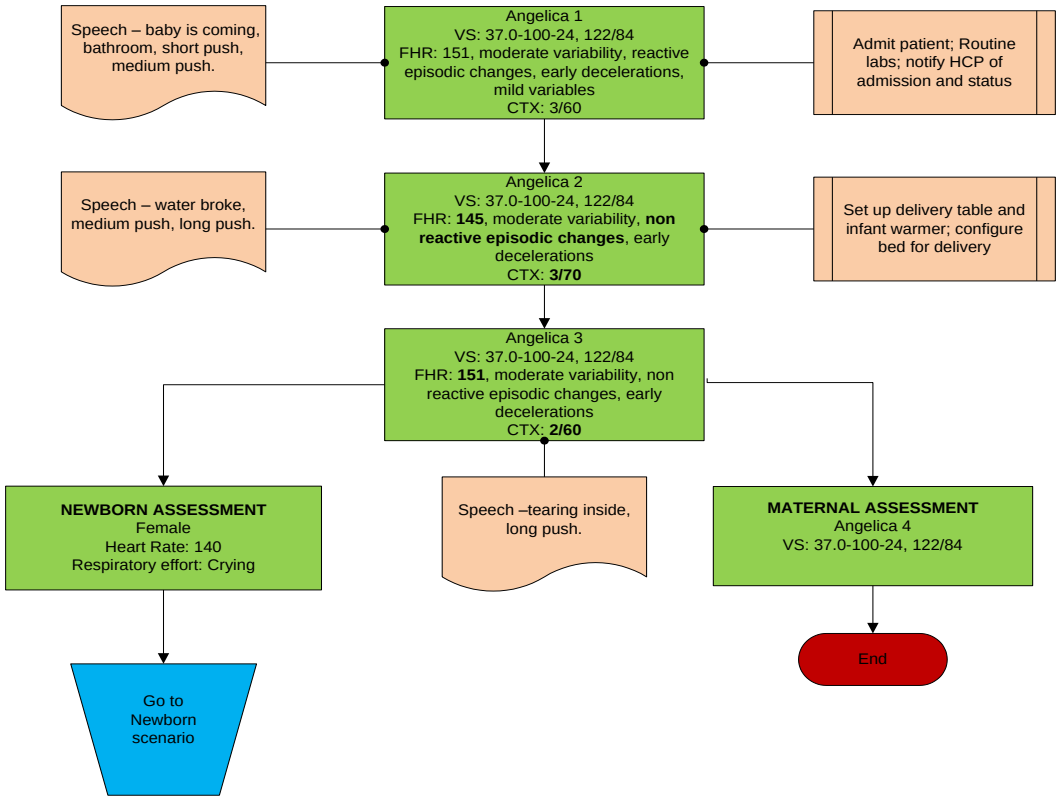
Gaumard® Simulators for Health Care Education	Noelle® - Labor Scenario **Alicia** Variations on Normal
Alicia is a 24 year old gravida 2/1 at 39 weeks. She weighs 160 pounds. She has had prenatal care. She has not been using medications of any kind. Labor duration: 20 minutes.	



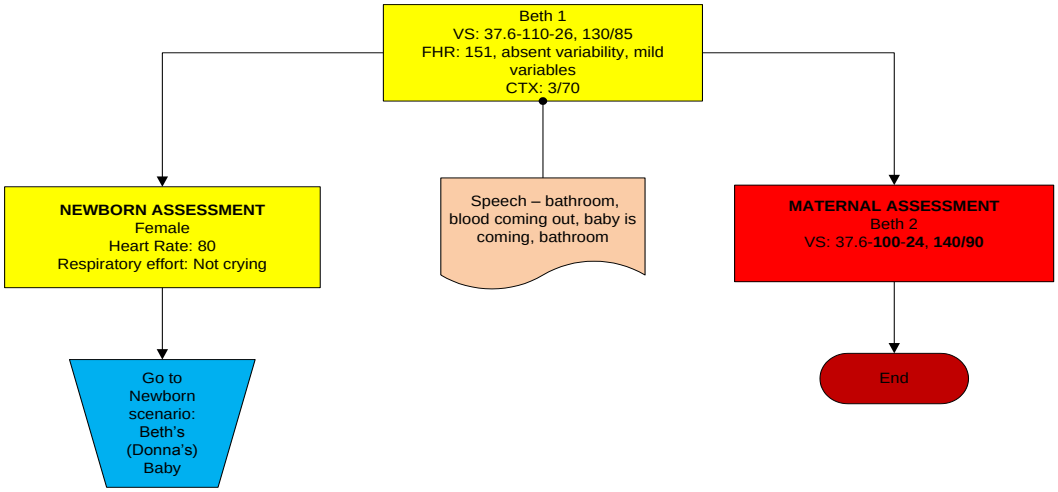
Gaumard® Simulators for Health Care Education	Noelle® - Labor Scenario **Amy** Variations on Normal
Amy is 19 years and she weighs 160 lbs. Her OB history shows a gravida of 1. She is currently 40 weeks pregnant. She enters LD accompanied by her mother. Labor duration: 30 minutes.	



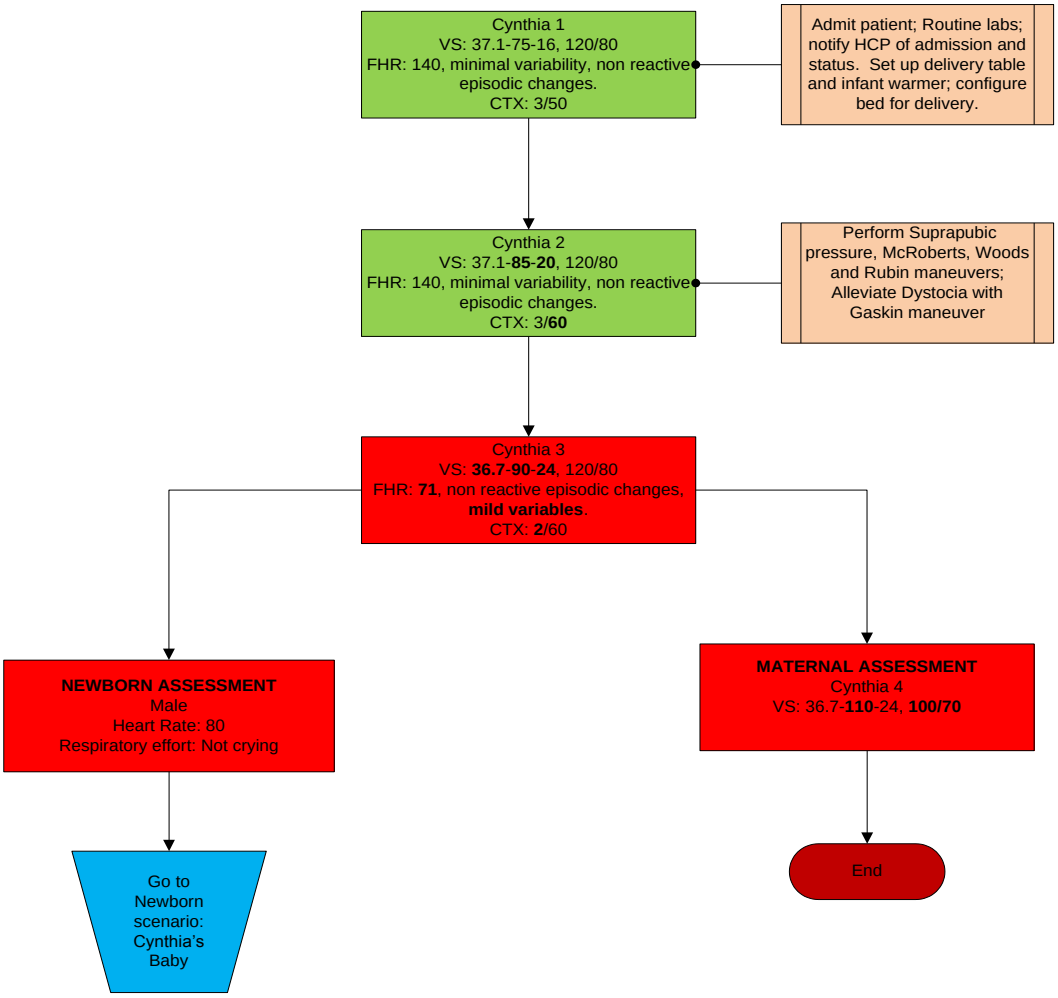
Gaumard® Simulators for Health Care Education	Noelle® - Labor Scenario **Angelica** Variations on Normal
Angelica is a 31 year old gravida 5/3 at 41 weeks. She weighs 160 lbs. She has experienced no prenatal complications and has a history of fast labors. Labor duration: 20 minutes.	



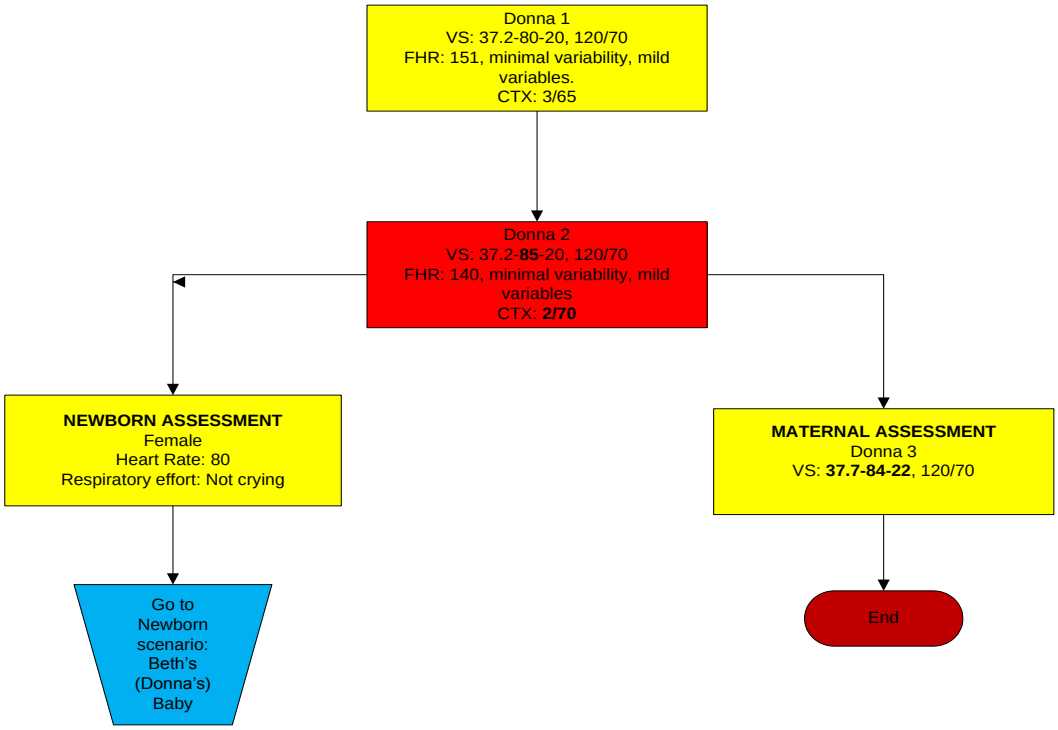
Gaumard® Simulators for Health Care Education	Noelle® - Labor Scenario **Beth** Variations on Normal
Beth is a 16 year old gravida 2/0 at 37 weeks. She has had one elective abortion. She has had prenatal care. Labor duration: 10 minutes.	



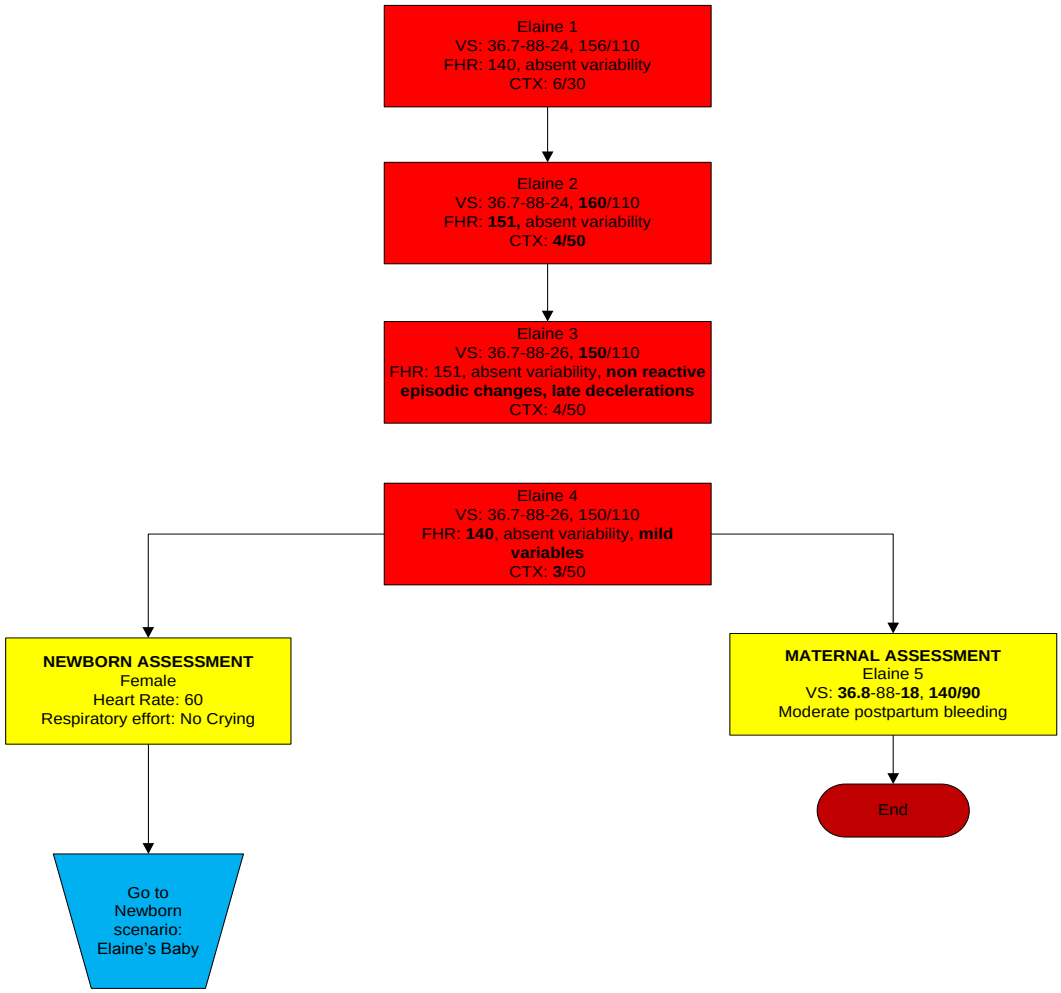
Gaumard® Simulators for Health Care Education	Noelle® - Labor Scenario **Cynthia** Shoulder Dystocia
Cynthia is a 31 year old gravida 3/1 at 41 weeks. She weighs 170 lbs. Labor duration: 30 minutes.	



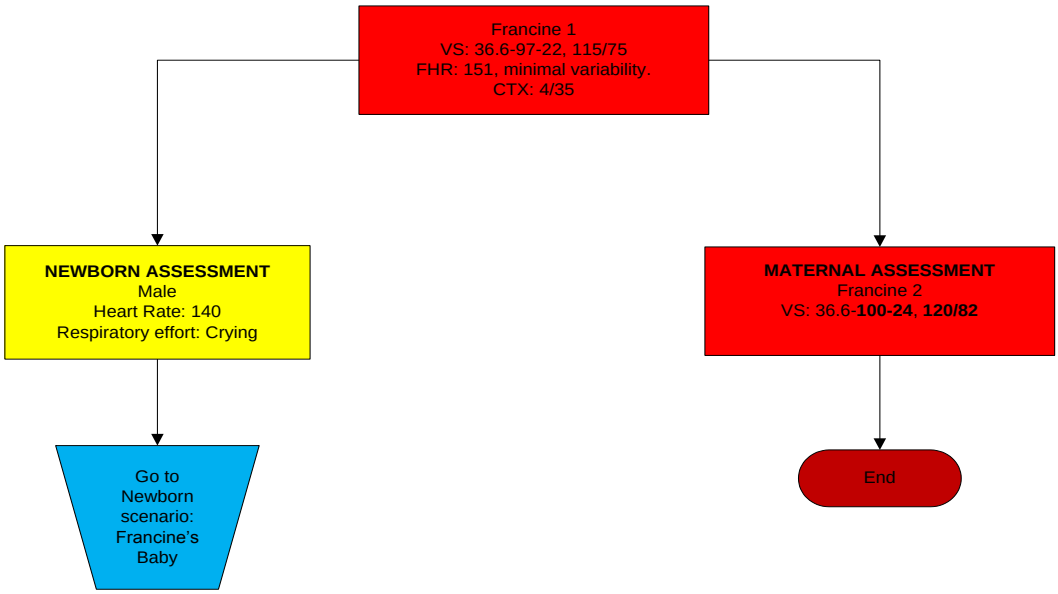
Gaumard® Simulators for Health Care Education	Noelle® - Labor Scenario **Donna** Breech
Donna is a 20 year old gravida 4/2 at 31 weeks. She weighs 180 lbs. She has had one elective abortion. She has had prenatal care. Labor duration: 20 minutes.	



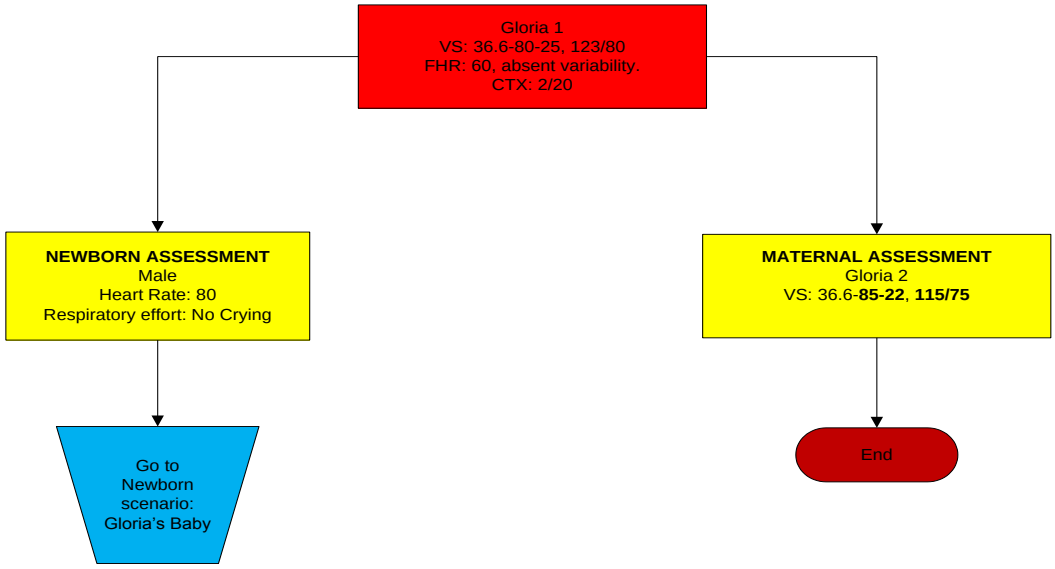
Gaumard® Simulators for Health Care Education	Noelle® - Labor Scenario **Elaine** Preeclampsia
Elaine is a 23 year old gravida 1/0 at 37 weeks. She weighs 140 lbs. She has had prenatal care. She complains of mind frontal headache. 3+tibial edema and 4+ DTRs with 2 beats clonus are noted. Labor duration: 40 minutes.	



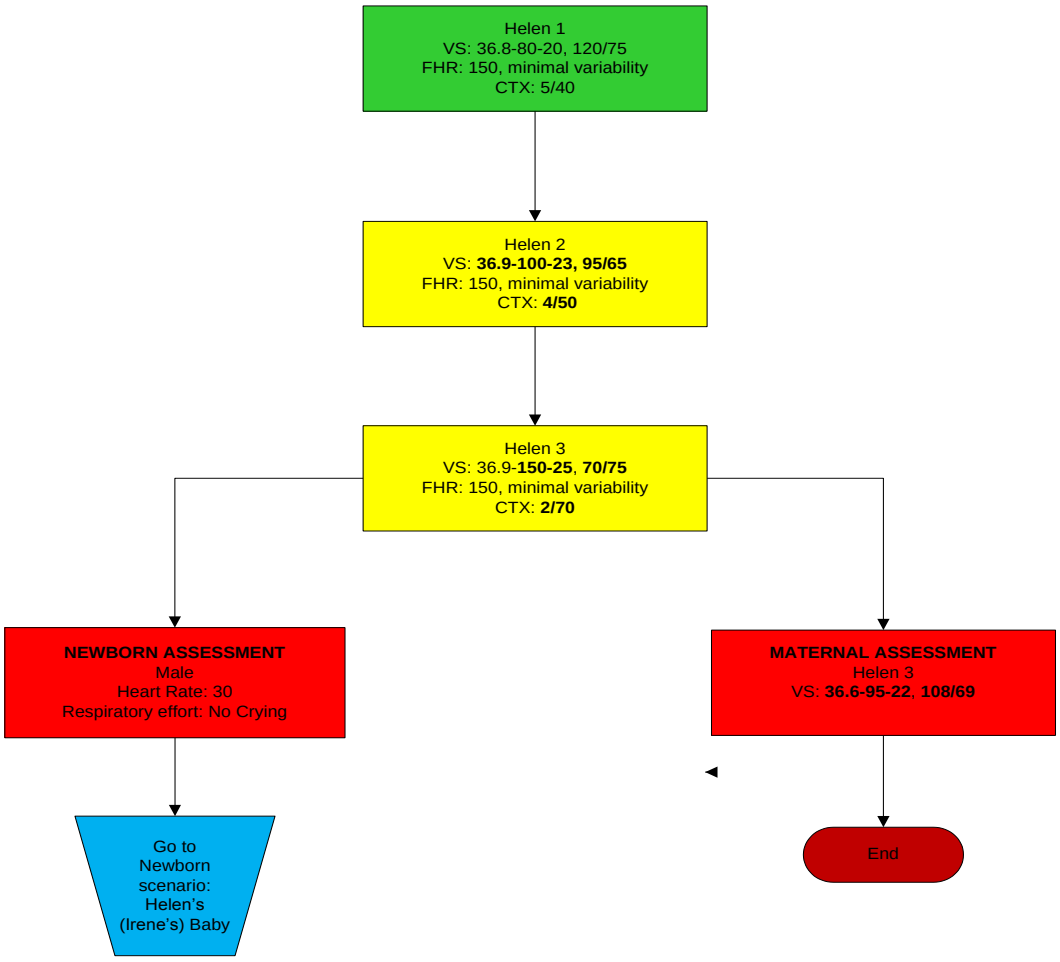
Gaumard® Simulators for Health Care Education	Noelle® - Labor Scenario **Francine** Cesarean Delivery
Francine is a 19 year old female gravida 2/1 at 37 weeks. She weighs 145 lbs. She has had prenatal care. She has STD, Herpes. Labor duration: 10 minutes.	



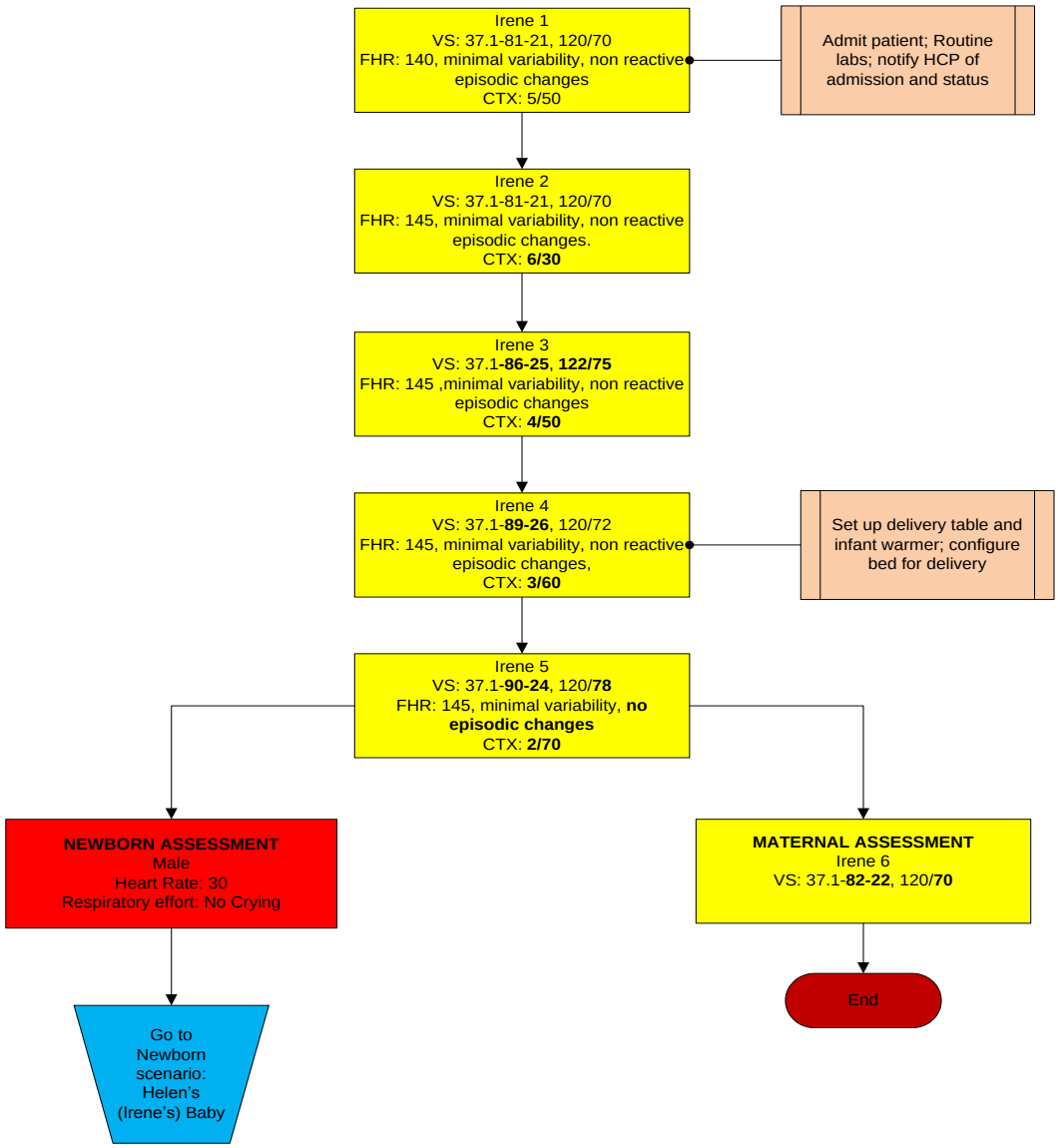
Gaumard® Simulators for Health Care Education	Noelle® - Labor Scenario **Gloria** Cord Prolapse
Gloria is a 34 years old gravida 1/0 at 25 weeks. She weighs 190 lbs. She has had prenatal care. Labor duration: 10 minutes.	



Gaumard® Simulators for Health Care Education	Noelle® - Labor Scenario **Helen** Hemorrhage
Helen is a 25 year old gravida 1/0 at 35 weeks. She weighs 180 lbs. She has had prenatal care. Labor duration: 30 minutes.	



Gaumard® Simulators for Health Care Education	Noelle® - Labor Scenario **Irene** Cesarean Delivery
Irene is a 19 year old gravida 2/0 at 29 weeks. She has had one spontaneous abortion. Labor duration: 45 minutes.	



	Scenario Name	Labor Type
1	Alyssa	Normal Labor
2	Angela	Normal Labor
3	Becca	Variations on Normal
4	Bianca	Variations on Normal
5	Candice	Shoulder Dystocia
6	Charlotte	Shoulder Dystocia
7	Dana	Breech Presentation
8	Demaris	Breech Presentation
9	Eleanor	Preeclampsia
10	Erin	Preeclampsia
11	Faye	Cord Prolapse
12	Frances	Cord Prolapse
13	Gabriella	Uterine Rupture
14	Gail	Uterine Rupture
15	Heidi	Peripartum Hemorrhage - Previa
16	Haley	Peripartum Hemorrhage - Previa
17	India	Peripartum Hemorrhage - Abruption
18	Inez	Peripartum Hemorrhage - Abruption
19	Janie	Peripartum Hemorrhage/PPH
20	June	Peripartum Hemorrhage/PPH
21	Kelly	Amniotic Fluid Embolism
22	Kimberly	Amniotic Fluid Embolism

23	**Madonna**	**Preterm Labor**
24	**Maria**	**Preterm Labor**

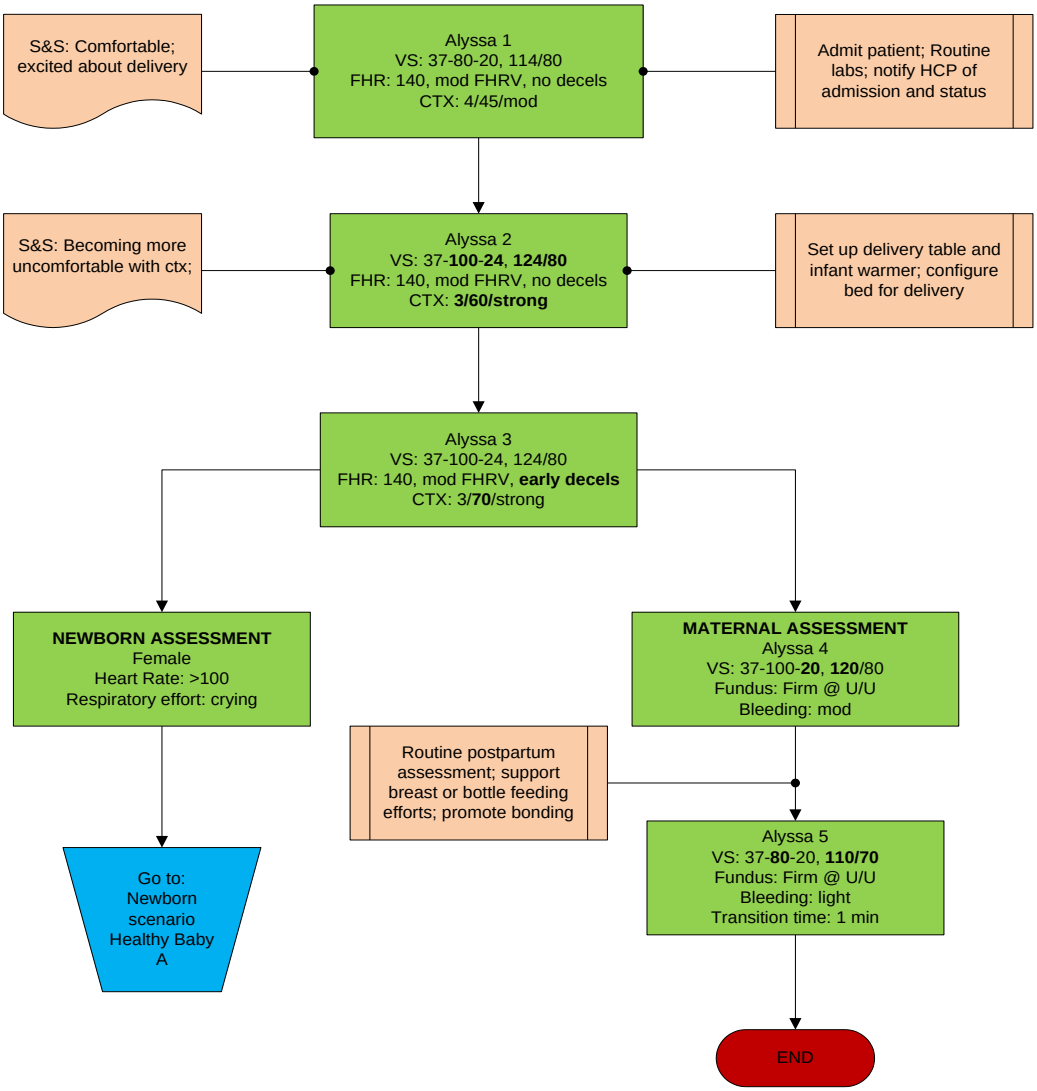
Gaumard®
Simulators for Health Care Education

Noelle S574-575® - Labor Scenario

Alyssa

Normal Labor

Alyssa is a 23 yr old primip at term. Her health is generally good and she has experienced no prenatal complications. She wishes to receive no medications and will have the CNM attending her delivery. Labor duration: 30 minutes.

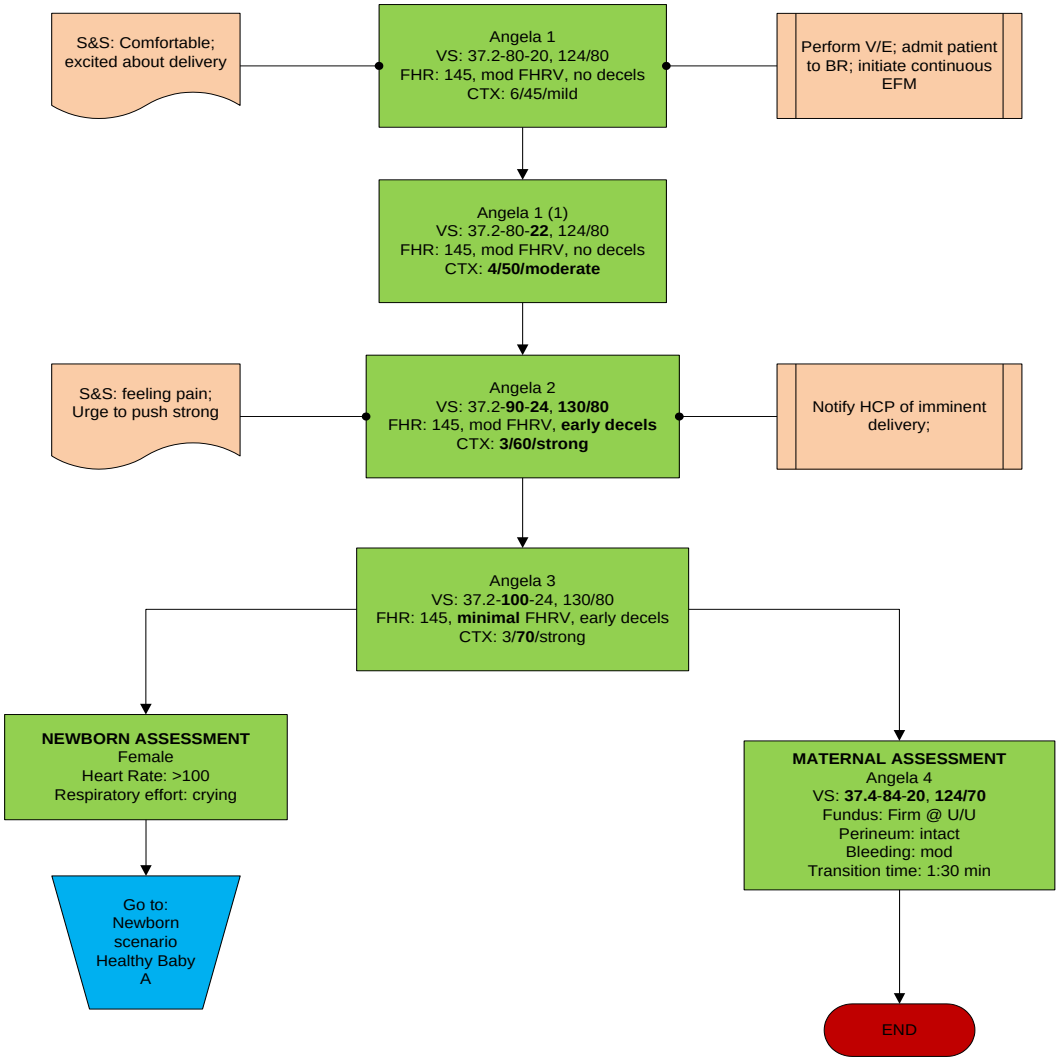


Noelle S574-575® - Labor Scenario

Angela

Normal Labor

Angela is a 31 yr old grand multip @ term. She tells the triage nurse that even though she has had few contractions she came in because she has a history of rapid labors. Her general health is good and she has had no problems during this pregnancy. V/E shows the cervix to be paper thin and Angela is admitted to birthing room. Labor duration: 30 minutes.



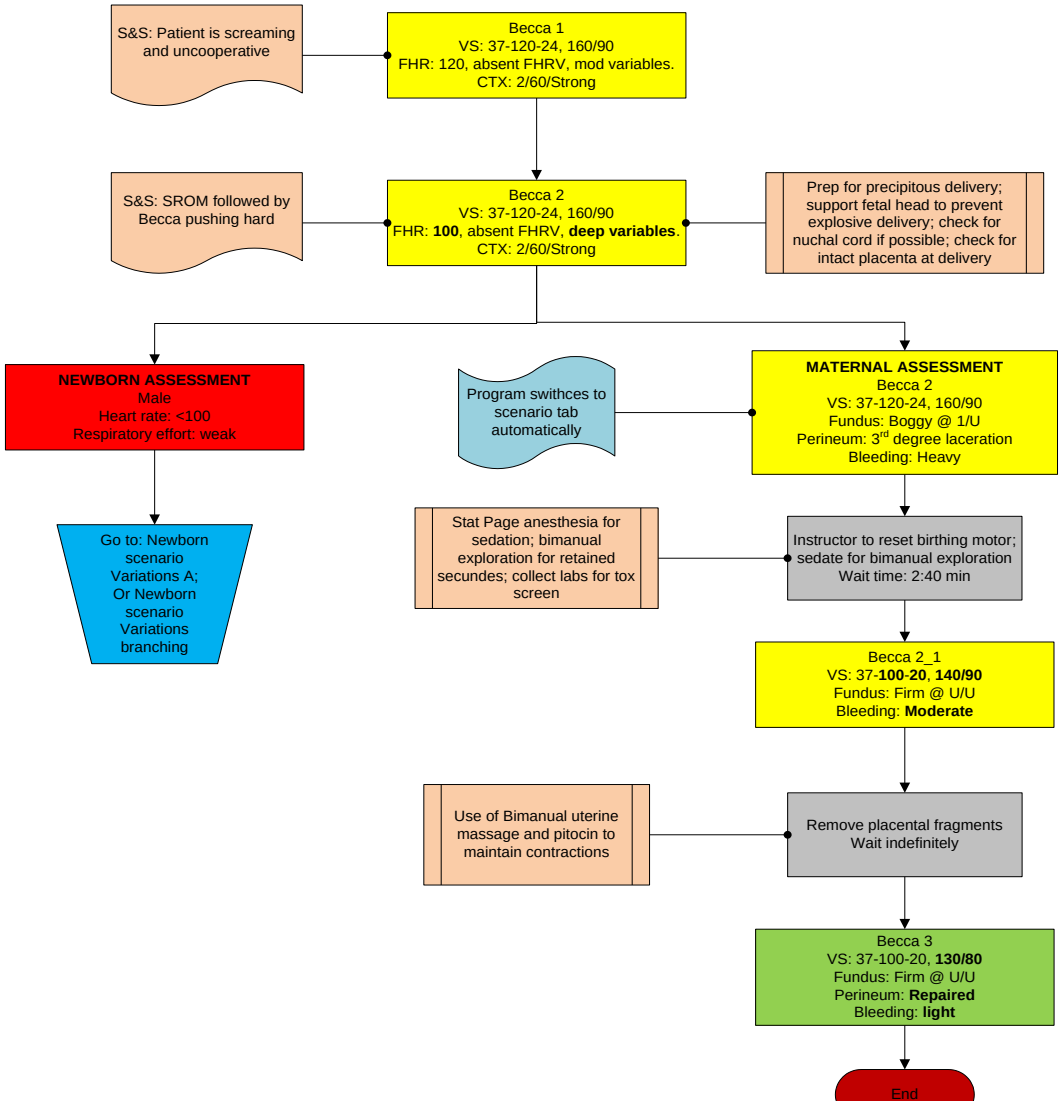
Gaumard®
Simulators for Health Care Education

Noelle S574-575® - Labor Scenario

Becca

Variations on Normal

Becca is a young pregnant teen who is living on the streets. She is a heavy smoker and drug user. She was seen twice in the Adolescent Clinic and referred to Social Services, but she only saw the social worker once and did not go to the follow-up appointment. Labor duration: 18-22 minutes.



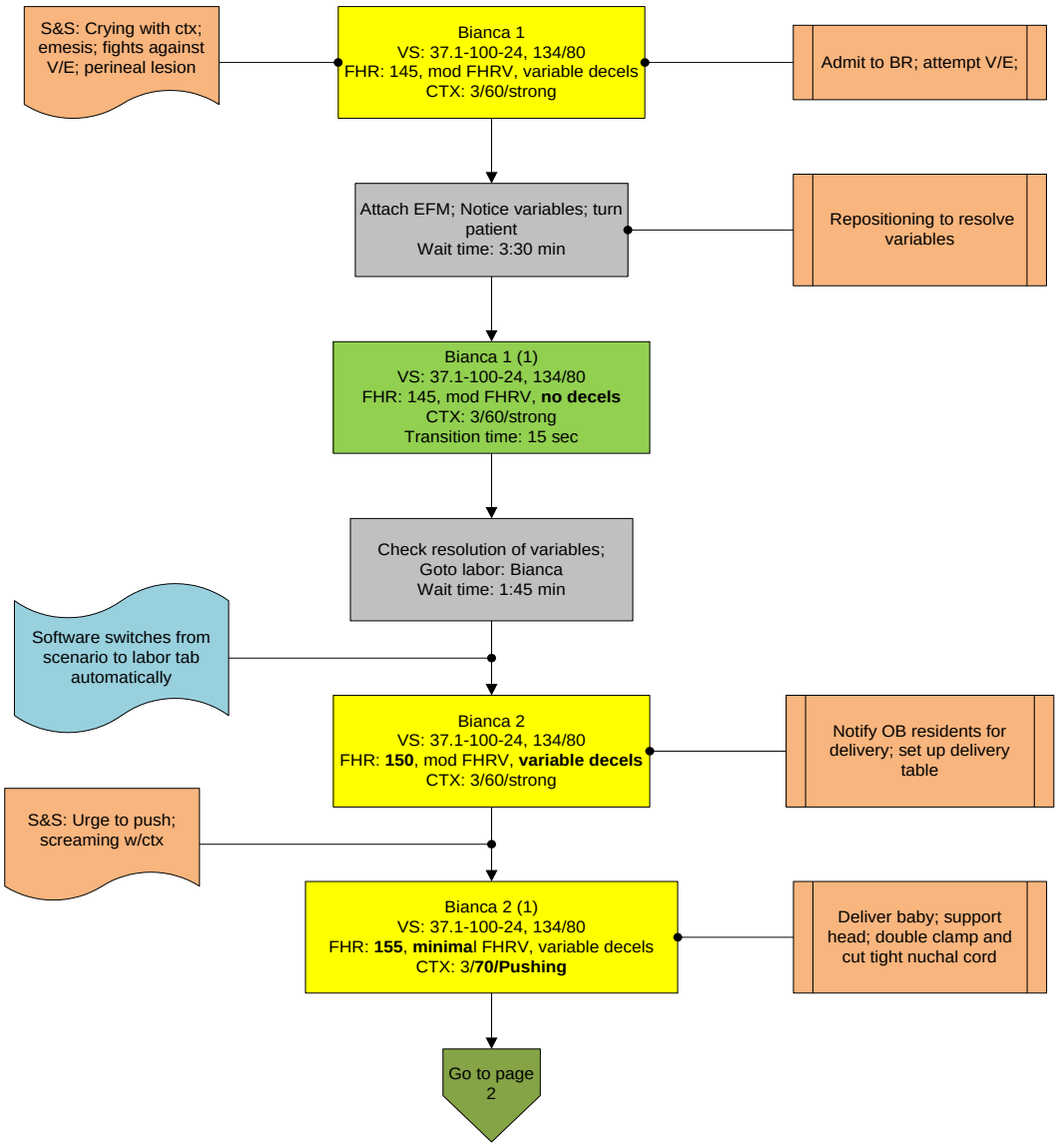
Gaumard®
Simulators for Health Care Education

Noelle S574-575® - Labor Scenario

Bianca

Variations on Normal

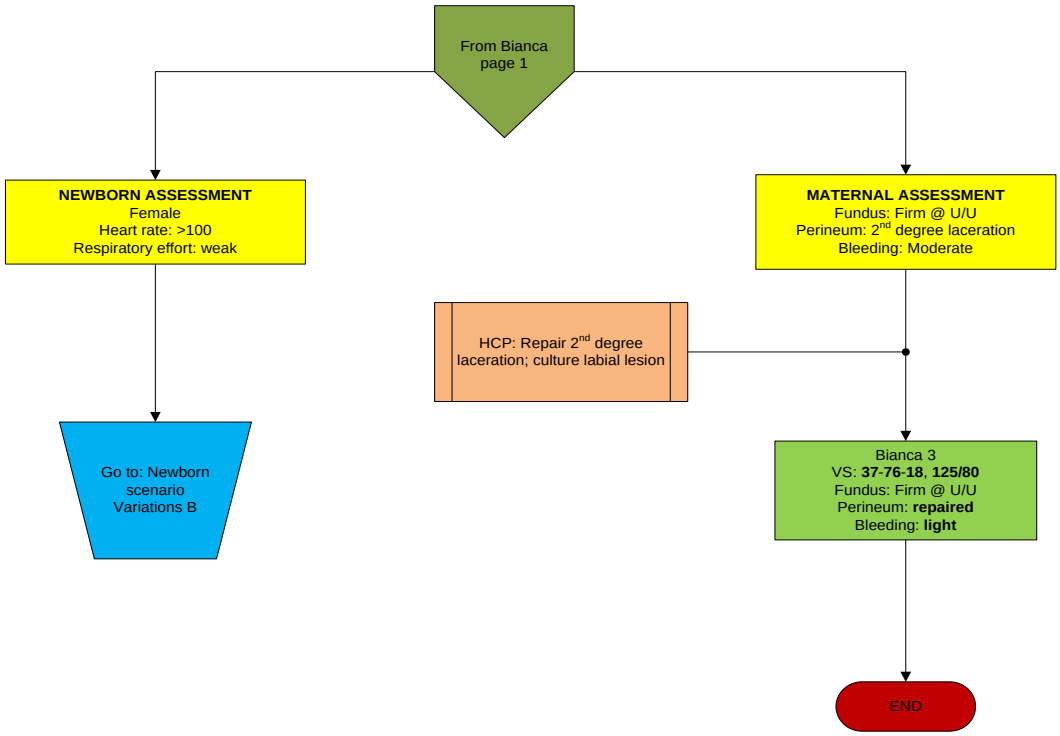
Bianca is a 16 yr old @ 38 weeks who shows up in L&D in active labor. She had a previous elective AB as a result of incest at age 13. She now lives with her boyfriend and his mother who are both with her at the hospital. Her prenatal visits have been irregular due to transportation issues. She is leaking light meconium fluid and she vomits as she is undressing. Labor duration: 25 minutes. Scenario duration: 30 minutes.



Noelle S574-575® - Labor Scenario

Bianca

Variations on Normal



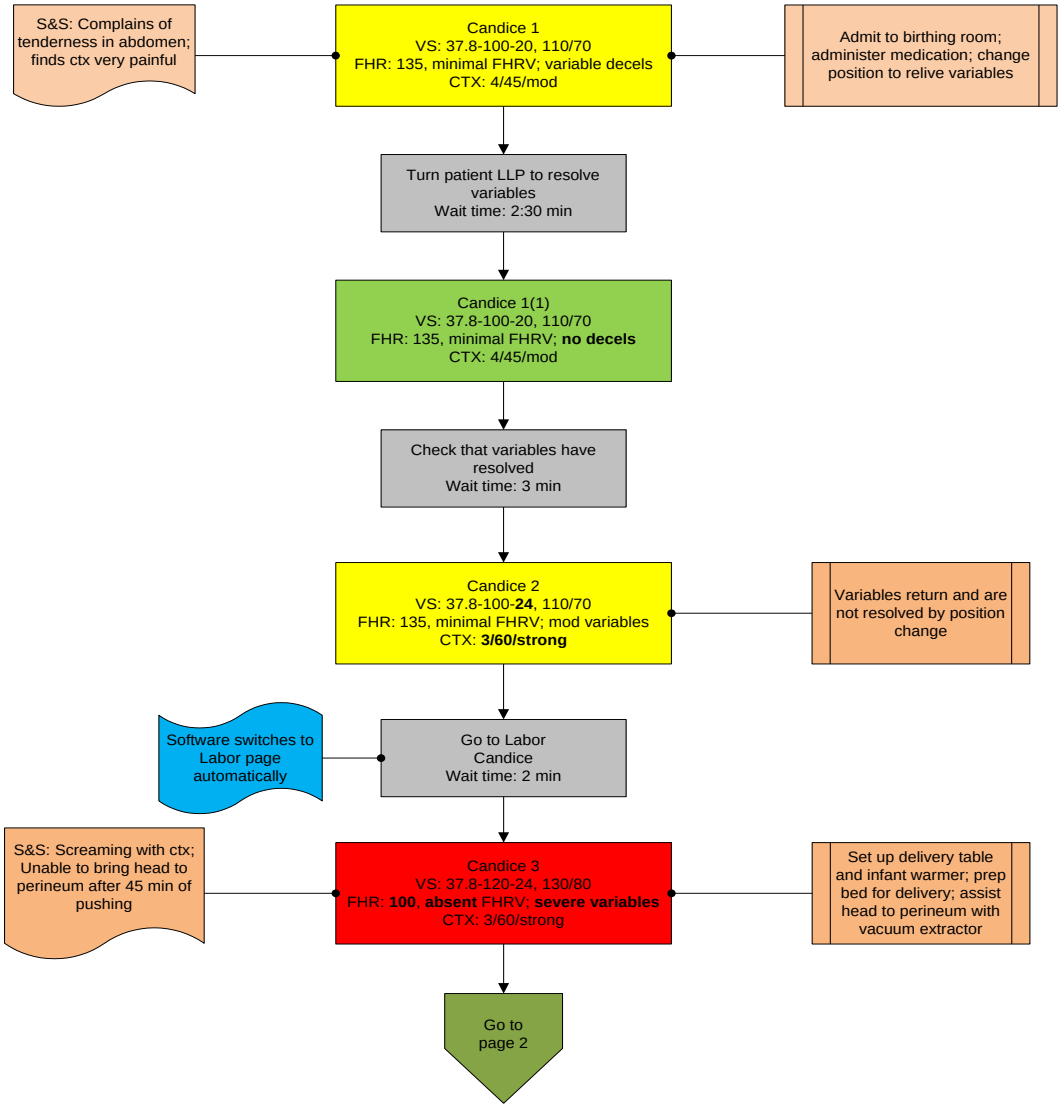
Gaumard®
Simulators for Health Care Education

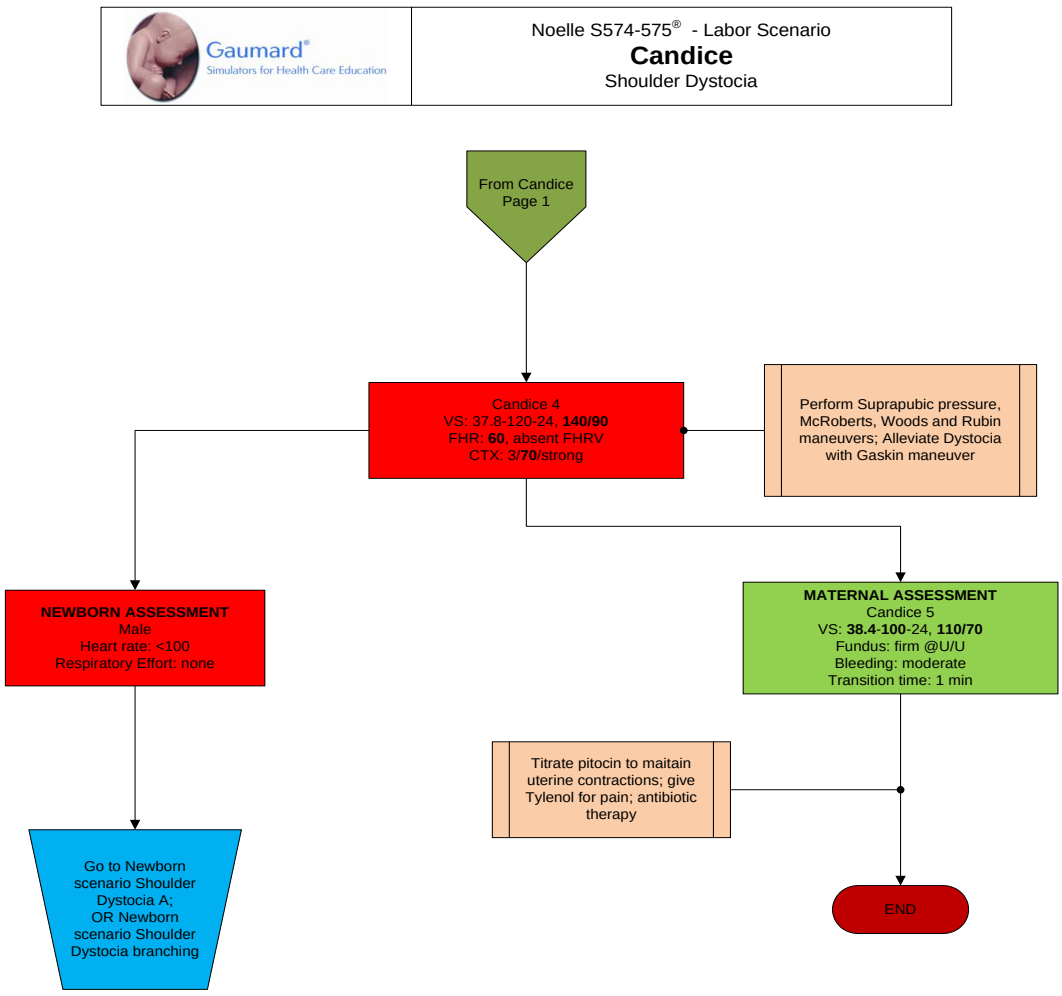
Noelle S574-575® - Labor Scenario

Candice

Shoulder Dystocia

Candice is a 19 r old multip. She, her boyfriend and their 3 yr daughter are homeless living in a car. She has not seen a doctor and believes that she is about 8 months pregnant. Her water broke yesterday and she is leaking moderately thick meconium fluid. An ultrasound is performed to determine position and gestational age. Labor duration: 15 minutes. Full scenario duration: 23-25 minutes.




Gaumard®
Simulators for Health Care Education
Noelle S574-575® - Labor Scenario
Candice
Shoulder Dystocia
From Candice Page 1
Candice 4
VS: 37.8-120-24, 140/90
FHR: 60, absent FHRV
CTX: 3/70/strong
Perform Suprapubic pressure, McRoberts, Woods and Rubin maneuvers; Alleviate Dystocia with Gaskin maneuver
NEWBORN ASSESSMENT
Male
Heart rate: <100
Respiratory Effort: none
MATERNAL ASSESSMENT
Candice 5
VS: 38.4-100-24, 110/70
Fundus: firm @U/U
Bleeding: moderate
Transition time: 1 min
Titrate pitocin to maitain uterine contractions; give Tylenol for pain; antibiotic therapy
Go to Newborn scenario Shoulder Dystocia A; OR Newborn scenario Shoulder Dystocia branching
END

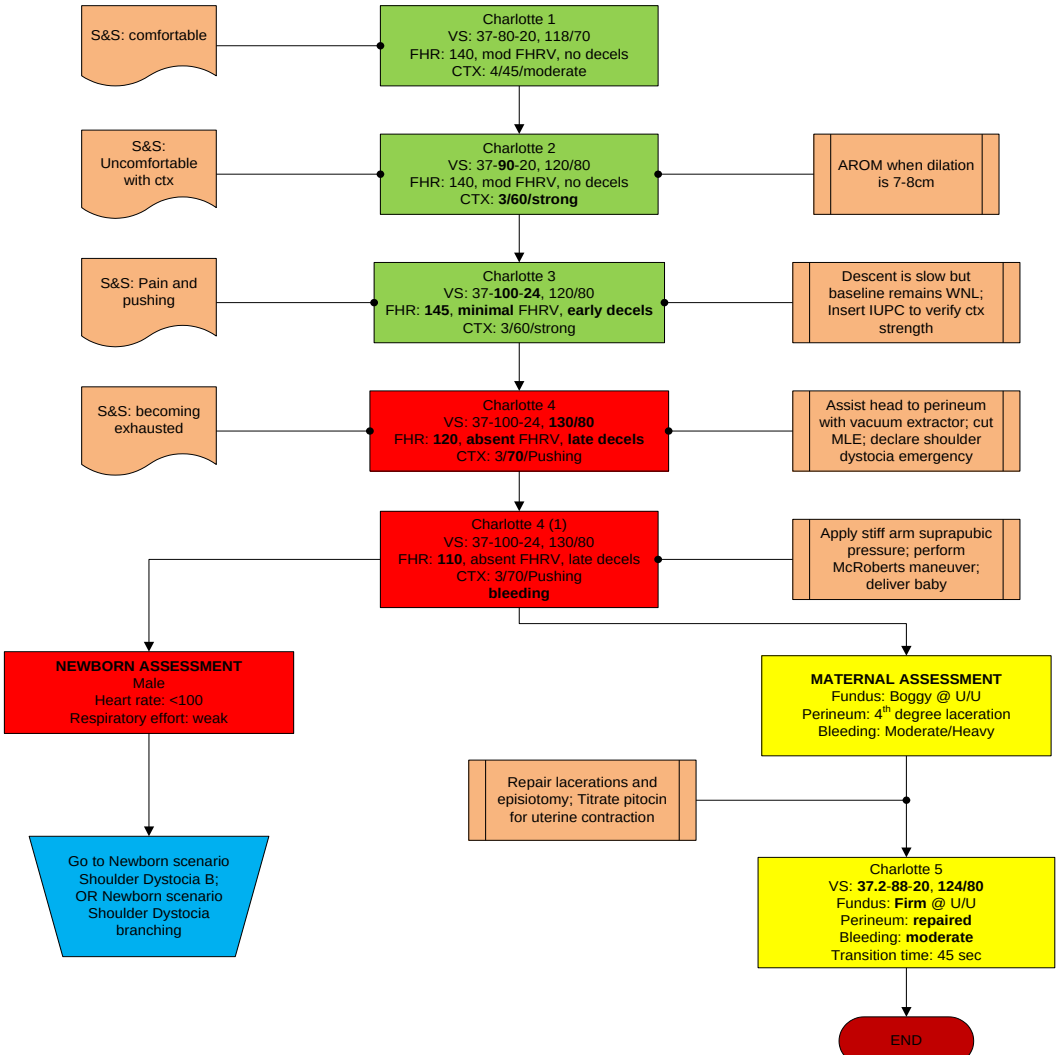
Gaumard®
Simulators for Health Care Education

Noelle S574-575® - Labor Scenario

Charlotte

Shoulder Dystocia

Charlotte is a 31 yr old gravida 3/1 @ 41+ 5/7 weeks. Her physician stripped her membranes yesterday and she began contracting during the night. She is admitted in active labor. Labor duration: 40 minutes.



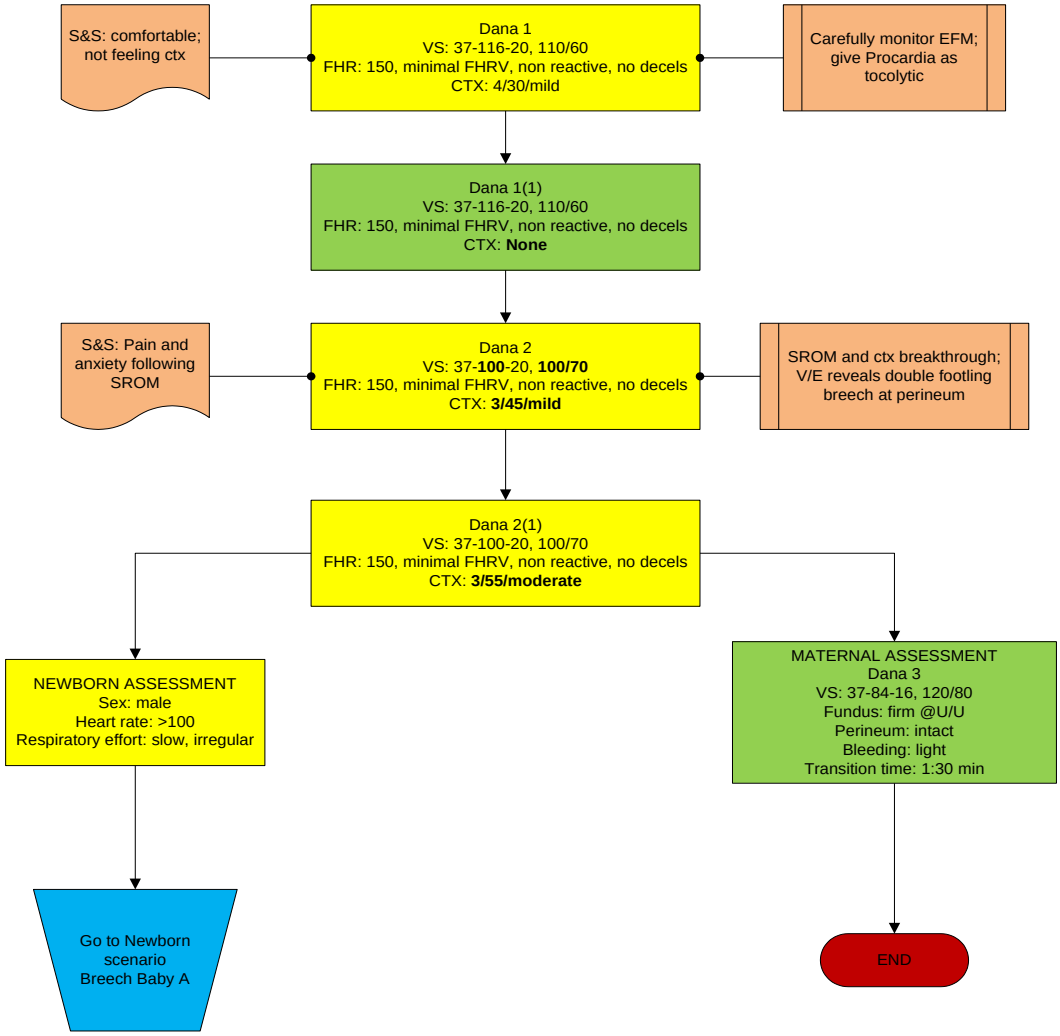
Gaumard®
Simulators for Health Care Education

Noelle S574-575® - Labor Scenario

Dana

Breech Presentation

Dana is a 24 yr old multip @ 29 weeks who was admitted because she began contracting. Upon V/E physician discovers that she is 4-5cm with bulging membranes. She was given Terbutaline subQ and then transported to the regional medical center. Labor duration: 45 minutes.

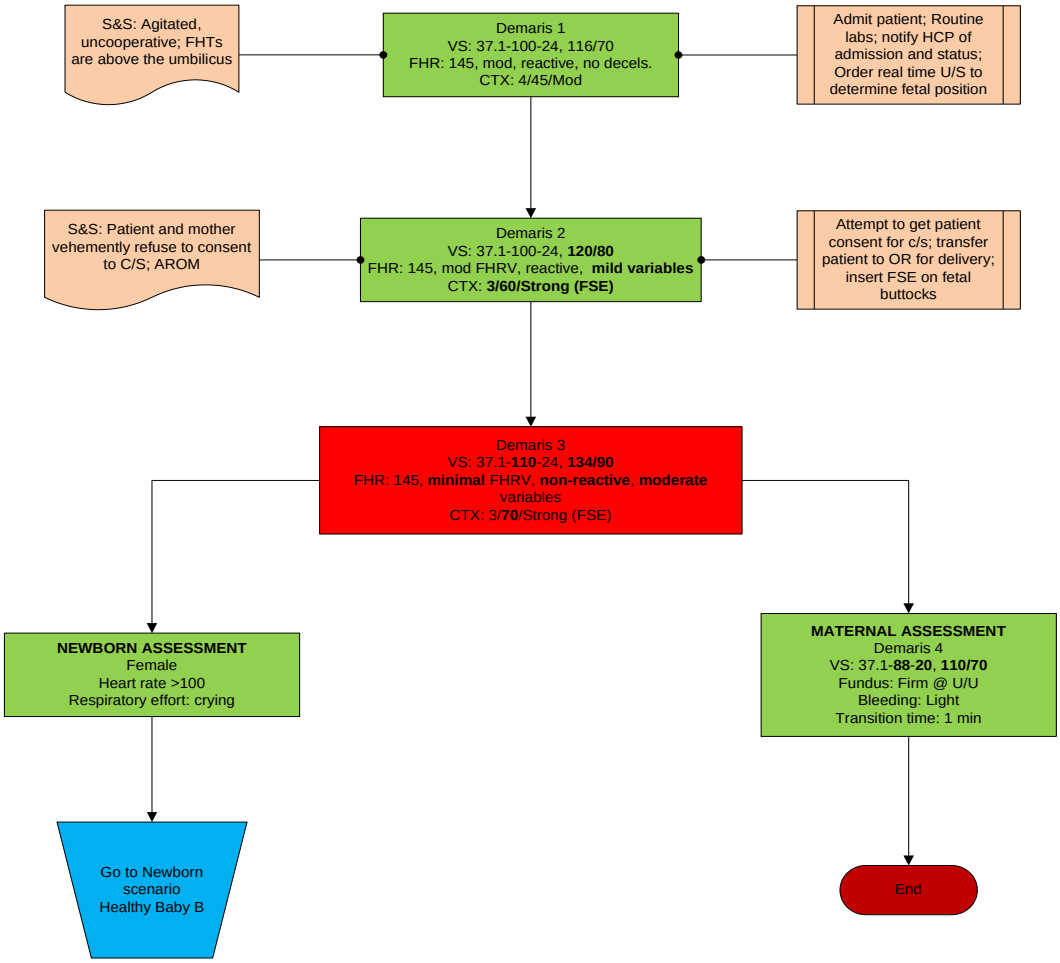


Noelle S574-575® - Labor Scenario

Demaris

Breech Presentation

Demaris is a young Hispanic teen who has received prenatal care in the Adolescent OB clinic. She kept the pregnancy a secret as long as was possible and did not attend any childbirth classes. Her plan is to return to high school while her mother cares for the baby. The baby's father will not accept any responsibility and does not wish to be involved. Labor duration: 30 minutes.

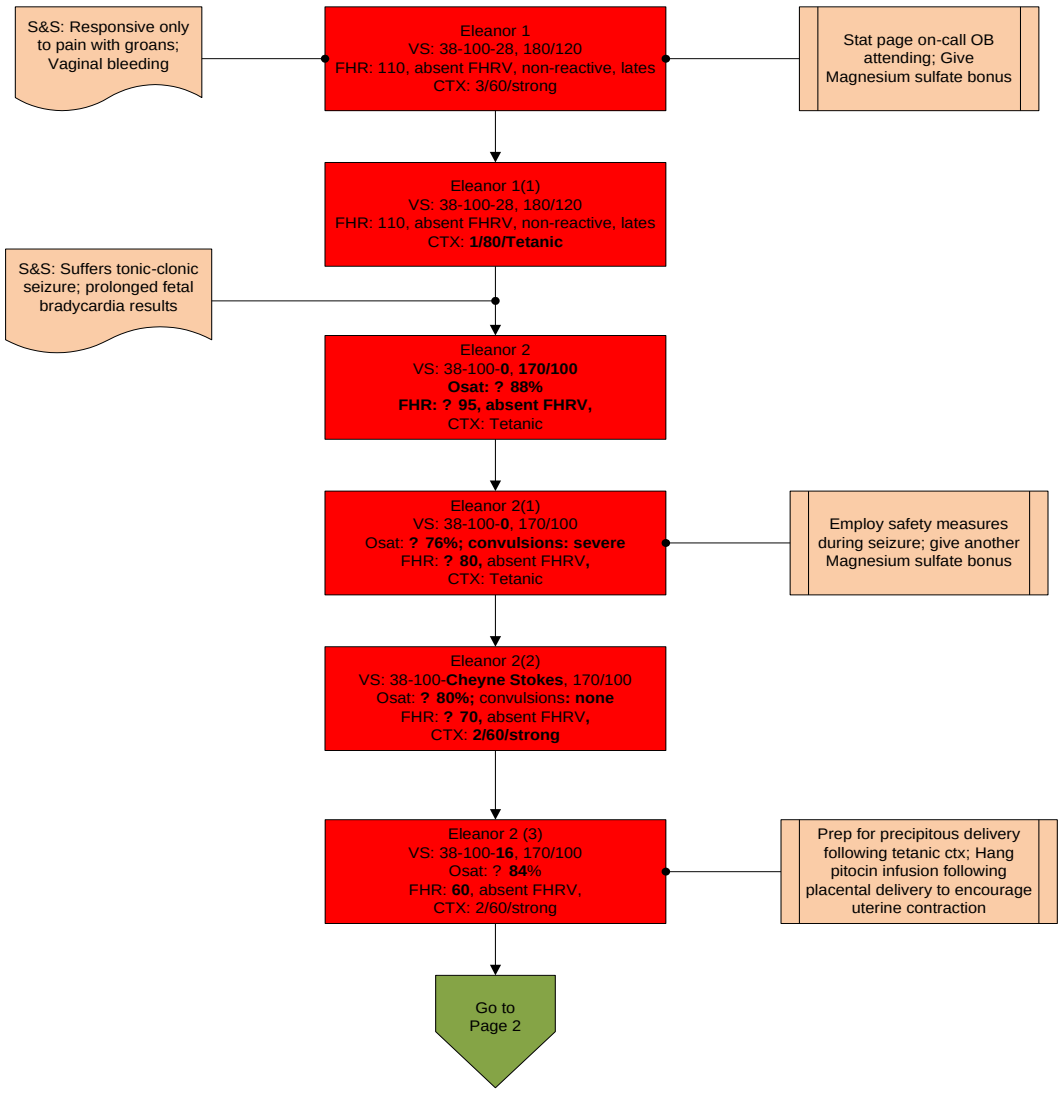


Noelle S574-575® - Labor Scenario

Eleanor

Variations on Normal

Elenor is a 19 yr old post-ictal patient being transferred to the ER by EMS. She was found convulsing in the bathroom. According to relatives she is 8½ months pregnant with her first baby. She has been on an IV during transport and her BP is 180/120. Labor duration: 20 minutes.

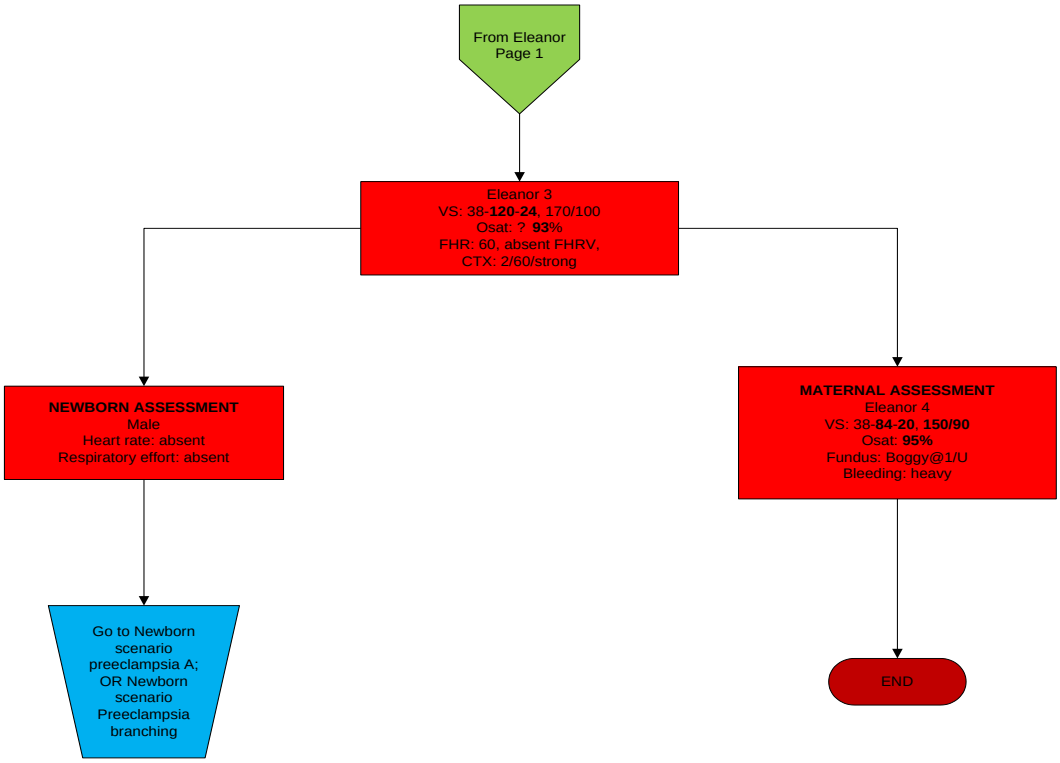


Gaumard®
Simulators for Health Care Education

Noelle S574-575® - Labor Scenario

Eleanor

Variations on Normal



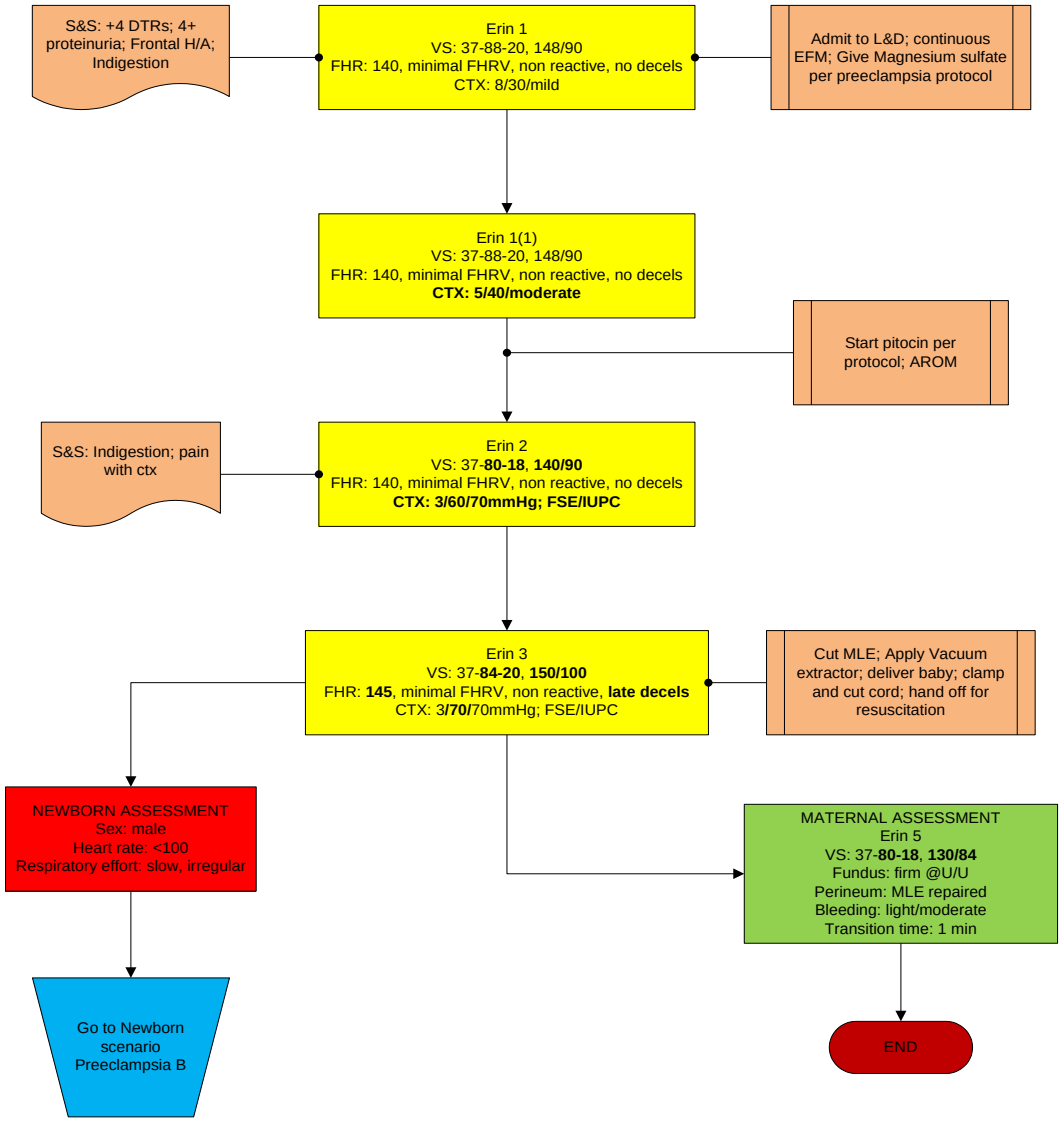
Gaumard®
Simulators for Health Care Education

Noelle S574- 575® - Labor Scenario

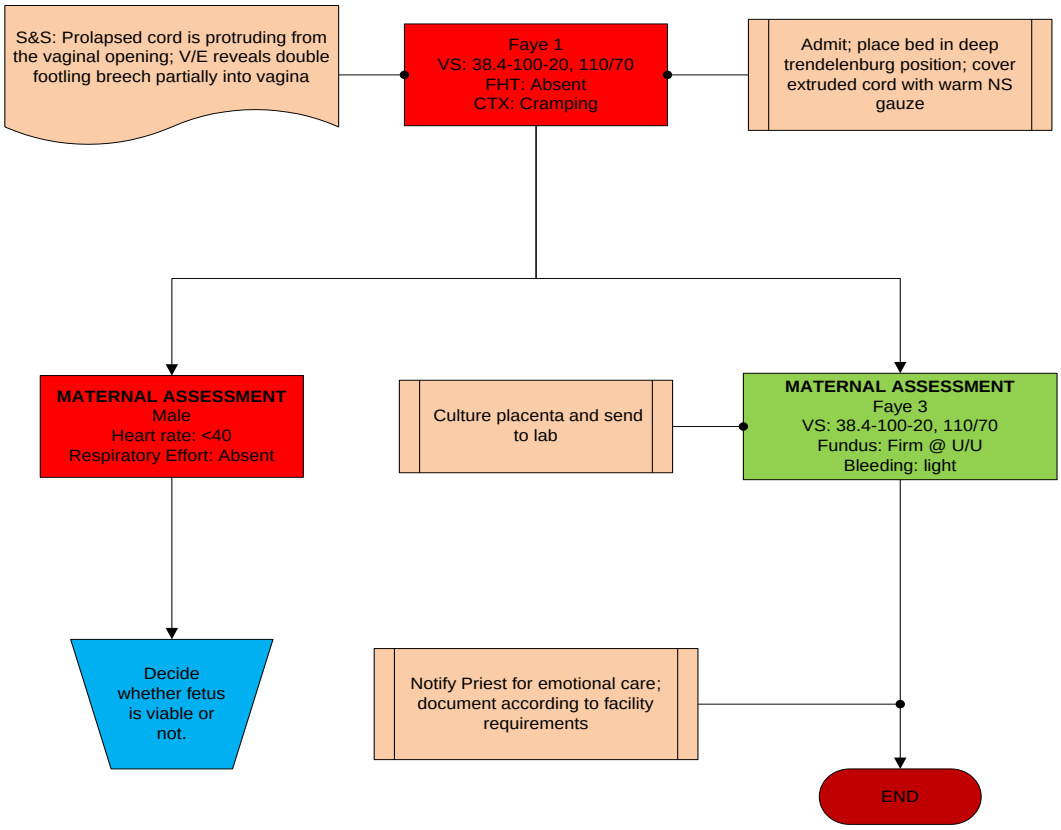
Erin

Preeclampsia

Erin is a 28 yr old @ 38 weeks admitted by her physician for preeclampsia. She is stared on Magnesium sulfate per protocol, induced with pitocin and her membranes are ruptured. Light meconium staining is noted following AROM. Labor duration: 60 minuntes.



Gaumard® Simulators for Health Care Education	Noelle S574-575® - Labor Scenario **Faye** Cord Prolapse
Faye is a 34 yr old gravida 1 @ 25 weeks' gestation. She began cramping about 3 hours ago and decided to drive herself to the hospital. She began leaking clear fluid on the way. An admitting clerk helps her into a wheel chair and takes her to L&D. Labor duration: 20 minutes.	

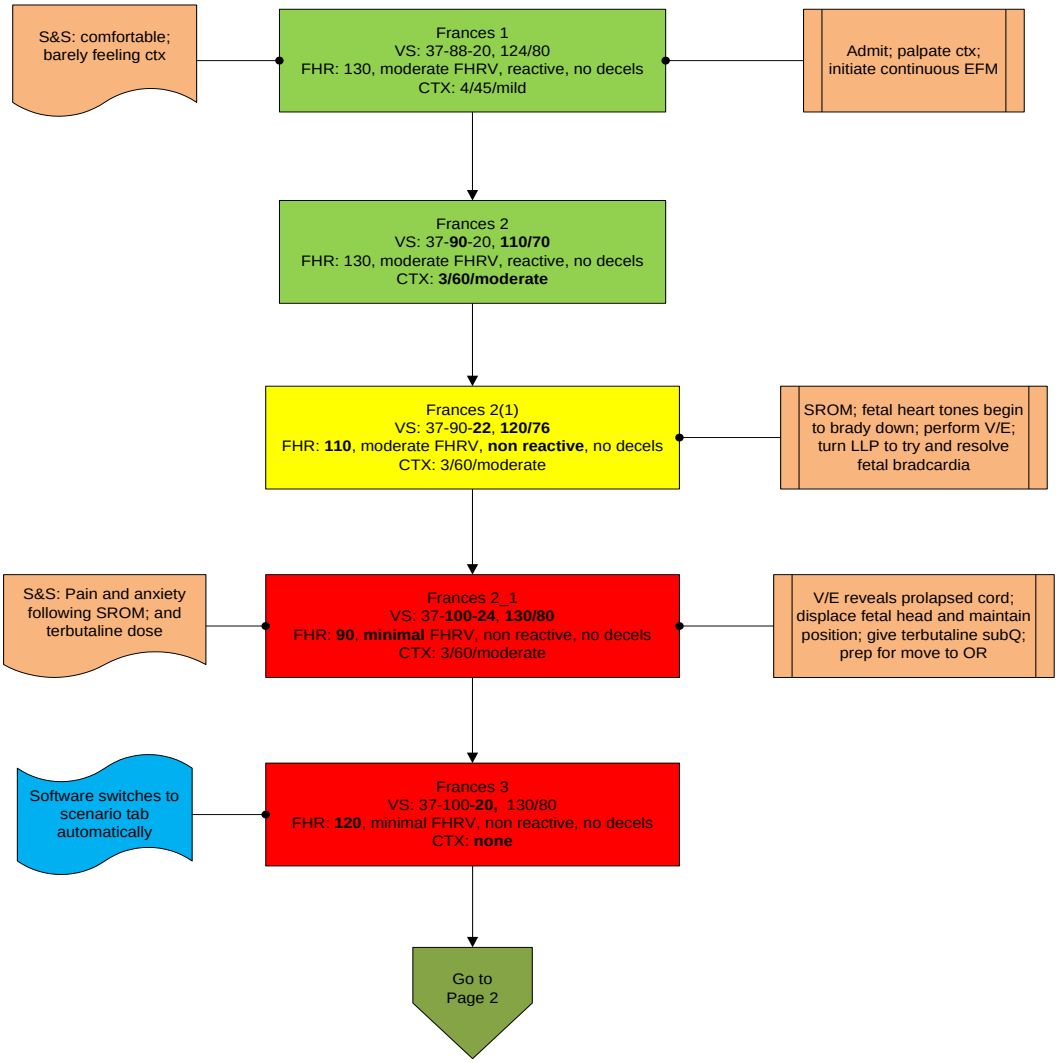


Noelle S574-575® - Labor Scenario

Frances

Prolapsed Cord

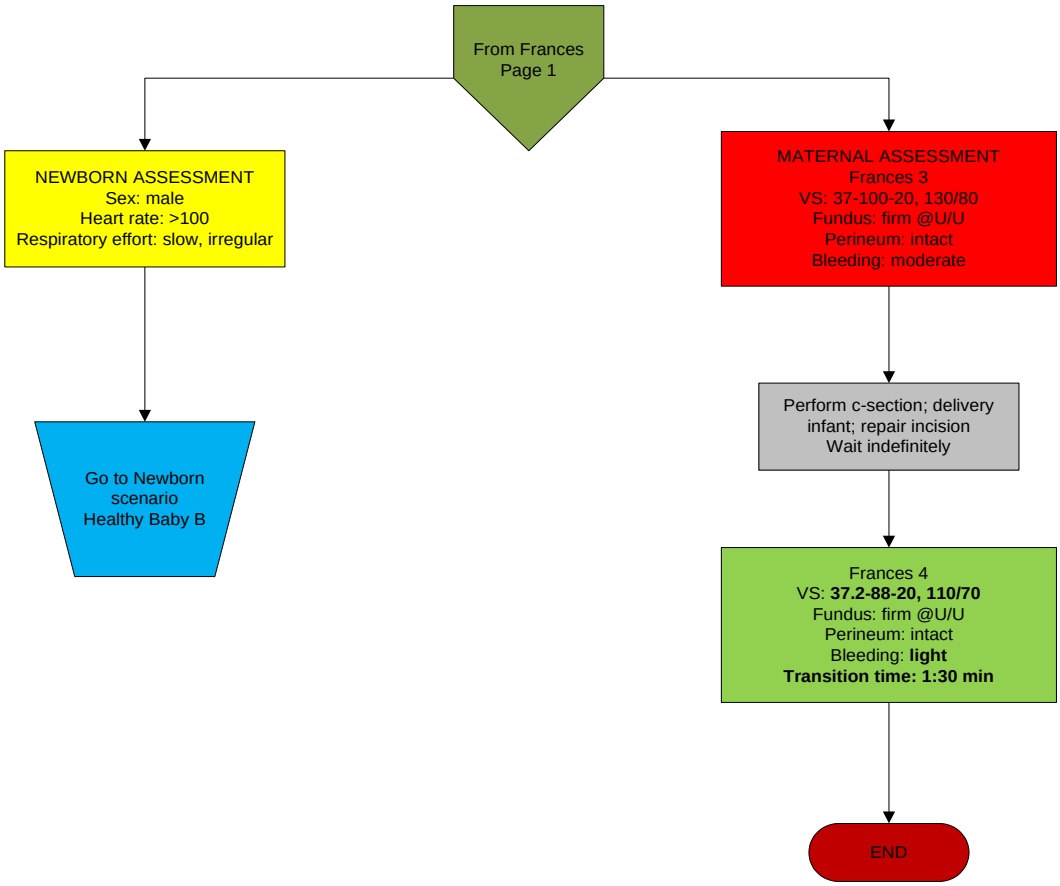
Frances is admitted into a small town hospital due to regular contractions @ 4 minutes apart and bloody show. She labors without problems for about 4 hours and then the fetus starts to brady down after SROM. A V/E reveals a prolapsed coed in the vagina. Labor duration: 20 minutes. Scenario duration: 22-27 minutes.



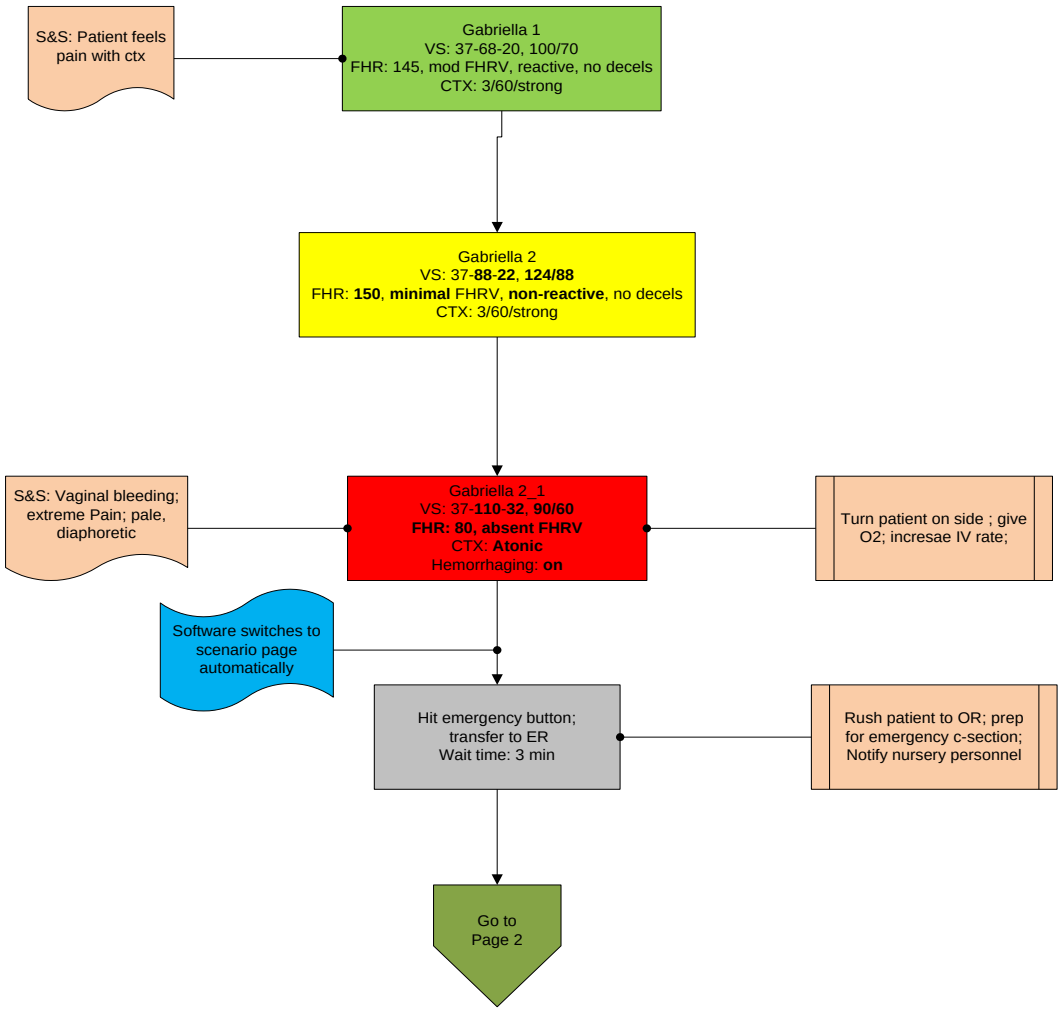
Noelle S574-575® - Labor Scenario

Frances

Prolapsed Cord



Gaumard® Simulators for Health Care Education	Noelle S574-575® - Labor Scenario **Gabriella** Uterine Rupture
Gabriella is a young Hispanic woman who presents at a small hospital just across the Mexican border. She appears to be in late pregnancy and in active labor. As the nurse helps her to bed she notices a midline abdominal scar. Gabriella has had one prvious child in Mexico, but shares no more information. Labor duration: 15 minutes. Scenario duration: 25 minutes.	

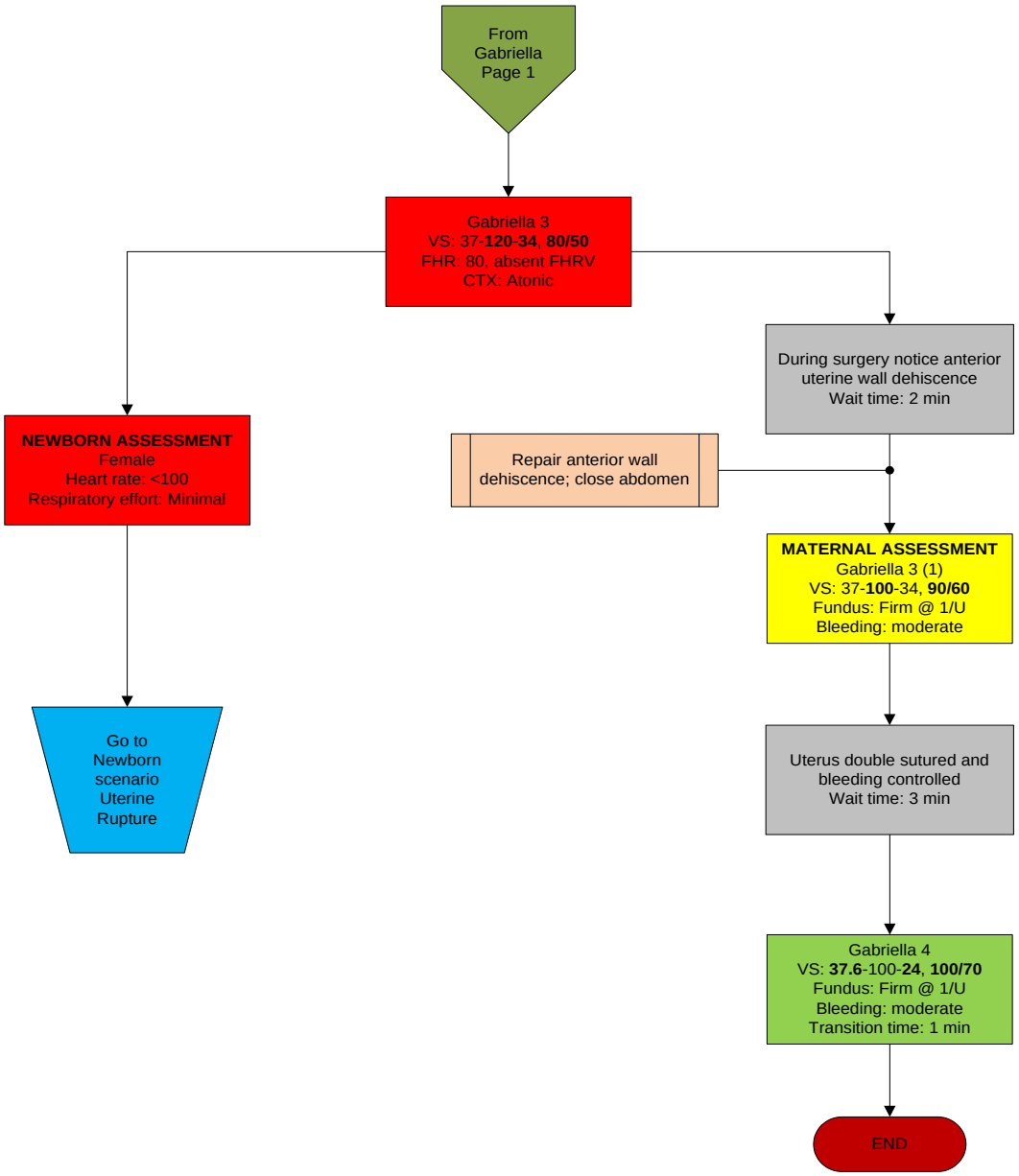


Gaumard®
Simulators for Health Care Education

Noelle S574-575® - Labor Scenario

Gabriella

Uterine Rupture

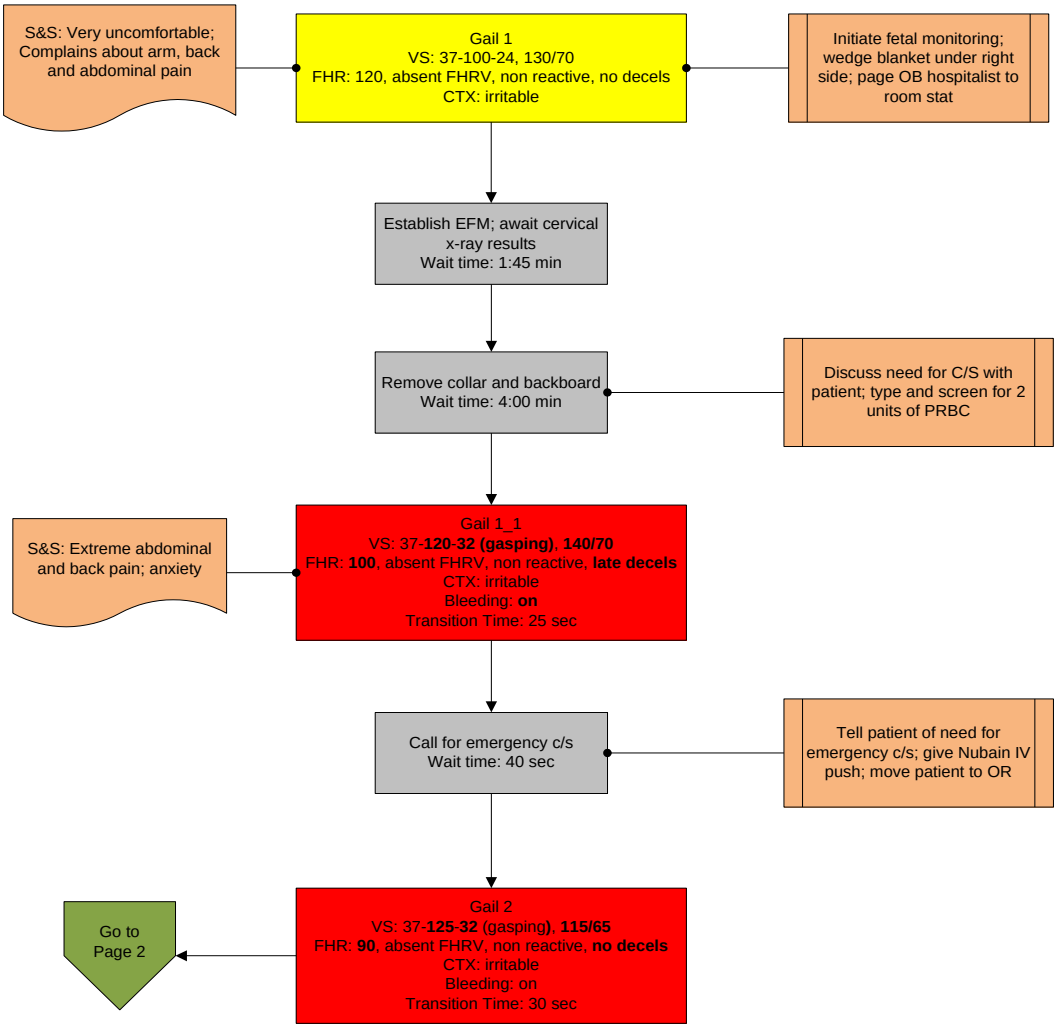


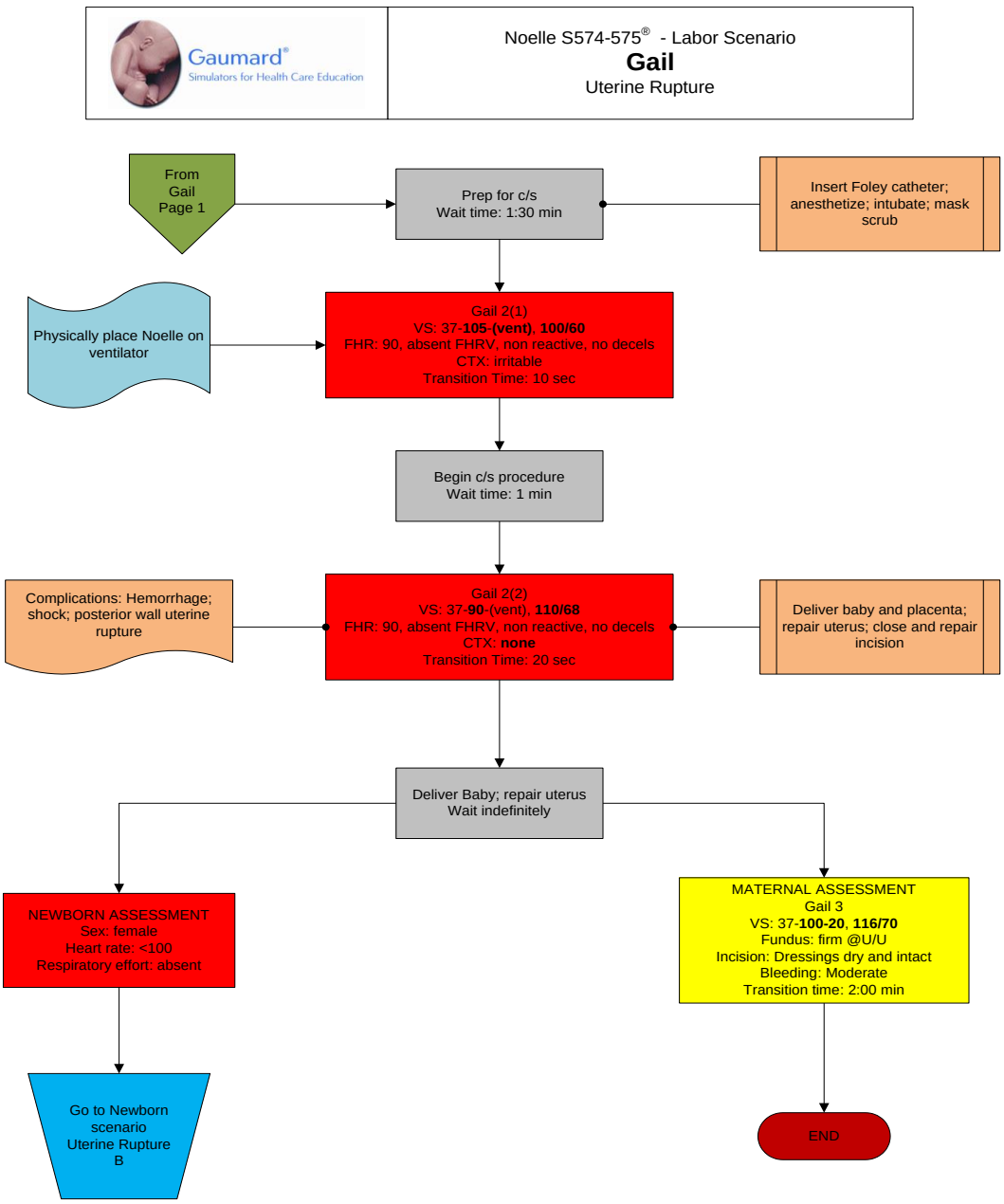
Noelle S574-575® - Labor Scenario

Gail

Uterine Rupture

Gail is a 29 year old primip @ 35 weeks. She was admitted to L&D from the ER after being involved in car accident. Both she and her husband, Alan, were seriously injured and she is on a backboard wearing a c-collar to stabilize the spine. Her right humerus is fractured and seat belt marks are visible across the abdomen. Labor duration: 18-20 minutes.



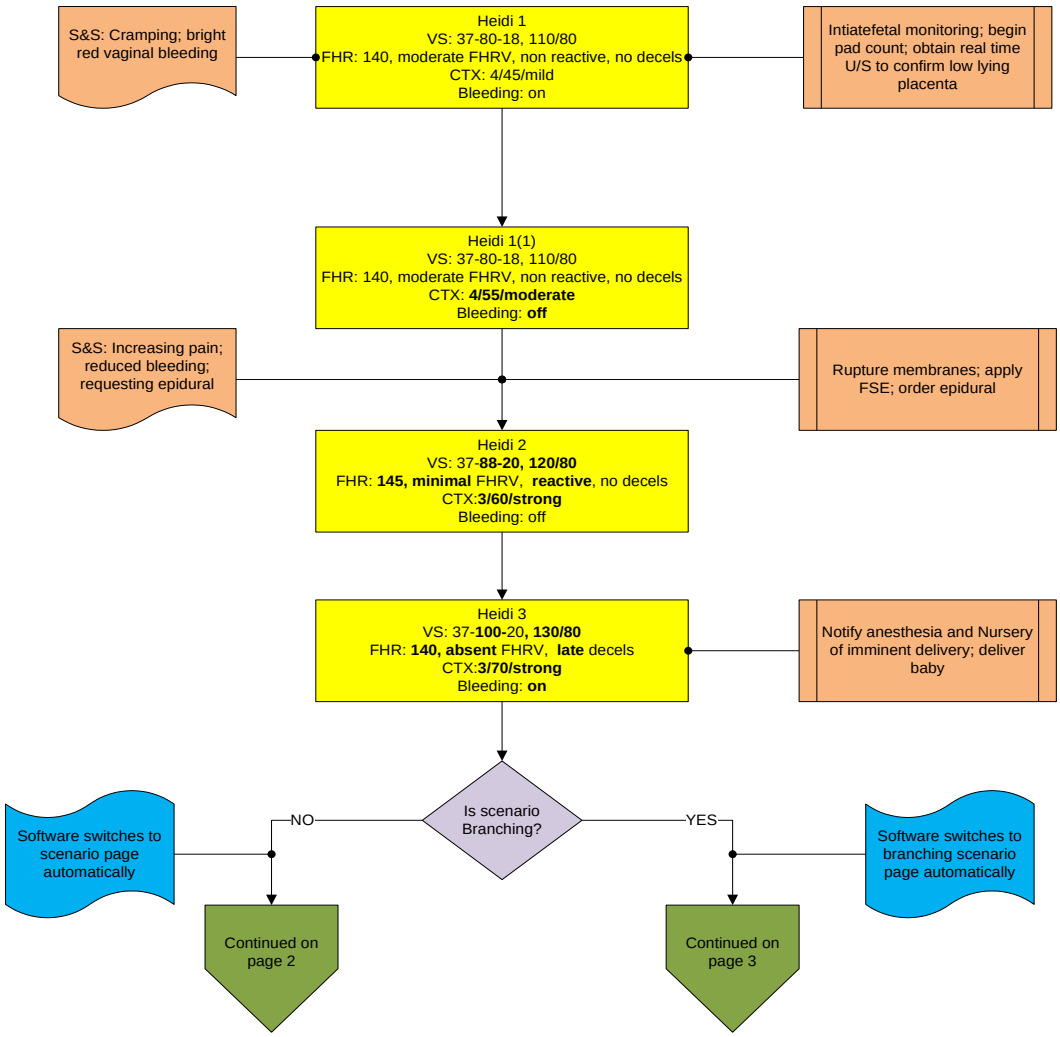

Gaumard®
Simulators for Health Care Education
Noelle S574-575® - Labor Scenario
Gail
Uterine Rupture
From Gail Page 1
Prep for c/s
Wait time: 1:30 min
Insert Foley catheter; anesthetize; intubate; mask scrub
Physically place Noelle on ventilator
Gail 2(1)
VS: 37-105-(vent), 100/60
FHR: 90, absent FHRV, non reactive, no decels
CTX: irritable
Transition Time: 10 sec
Begin c/s procedure
Wait time: 1 min
Complications: Hemorrhage; shock; posterior wall uterine rupture
Gail 2(2)
VS: 37-90-(vent), 110/68
FHR: 90, absent FHRV, non reactive, no decels
CTX: none
Transition Time: 20 sec
Deliver baby and placenta; repair uterus; close and repair incision
Deliver Baby; repair uterus
Wait indefinitely
NEWBORN ASSESSMENT
Sex: female
Heart rate: <100
Respiratory effort: absent
MATERNAL ASSESSMENT
Gail 3
VS: 37-100-20, 116/70
Fundus: firm @U/U
Incision: Dressings dry and intact
Bleeding: Moderate
Transition time: 2:00 min
Go to Newborn scenario Uterine Rupture B
END

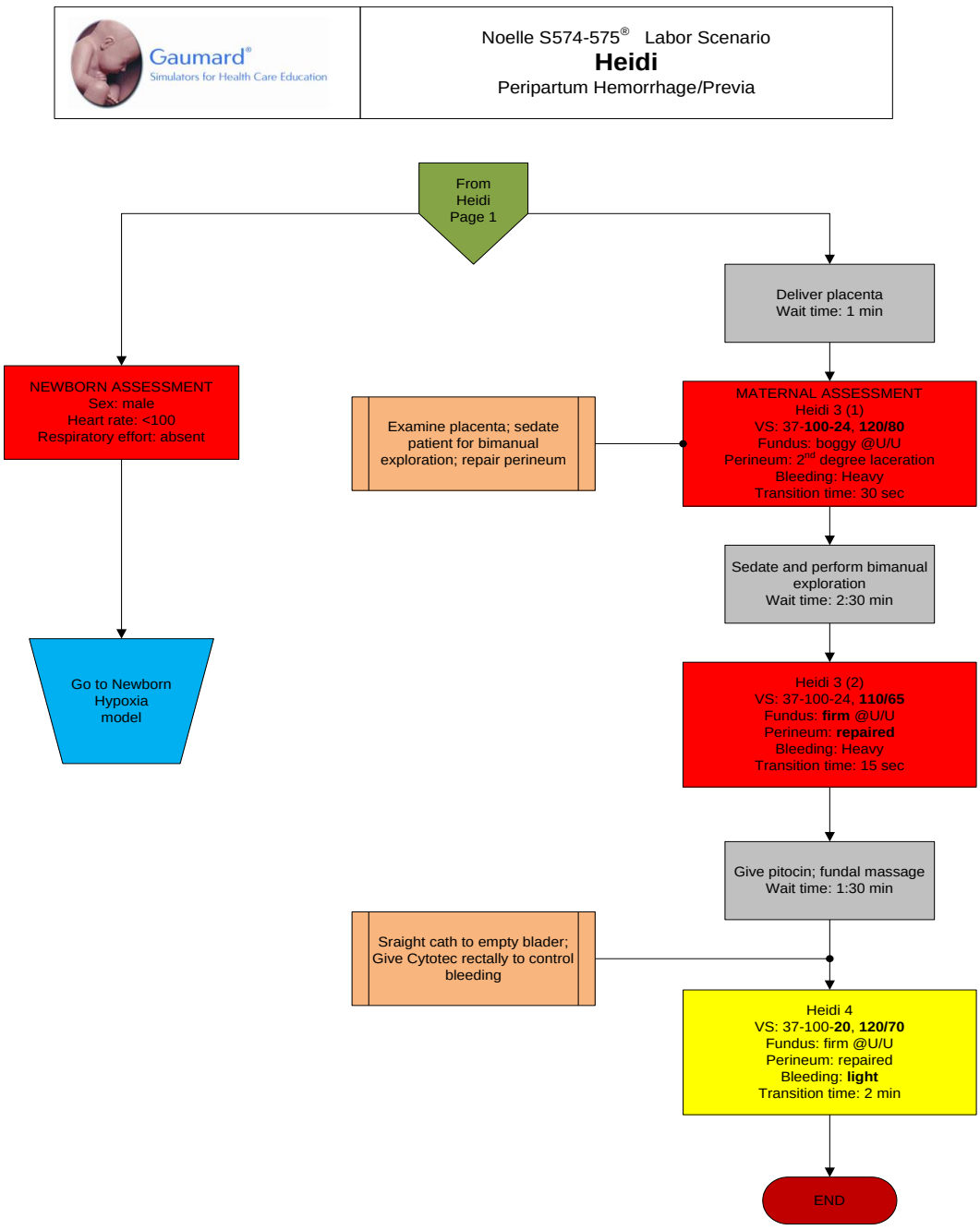
Noelle S574-575® Labor Scenario

Heidi

Peripartum Hemorrhage/Previa

Heidi is a 25 yr old primip @ 35 weeks. She has experienced several mild bleeding episodes during pregnancy and is known to have a low lying placenta. She arrives in L&D complaining of abdominal cramps and has bright red vaginal bleeding. Labor duration: 30 minutes. Labor duration: 35-45 minutes.



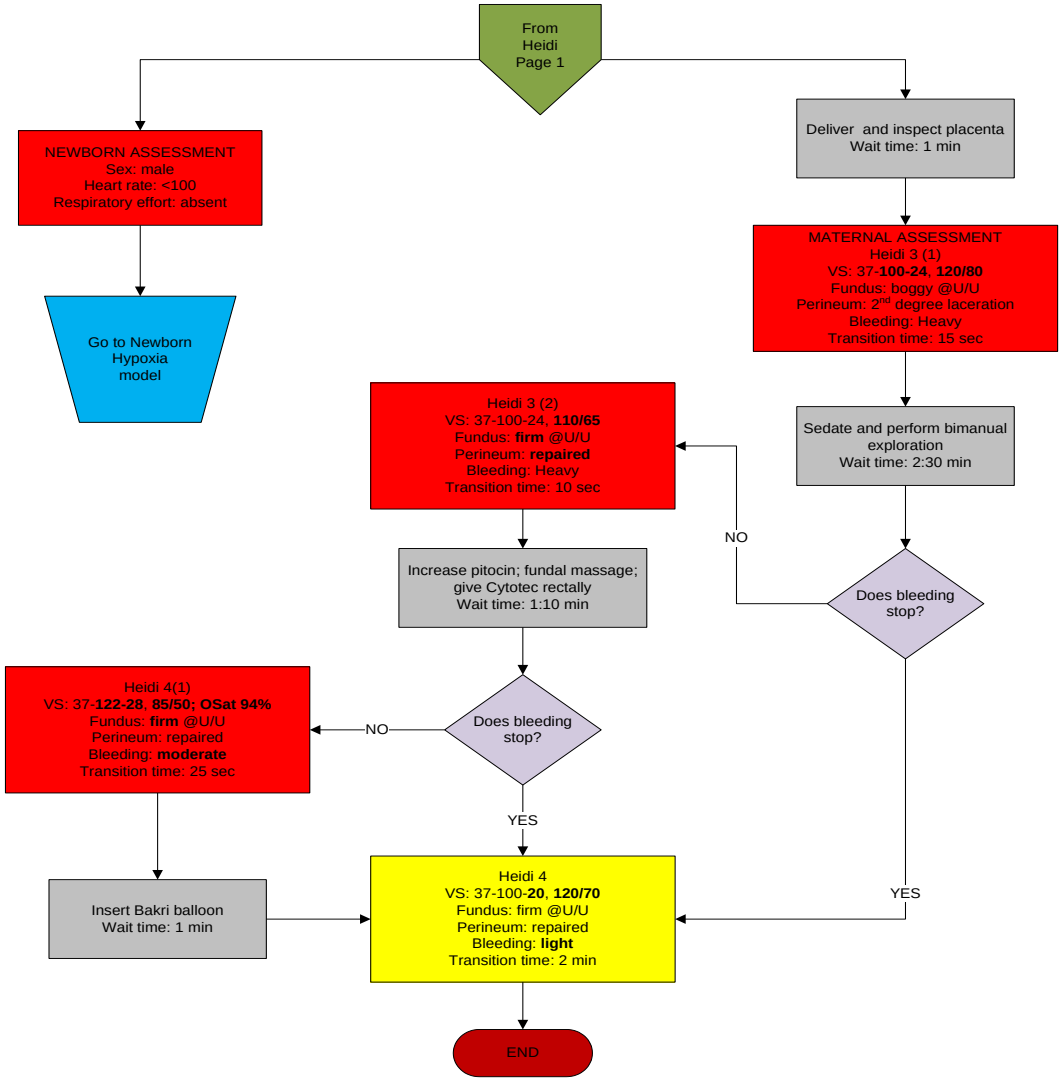

Gaumard®
Simulators for Health Care Education
Noelle S574-575® Labor Scenario
Heidi
Peripartum Hemorrhage/Previa
From Heidi Page 1
Deliver placenta
Wait time: 1 min
NEWBORN ASSESSMENT
Sex: male
Heart rate: <100
Respiratory effort: absent
Examine placenta; sedate patient for bimanual exploration; repair perineum
MATERNAL ASSESSMENT
Heidi 3 (1)
VS: 37-100-24, 120/80
Fundus: boggy @U/U
Perineum: 2nd degree laceration
Bleeding: Heavy
Transition time: 30 sec
Sedate and perform bimanual exploration
Wait time: 2:30 min
Go to Newborn Hypoxia model
Heidi 3 (2)
VS: 37-100-24, 110/65
Fundus: firm @U/U
Perineum: repaired
Bleeding: Heavy
Transition time: 15 sec
Give pitocin; fundal massage
Wait time: 1:30 min
Sraight cath to empty blader; Give Cytotec rectally to control bleeding
Heidi 4
VS: 37-100-20, 120/70
Fundus: firm @U/U
Perineum: repaired
Bleeding: light
Transition time: 2 min
END

Gaumard®
Simulators for Health Care Education

Noelle S574-575® Labor Scenario

Heidi

Peripartum Hemorrhage/Previa

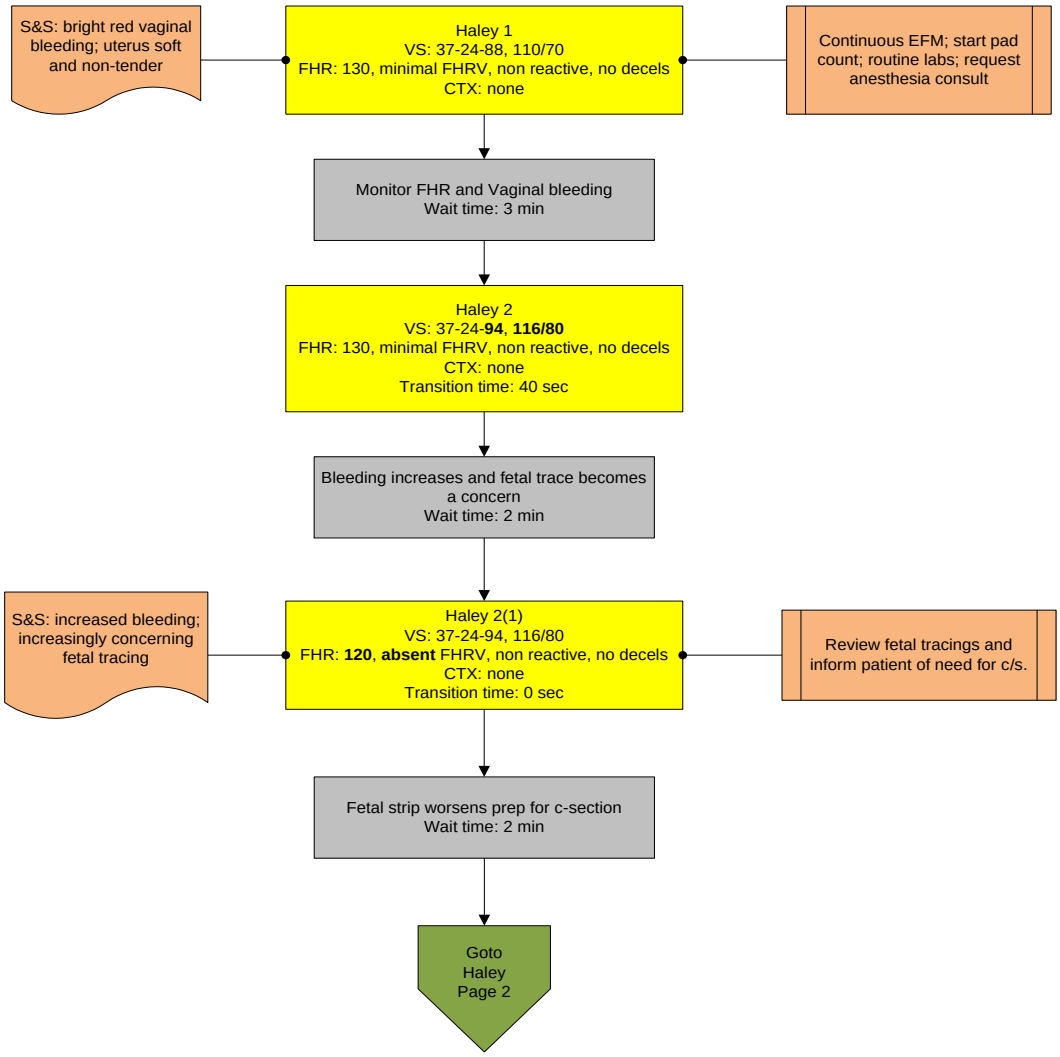


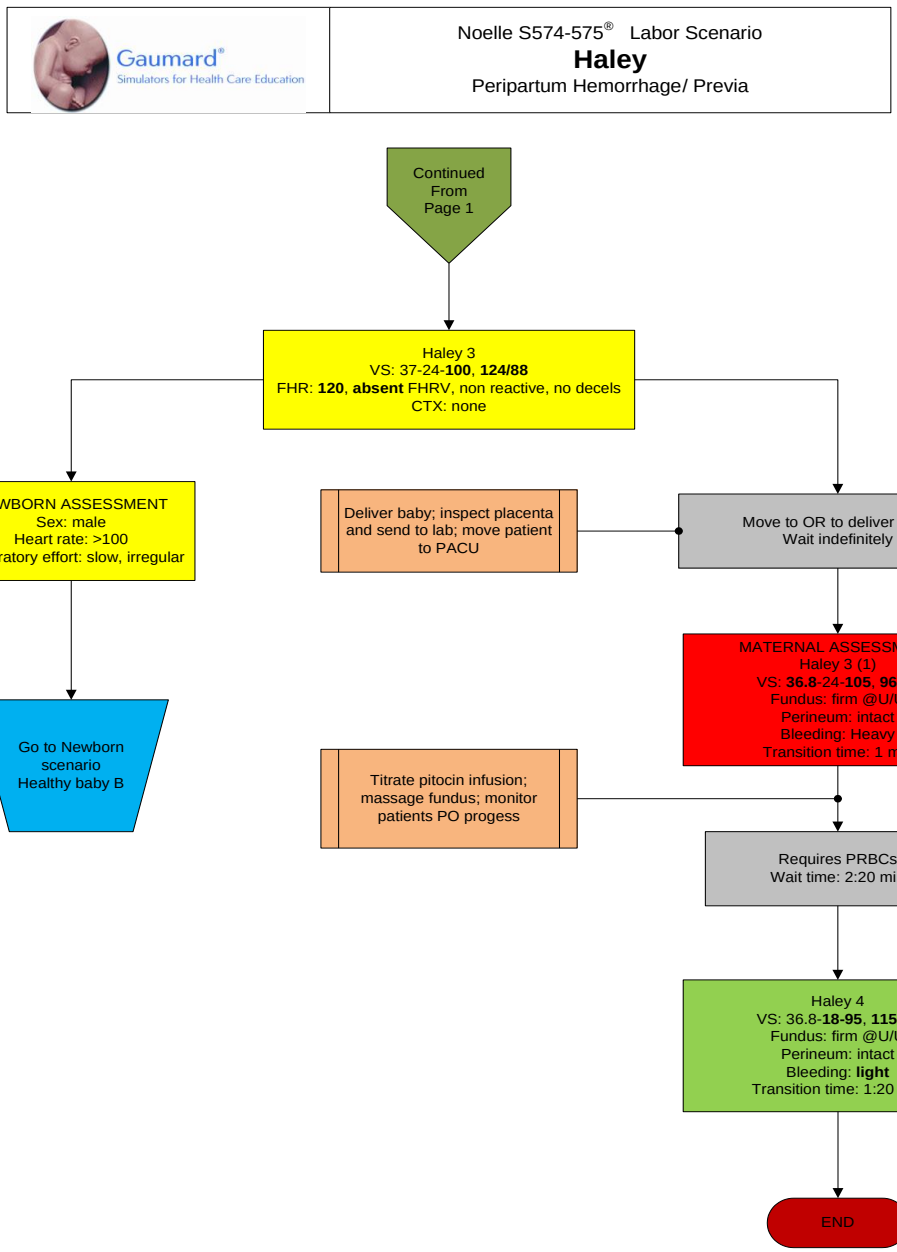
Noelle S574-575® Labor Scenario

Haley

Peripartum Hemorrhage/ Previa

Haley is a 33yr old G2 @ 35 weeks. Previous U/S revealed a low lying placenta and this is the 5th time in 11 weeks she been admitted for bleeding. This time the bleeding is is heavier and is not resolving. Her OB is on the way to the hospital; bimanual palpation shows the uterus to be soft and non-tender. Labor duration: 15 minutes.



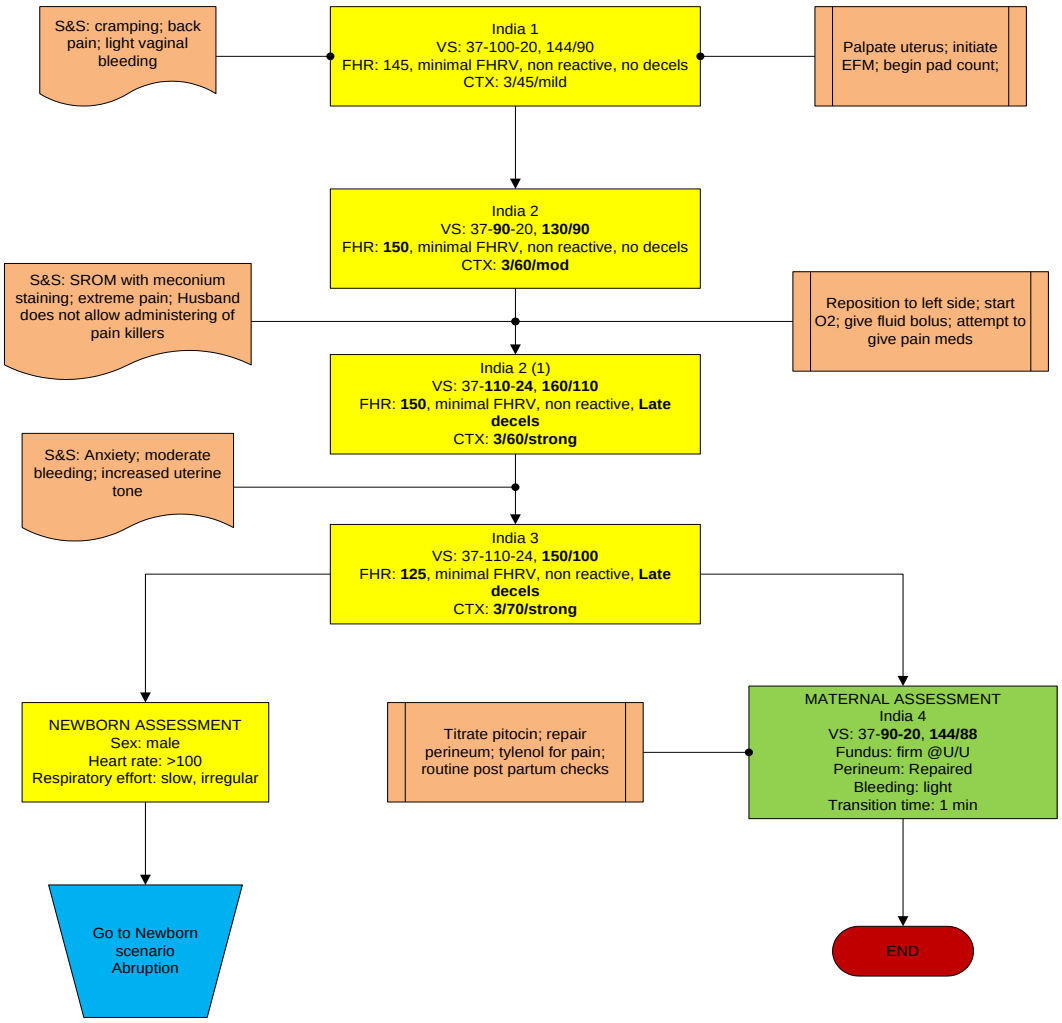

Gaumard®
Simulators for Health Care Education
Noelle S574-575® Labor Scenario
Haley
Peripartum Hemorrhage/ Previa
Continued From Page 1
Haley 3
VS: 37-24-100, 124/88
FHR: 120, absent FHRV, non reactive, no decels
CTX: none
NEWBORN ASSESSMENT
Sex: male
Heart rate: >100
Respiratory effort: slow, irregular
Go to Newborn scenario
Healthy baby B
Deliver baby; inspect placenta and send to lab; move patient to PACU
Move to OR to deliver baby
Wait indefinitely
MATERNAL ASSESSMENT
Haley 3 (1)
VS: 36.8-24-105, 96/66
Fundus: firm @U/U
Perineum: intact
Bleeding: Heavy
Transition time: 1 min
Titrate pitocin infusion; massage fundus; monitor patients PO progess
Requires PRBCs
Wait time: 2:20 min
Haley 4
VS: 36.8-18-95, 115/78
Fundus: firm @U/U
Perineum: intact
Bleeding: light
Transition time: 1:20 min
END

Noelle S574-575® Labor Scenario

India

Peripartum Hemorrhage/ Abruptio

India is a 19 yr old gravida 2 @ 37 weeks. She arrives at hospital with her husband who says she fell down the stairs and she has been cramping and bleeding for about an hour. During admitting interview husband answers all the questions and India doesn't make eye contact. The nurse palpates uterus, initiates fetal monitoring and starts a pad count. Labor duration: 25 minutes.



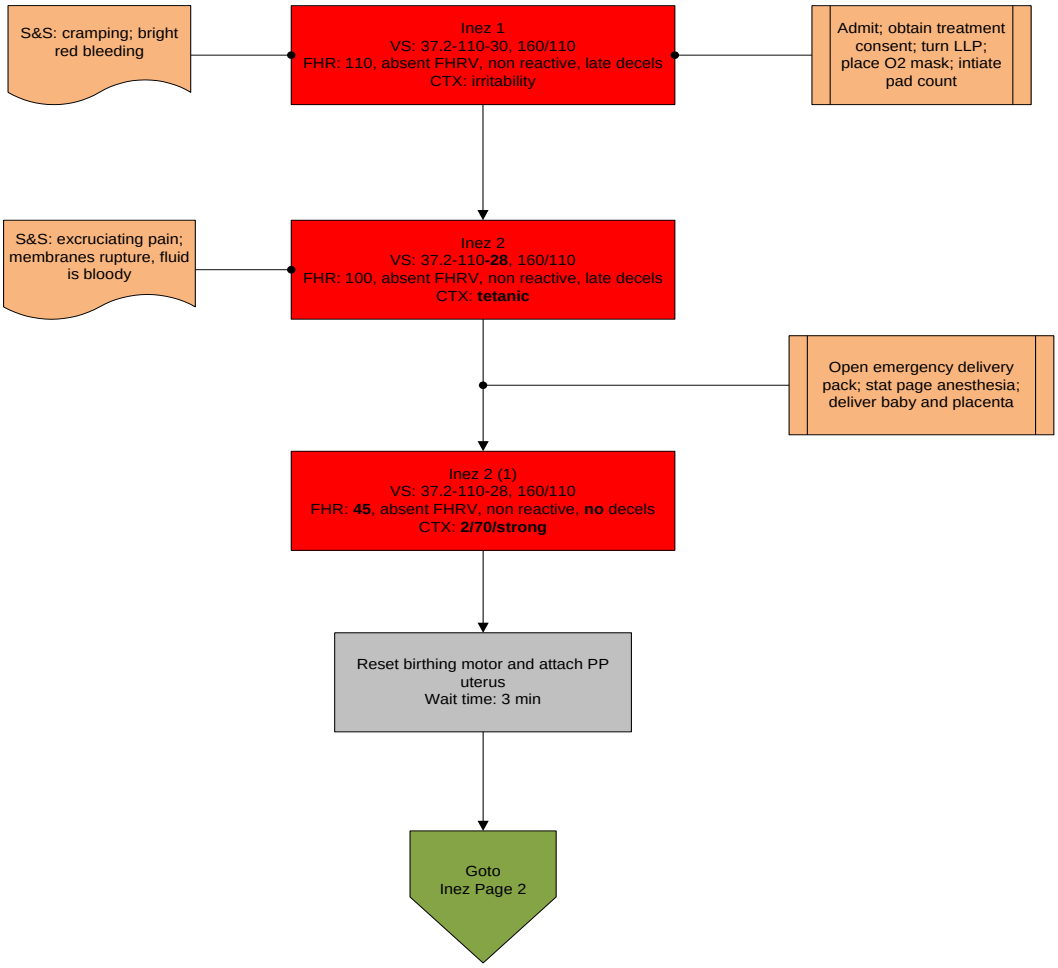
Gaumard®
Simulators for Health Care Education

Noelle S574-575® Labor Scenario

Inez

Peripartum Hemorrhage/Abruption

Inez is a 27 yr old primip @ 35 weeks. She arrives at hospital one evening crying and doubled over in pain. She is admitted to a birthing room and the nurse notices bright red blood on Inez's panties. She is having very intense and close contractions. Labor duration: 10 minutes. Scenario duration: 18 minutes.

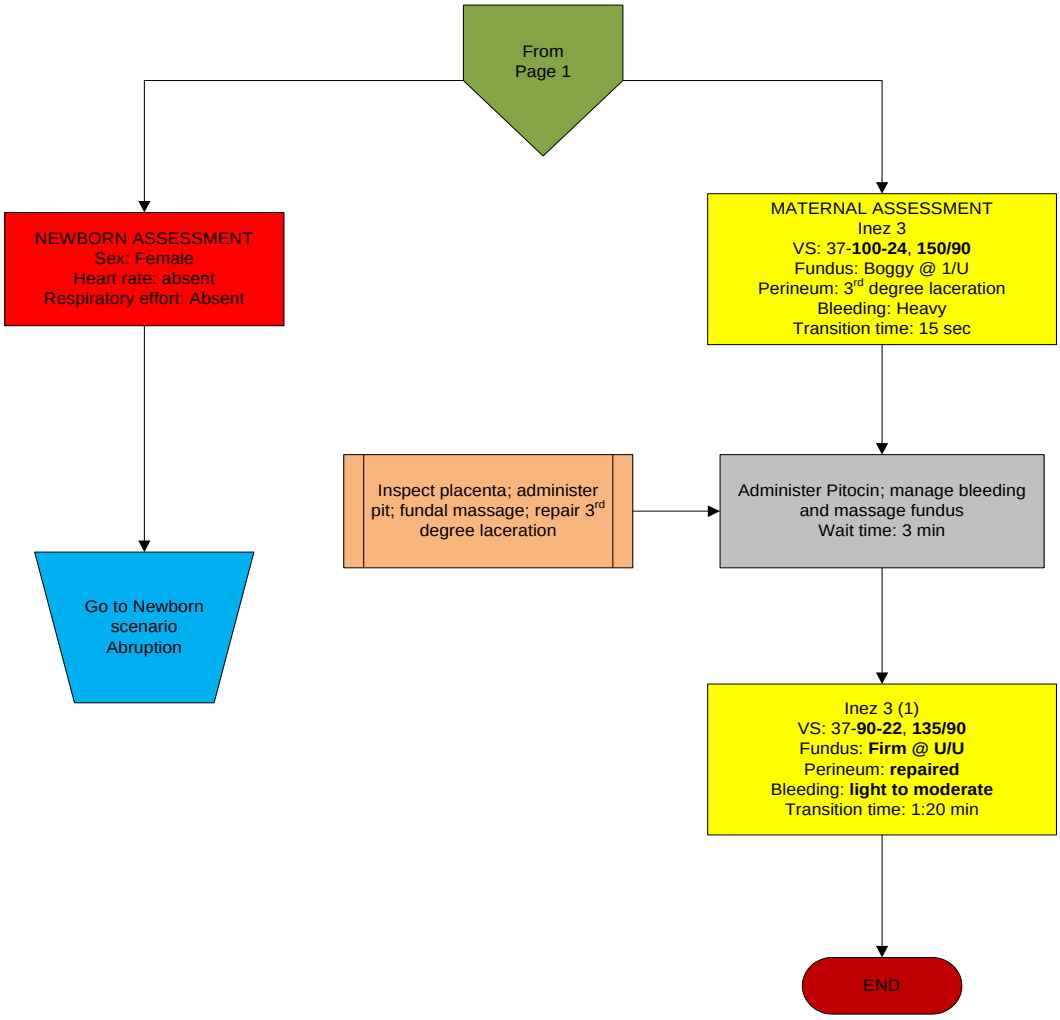


Gaumard®
Simulators for Health Care Education

Noelle S574-575® Labor Scenario

Inez

Peripartum Hemorrhage/Abruption

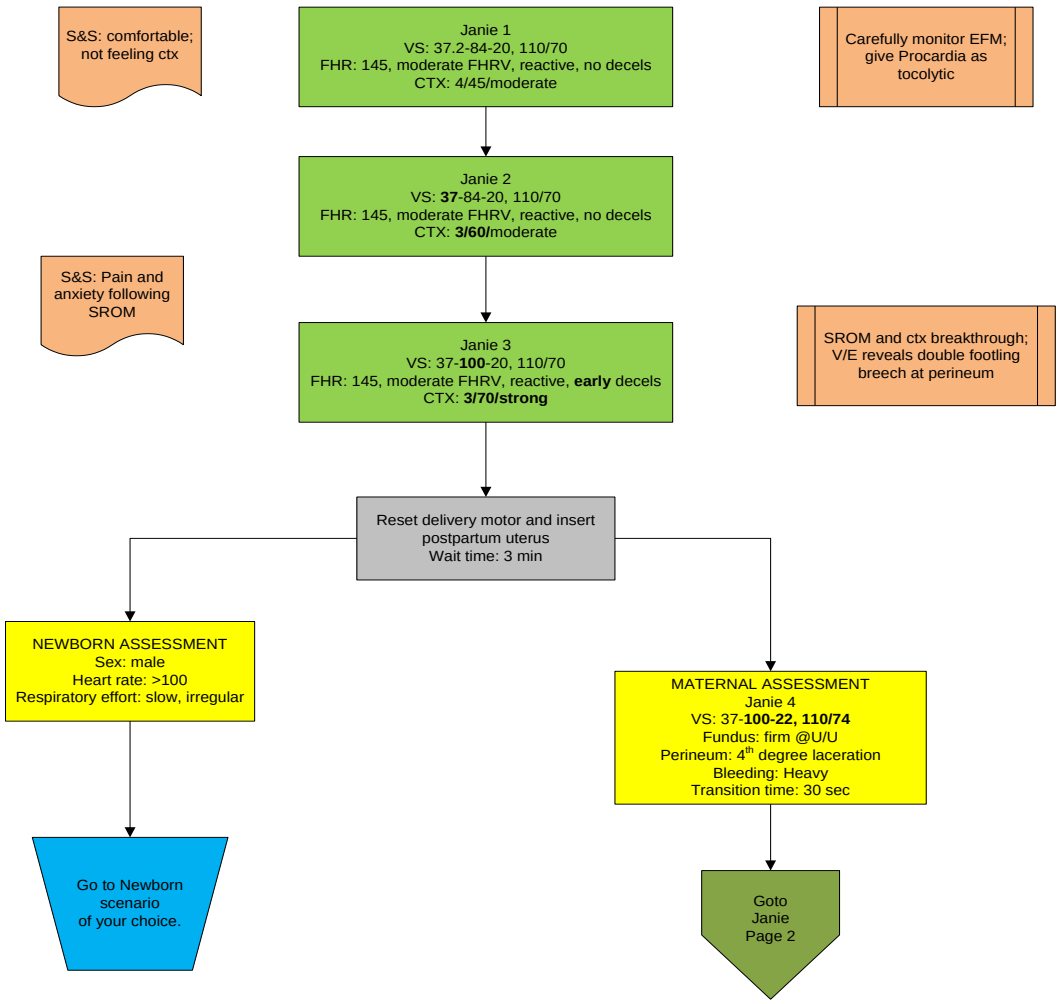


Noelle S574-575® Labor Scenario

Janie

Peripartum Hemorrhage/ PPH

Janie is a 23 yr old G 2 @ 38 weeks. She has experienced several bleeding episodes due to a low lying placenta. She has been counseled about the potential for postpartum hemorrhage . Her religious beliefs prohibit the administration of any blood products . Labor duration: 15 minutes. Scenario duration: 25 minutes.

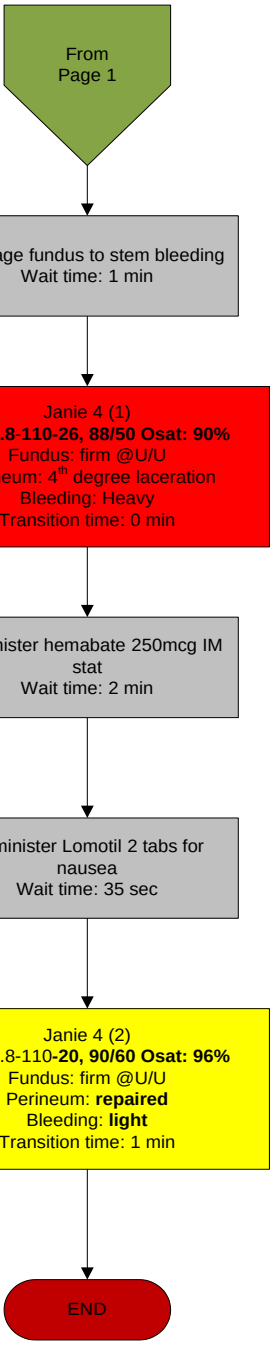


Gaumard®
Simulators for Health Care Education

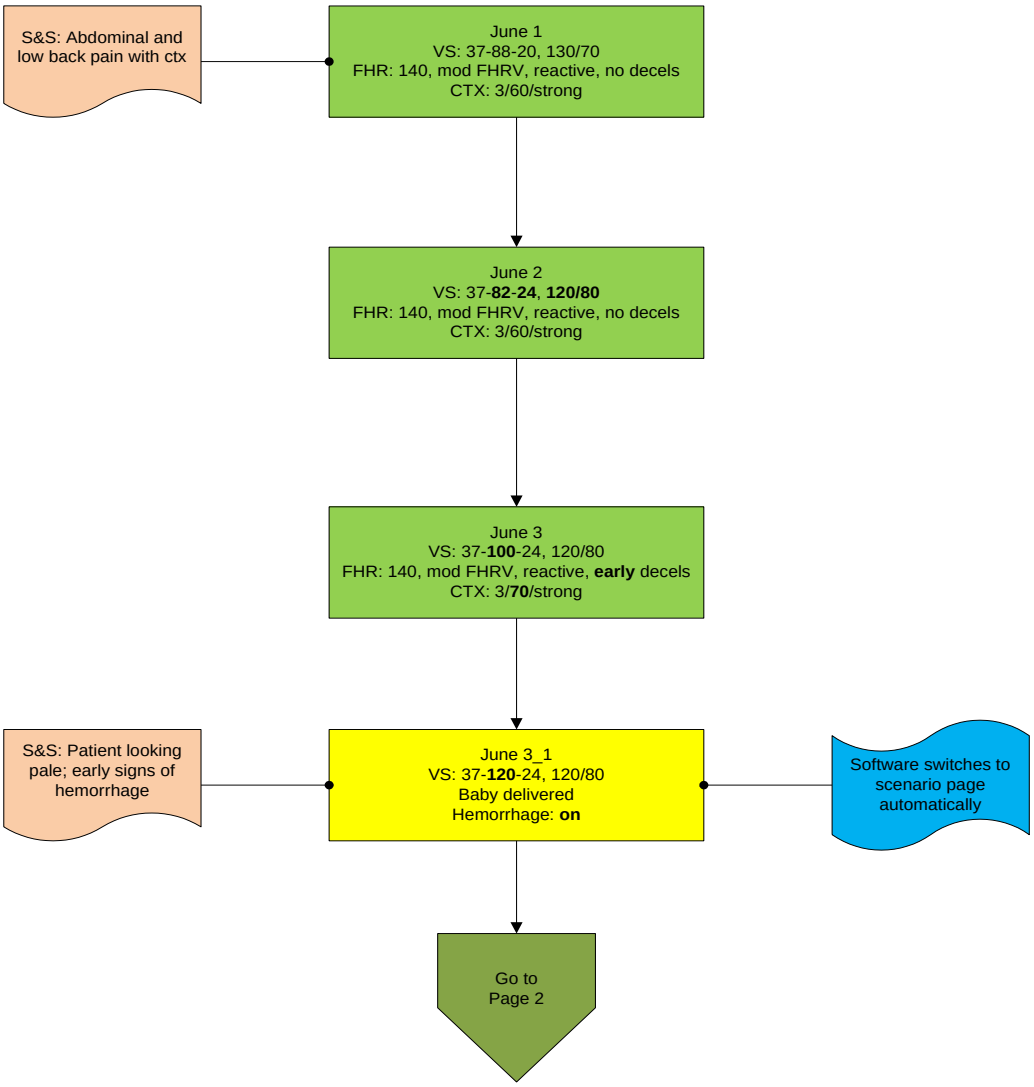
Noelle S574-575® Labor Scenario

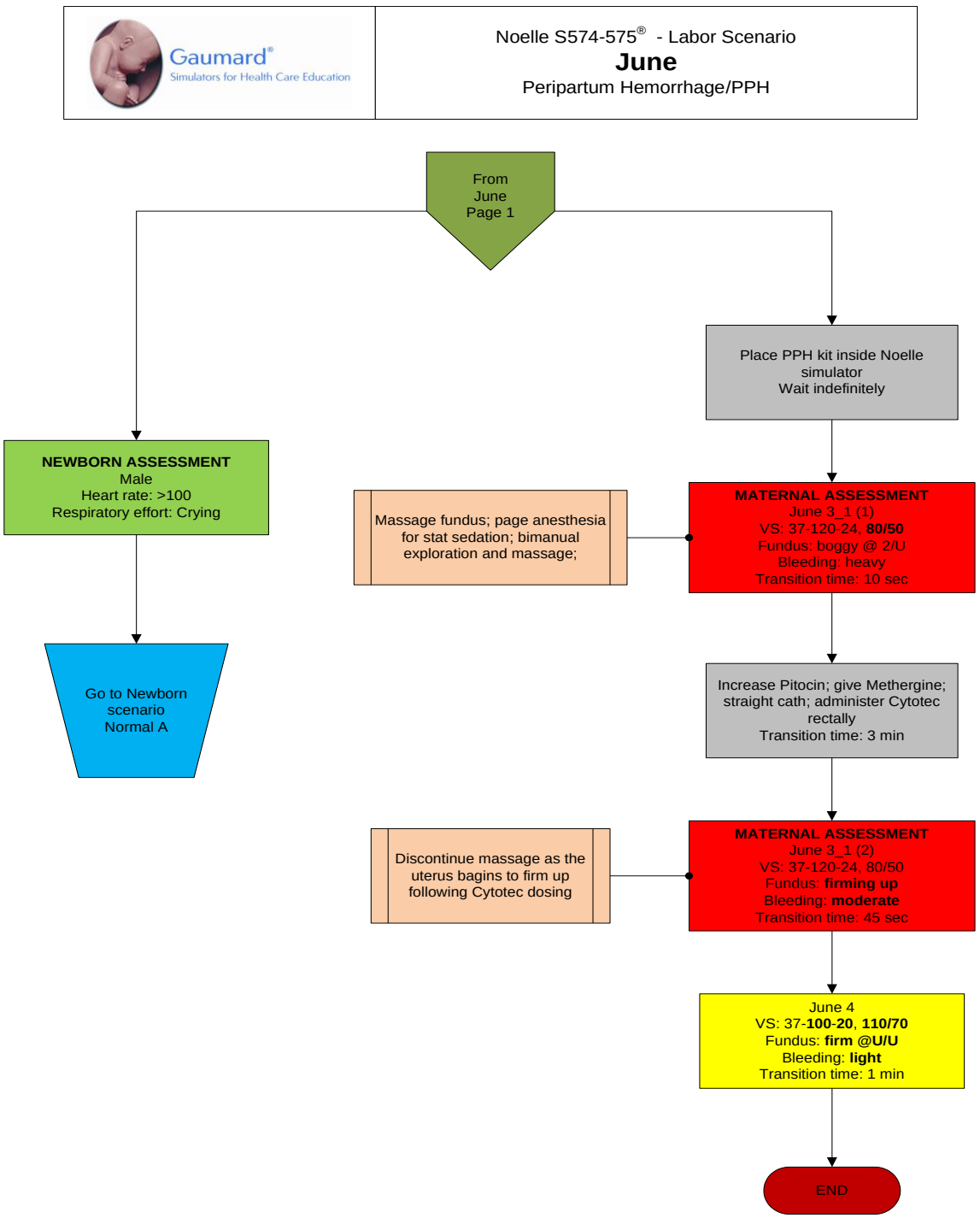
Janie

Peripartum Hemorrhage/ PPH



Gaumard® Simulators for Health Care Education	Noelle S574-575® - Labor Scenario **June** Peripartum Hemorrhage/PPH
June is a 31 yr old multip about to have her 5th baby. She has had a normal pregnancy and she is planning natural childbirth. She enters the hospital in active labor. The family is very excited as they know this baby is a boy. Labor duration: 15 minutes. Scenario duration: 22-25 minutes.	



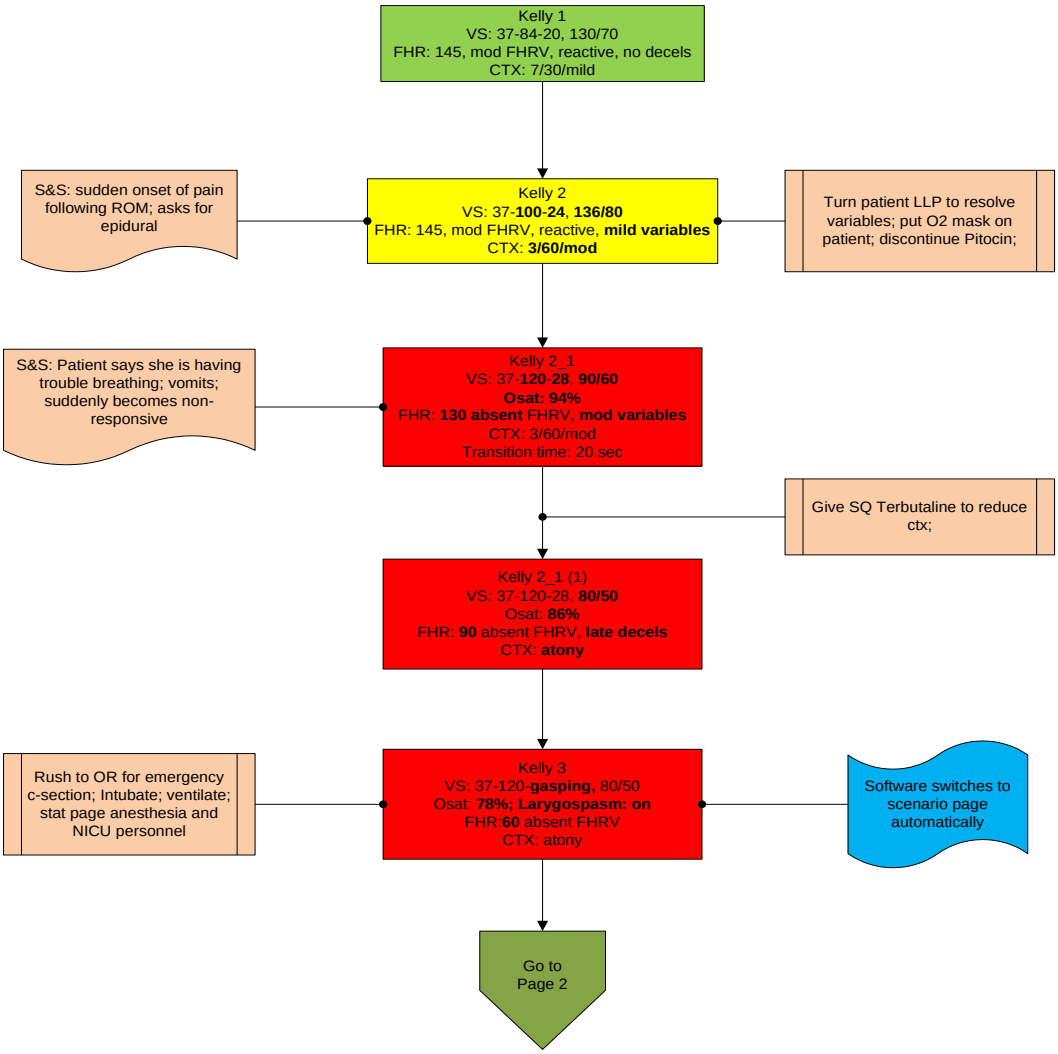

Gaumard®
Simulators for Health Care Education
Noelle S574-575® - Labor Scenario
June
Peripartum Hemorrhage/PPH
From June Page 1
Place PPH kit inside Noelle simulator
Wait indefinitely
NEWBORN ASSESSMENT
Male
Heart rate: >100
Respiratory effort: Crying
Massage fundus; page anesthesia for stat sedation; bimanual exploration and massage;
MATERNAL ASSESSMENT
June 3_1 (1)
VS: 37-120-24, 80/50
Fundus: boggy @ 2/U
Bleeding: heavy
Transition time: 10 sec
Go to Newborn scenario
Normal A
Increase Pitocin; give Methergine; straight cath; administer Cytotec rectally
Transition time: 3 min
Discontinue massage as the uterus bagins to firm up following Cytotec dosing
MATERNAL ASSESSMENT
June 3_1 (2)
VS: 37-120-24, 80/50
Fundus: firming up
Bleeding: moderate
Transition time: 45 sec
June 4
VS: 37-100-20, 110/70
Fundus: firm @U/U
Bleeding: light
Transition time: 1 min
END

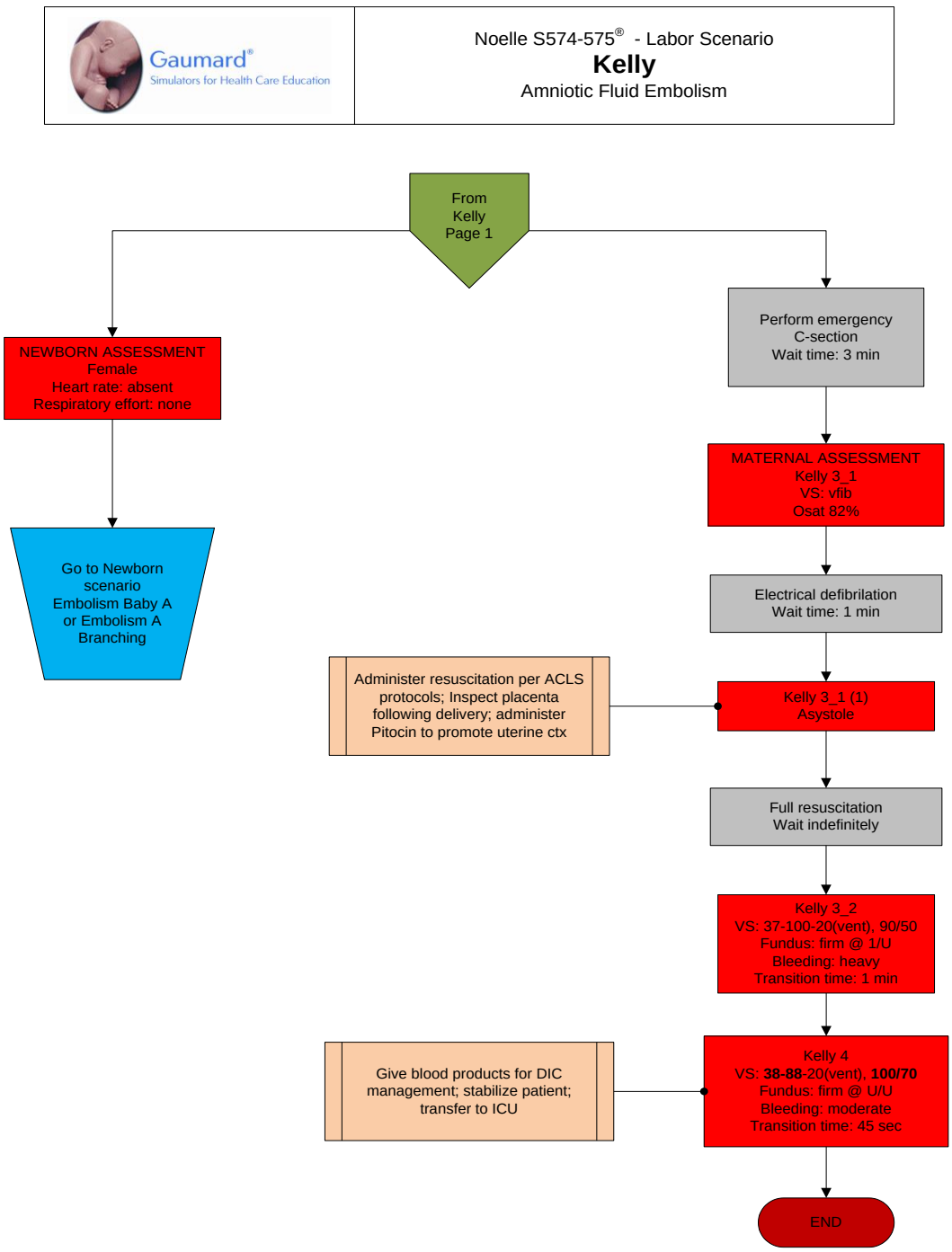
Noelle S574-575® - Labor Scenario

Kelly

Amniotic Fluid Embolism

Kelly is a 34 yr old gravida 5/2 @ 38 weeks. She is scheduled for induction as her last baby weighed almost 10lbs and she experienced a severe shoulder dystocia with that delivery. She has gained 43lbs with this pregnancy and her GTT is borderline. Labor duration: 25 minutes. Scenario duration: 35-40 minutes.




Gaumard®
Simulators for Health Care Education
Noelle S574-575® - Labor Scenario
Kelly
Amniotic Fluid Embolism
From Kelly Page 1
NEWBORN ASSESSMENT
Female
Heart rate: absent
Respiratory effort: none
Go to Newborn scenario
Embolism Baby A or Embolism A
Branching
Perform emergency C-section
Wait time: 3 min
MATERNAL ASSESSMENT
Kelly 3_1
VS: vfib
Osat 82%
Electrical defibrilation
Wait time: 1 min
Administer resuscitation per ACLS protocols; Inspect placenta following delivery; administer Pitocin to promote uterine ctx
Kelly 3_1 (1)
Asystole
Full resuscitation
Wait indefinitely
Kelly 3_2
VS: 37-100-20(vent), 90/50
Fundus: firm @ 1/U
Bleeding: heavy
Transition time: 1 min
Give blood products for DIC management; stabilize patient; transfer to ICU
Kelly 4
VS: 38-88-20(vent), 100/70
Fundus: firm @ U/U
Bleeding: moderate
Transition time: 45 sec
END

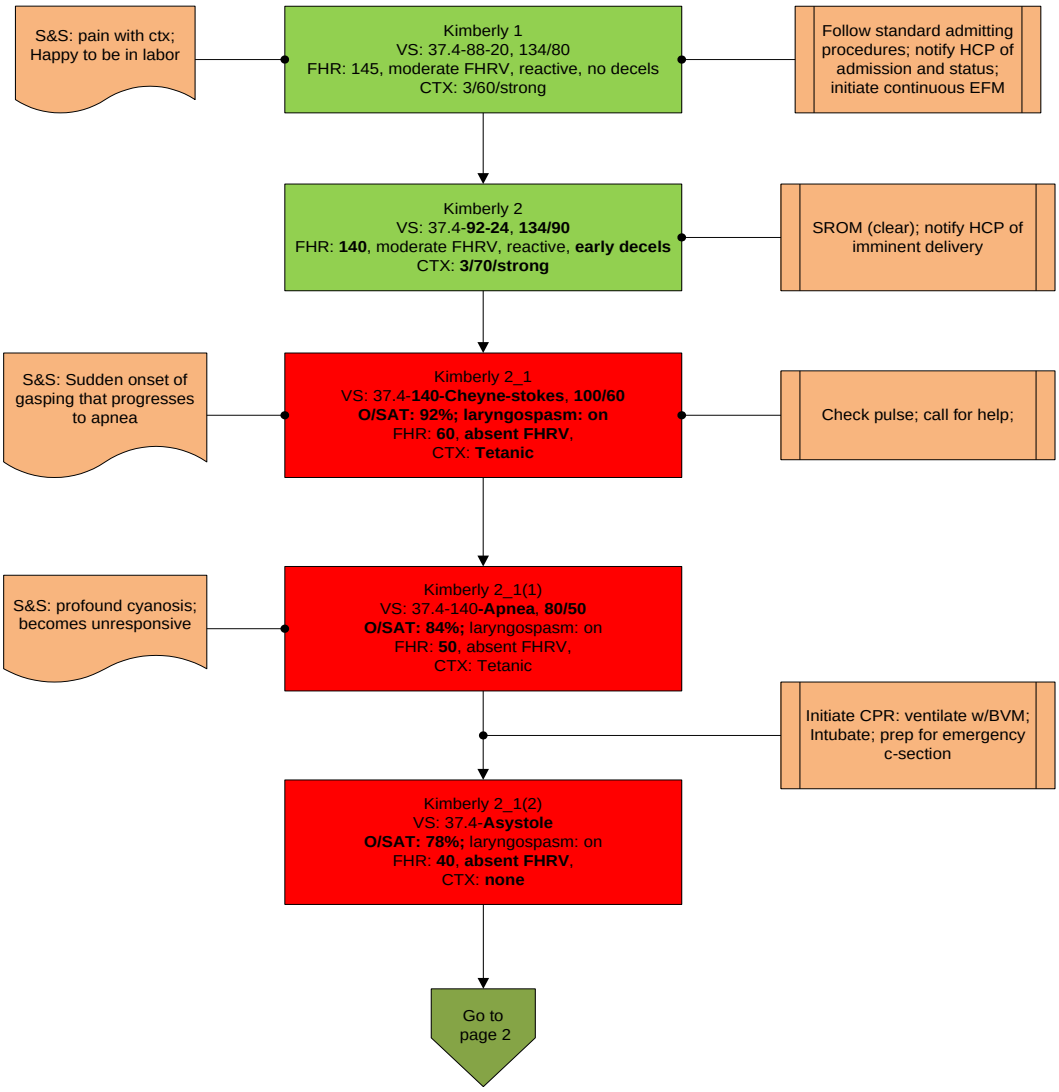
Gaumard®
Simulators for Health Care Education

Noelle S574-575® Labor Scenario

Kimberly

AFE

Kimberly is a 27 yr old multip @ 42 weeks. She began having contractions at home and now they are becoming stronger. She is excited to be finally going into labor. By the time the nurse completes admission Kimberly is requesting pain meds as her labor is progressing quickly. Labor duration: 25 minutes. Scenario duration: 30 minutes.

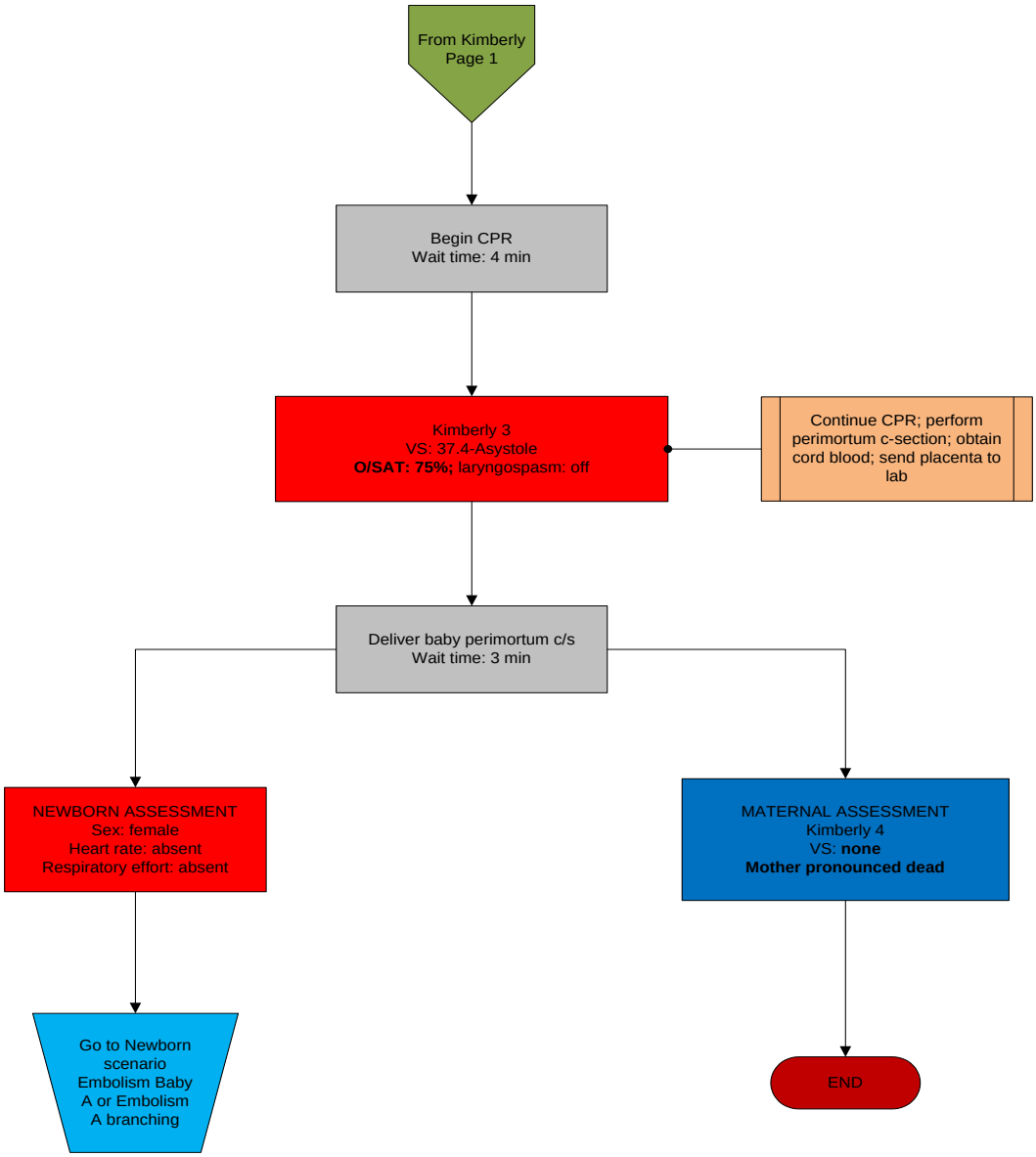


Gaumard®
Simulators for Health Care Education

Noelle S574-575® Labor Scenario

Kimberly

AFE



Gaumard®
Simulators for Health Care Education

Noelle S574-575® - Labor Scenario

Madonna

Preterm Labor

Madonna is a 41 yr old multip @ 31 weeks. She has experienced difficult pregnancies and has one Downs Syndrome baby. She has had several episodes of preterm contractions that resolved with LLP bed rest. This time the bed rest and oral hydration are not resolving the contractions; in fact, they seem to be getting worse. Labor duration: 35 minutes.

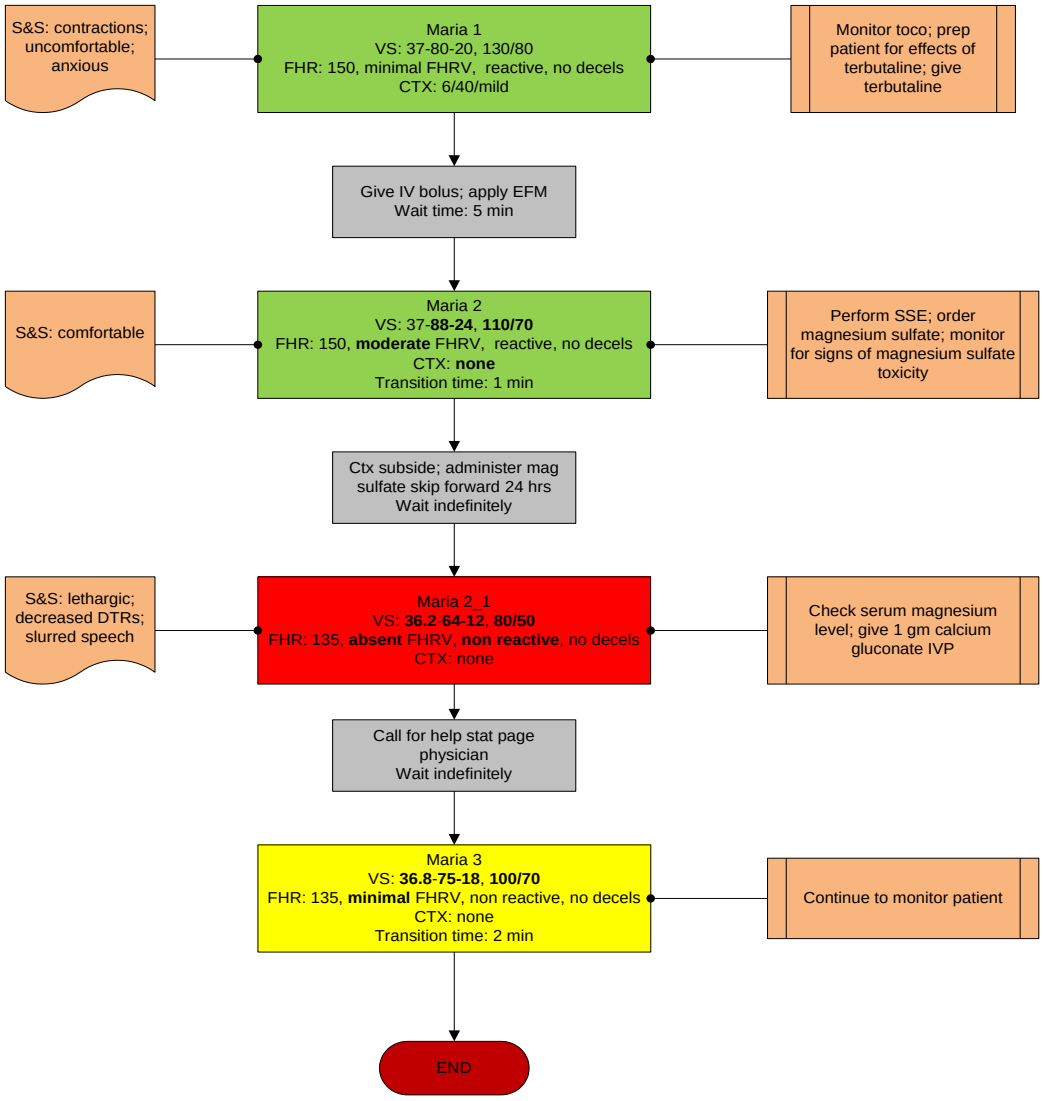
Gaumard®
Simulators for Health Care Education

Noelle S574-575® Labor Scenario

Maria

Preterm Labor

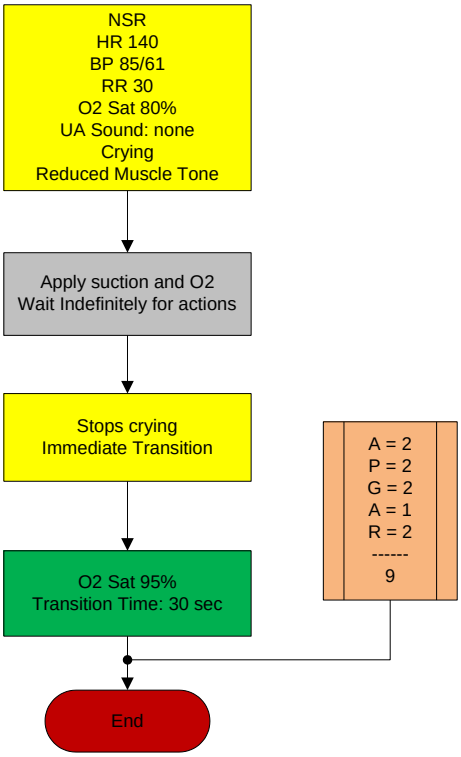
Maria is a 30 yr old multip @ 27 weeks. She has an 11 yr old and has been trying for more children. She has had 2 miscarriages in the last 4 years and she lost both due to an incompetent cervix. This time a McDonalds suture was placed @ 14 weeks. Labor duration: 15 minutes.



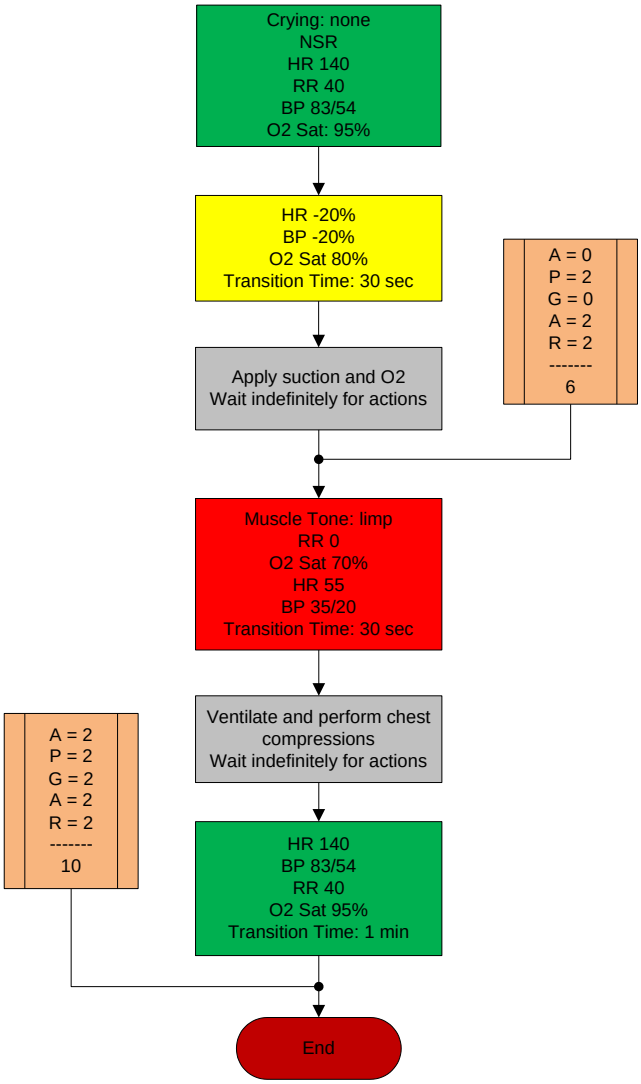
Newborn Flowcharts

Quick Start Newborn	
1	Alice’s Baby
2	Asphyxia
3	Beth’s (Dona’s) Baby
4	Cynthia’s Baby
5	Elaine’s Baby
6	Francine’s Baby
7	Gloria’s Baby
8	Helen’s (Irene’s) Baby
9	MAS
10	RDS
11	TTN

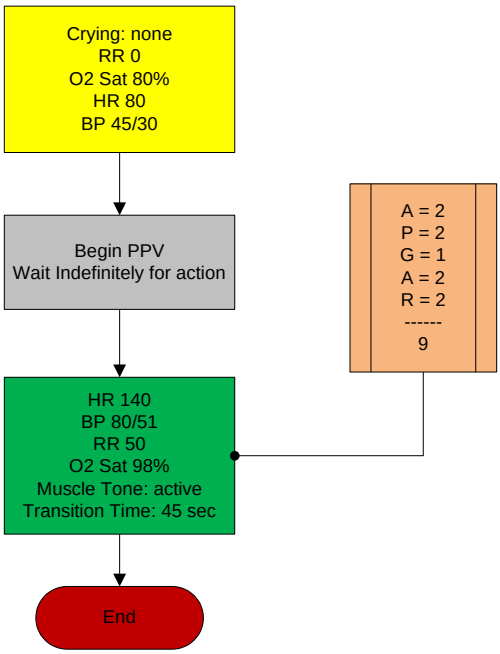
Gaumard® Simulators for Health Care Education	Newborn HAL® **Alice's Baby**
Healthy baby	



Gaumard® Simulators for Health Care Education	Newborn HAL® **Asphyxia**
Baby has an asphyxia attack and the providers need to give ventilations to help bring back the vitals to a healthy state.	



Gaumard® Simulators for Health Care Education	Newborn HAL® **Beth's (Donna's) Baby**
Baby is born with a mild asphyxia that needs attention. Once ventilations are started, the baby's vitals go to a healthy state.	

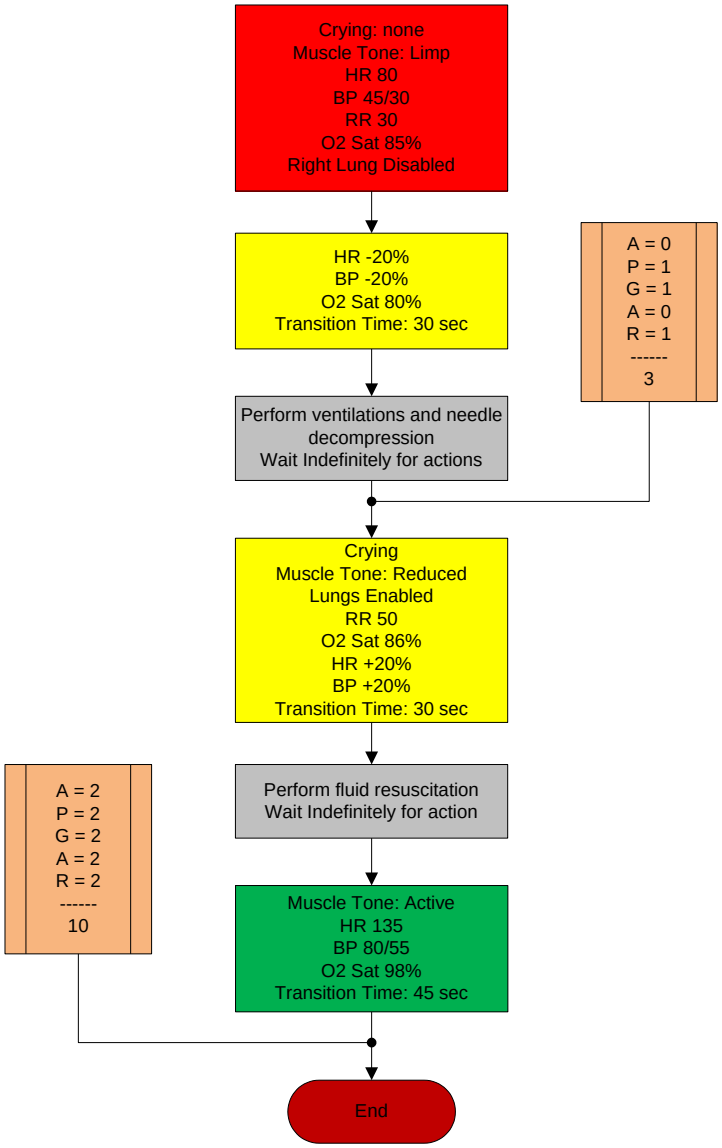


Gaumard®
Simulators for Health Care Education

Newborn HAL®

Cynthia's Baby

Male infant with central cyanosis, limp, flaccid and requires immediate resuscitation. No spontaneous movement of right arm is noted. Stat CXR reveals a fractured right clavicle and right pneumothorax.

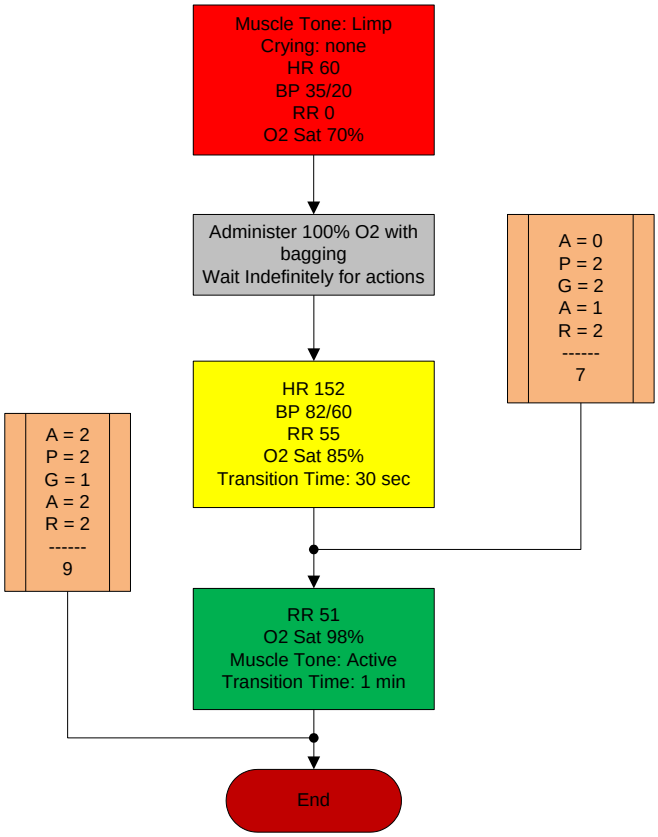


Gaumard®
Simulators for Health Care Education

Newborn HAL®

Elaine's Baby

This baby is born with moderate asphyxia, and will require CPR and oxygen to bring the vitals to a healthy state.

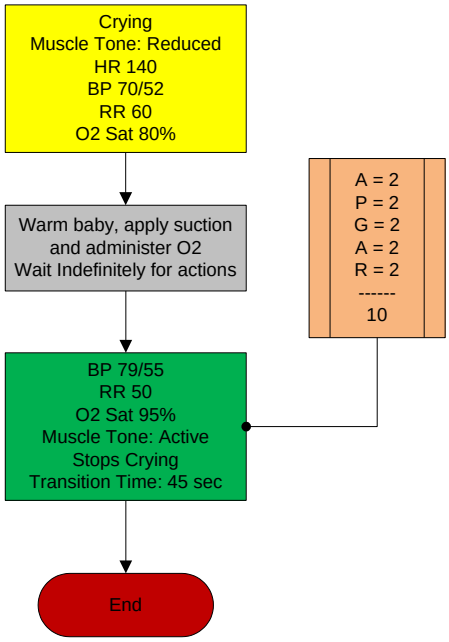


Gaumard®
Simulators for Health Care Education

Newborn HAL®

Francines's Baby

This baby was born through a C-Section and is responsive but needs some attention, after a while all vitals go to a healthy state.

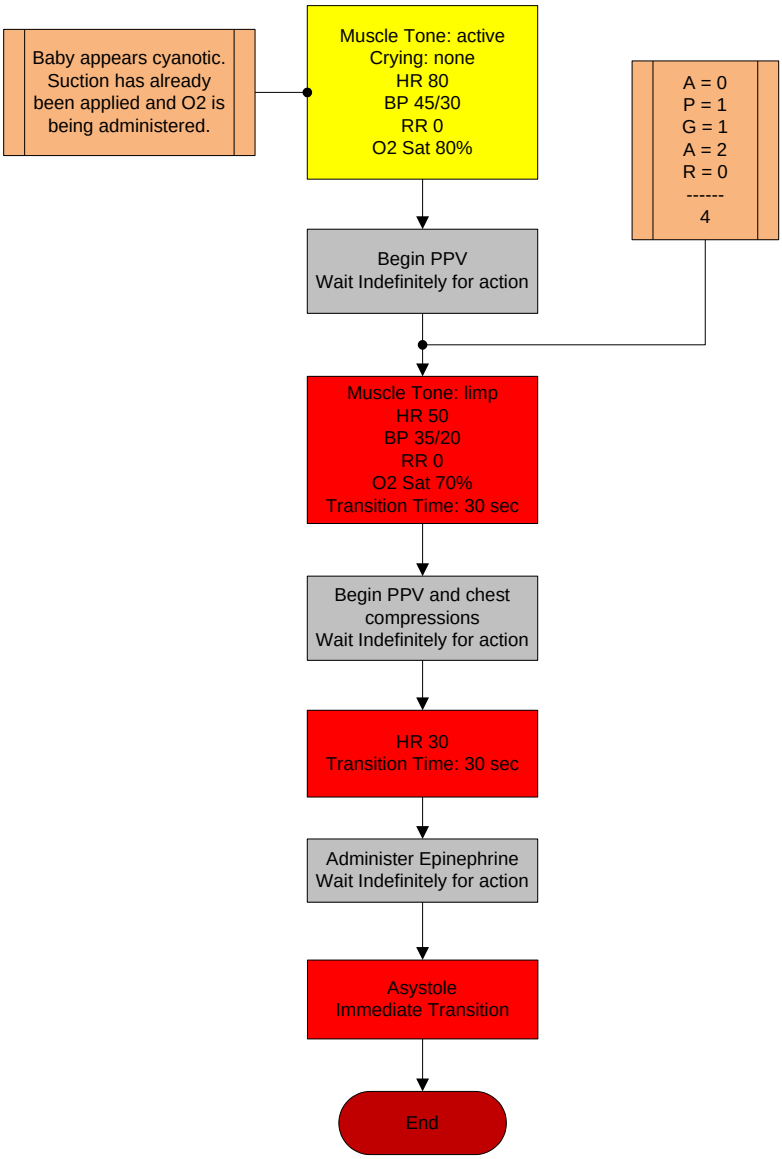


Gaumard®
Simulators for Health Care Education

Newborn HAL®

Gloria's Baby

This baby is born with mild asphyxia, but no matter how good the interventions are, this disastrous intrapartum complication results in neonatal death.

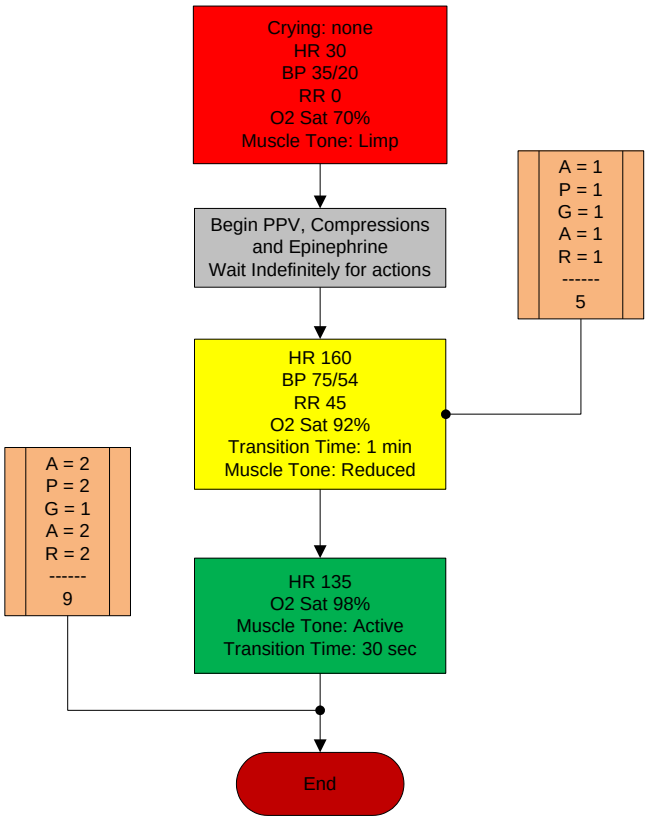


Gaumard®
Simulators for Health Care Education

Newborn HAL®

Helen's (Irene's) Baby

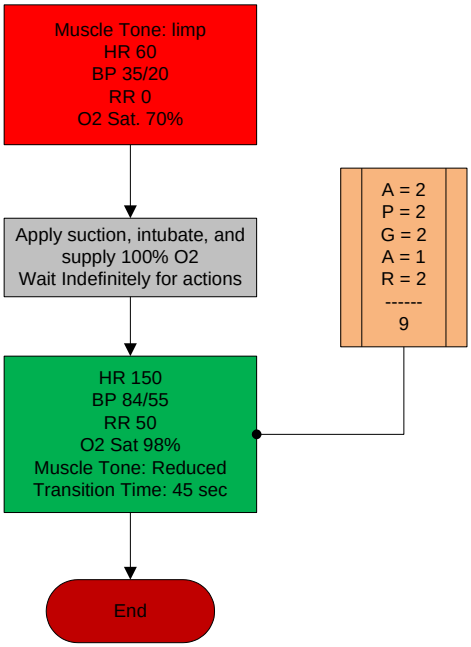
This baby is born with a severe asphyxia that has to be treated immediately. After ventilations and EPI have been given, the baby's vitals go towards a good outcome.



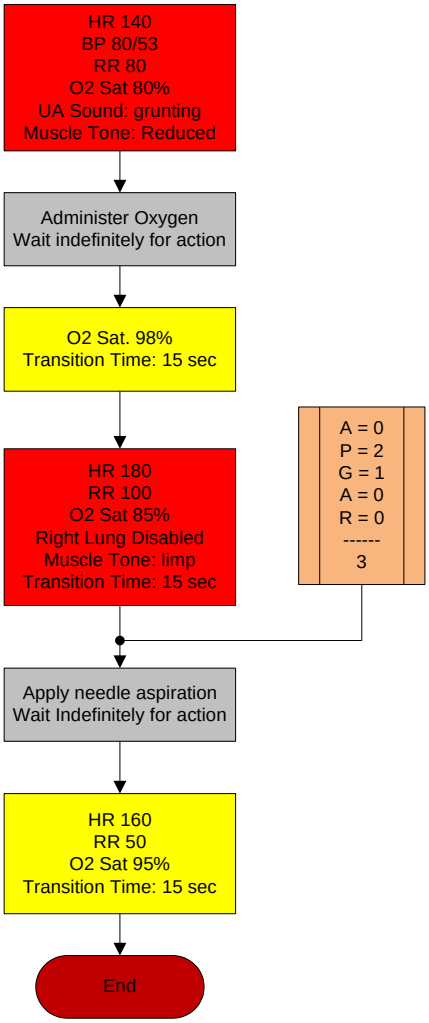
Gaumard®
Simulators for Health Care Education

Newborn HAL®
MAS

Meconium Aspiration Syndrome



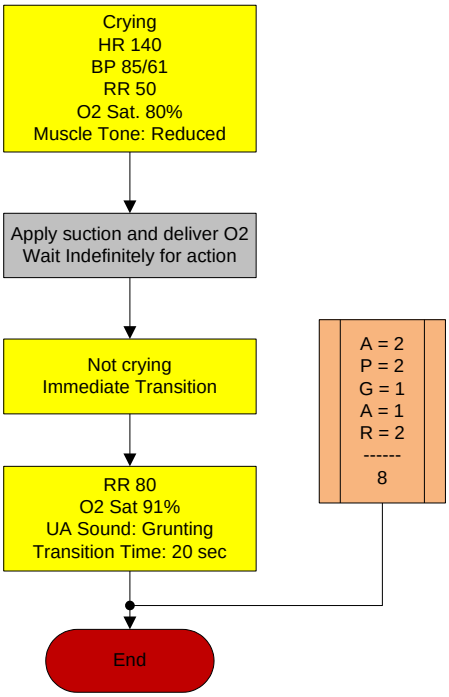
Gaumard® Simulators for Health Care Education	Newborn HAL® **RDS**
Newborn with mild Respiratory Distress Syndrome gets a pneumothorax after oxygen is given.	



Gaumard®
Simulators for Health Care Education

Newborn HAL®
TTN

Transient Tachypnea of the Newborn



Tips on Creating Scenarios

THINKING IN TERMS OF PALETTE ITEMS

As described previously, Palette items represent complete or partial groups of settings that have been stored as a single item. We learned how applying partial states will hold constant all settings that are left unspecified.

Not only does it take time to customize the palette, but a very large palette becomes difficult to navigate. So, it is desirable to minimize the number of Palette Items in each Profile. To accomplish this, an experienced facilitator tries to create items that are as generally applicable as possible and can, thus, be applied to a wide range of scenarios. The key is to only include in your Palette Items the settings that are directly related to the physiological event represented by that Palette Item.

SMART SCENARIOS

After reading the Details, Palette, and Scenarios sections of this guide, it should be clear how to build a scenario. You may have already tried building your own or modifying some of the factory presets. The following four guidelines will refine your ability to build the best possible scenarios.

1. How will the scenario begin?

The first thing to consider is the initial condition of the patient. Create a Palette Item to describe this condition. Make sure that this first step in the scenario is a complete state. That is, indicate some selection for each and every available setting on the Details page. Remember that only the settings you specify will cause a change in **NOELLE,** and all other settings will remain constant. So, by starting with a complete state, NOELLE's condition will always be the same when the scenario starts, regardless of what he was doing previously.

Likewise, the "transition duration" of the first step in the scenario should be zero, indicating that changes are applied immediately.

There is one point that can cause confusion and warrants further explanation. It is an extension of the above discussion of partial states. The issue is best illustrated through the following example:

> Suppose that you are creating a Palette Item to start your scenario. In this case, you have decided that the patient will be apneic. The question is, "How should the lung sounds be set?"

Most people's first inclination is to set the lung sounds to "none." This is incorrect, despite apnea. Obviously, no lung sounds should be heard during apnea, but since you have already set respiratory rate to zero, none will be. (Sounds are synchronized to the breathing cycle.)

What you are really setting here when you choose a lung sound is the condition of the lungs, given respiratory drive. That is, if the patient's respiratory rate were changed from zero, what sound would be heard? Assuming that the lungs themselves are normal in this scenario, you would choose "normal" for the lung sound setting.

Then, as the scenario progresses, if the patient starts breathing, there will be no need to set the lung sound again. It will already be set. The same principle applies to the heart sound and other settings.

2. Include notes to guide the facilitator during the simulation.

It is common for scenario designers, especially those who act as facilitators, to neglect the importance of notes in the scenario. They think that they will remember the learning objectives, patient history, and other details at the time they are ready to conduct the simulation. They usually don't, especially when revisiting a scenario months after creating it.

When you add "Wait" and "Wait Indefinitely" steps to a scenario, you have an opportunity to edit the item description. Use this description field to hold notes to the facilitator. Typically, scenario designers put notes there to indicate what the provider(s) or facilitator should be doing at that point.

Further, when saving the scenario, you may edit the scenario description. This is the best place to put patient history and any other longer notes and instructions.

3. Assume that providers will do the right thing.

Usually, you should create a scenario with the assumption that the providers will perform correctly. As long as they do, the scenario can simply be allowed to continue.

Naturally, you must be prepared for what might happen to NOELLE when providers deviate from expectations. The consequences of such deviations can sometimes be included in the scenario, punctuated by "Wait Indefinitely" items. In other cases, the simulation will require more direct control by the facilitator via either the Palette or Details page.

4. Choose auto-response settings based on the scenario content and the objectives.

As you've seen, auto-responses can be used to free the facilitators attention. They also enhance realism by presenting instant reactions to the care providers. On the other hand, sometimes it is not possible or desirable to determine the responses before the simulation begins. Different environments and applications call for different settings.

Loosely structured teaching and practice is usually best done with the auto-response settings in Prompt mode. Responses must be triggered by a vigilant facilitator. Though it is slower and requires more attention, the benefit of Prompt over other modes is that the simulation can be allowed to go in any direction, and it will be possible to choose the response on a case-by-case basis.

Tightly structured teaching and assessment requires a higher degree of automation. For such applications, most facilitators choose Auto mode for the auto-response settings. The key issue is standardized timing of symptom presentation. A consistent, repeatable simulation is essential for fair assessment of that care provider in relation to others and for the broader interpretation of results in the context of training validation studies.

When in doubt, it is best to choose *Prompt* mode, in which the facilitator will be given direct control of the responses as events are detected.

.

Troubleshooting

General Troubleshooting Guide

Use the following table to find causes and solutions to a number of possible problems.

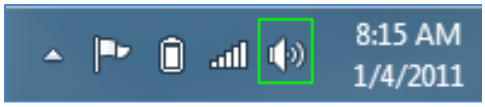
Symptom	Possible Cause	Solution
Communication never gets established or is lost (**blinking communication indicator is consistently red**)	Battery is discharged	If NOELLE's backup battery is completely discharged, connect the charger and wait 20 minutes to power on the simulator. Leave the simulator connected while in use. ▪ NOELLE should always be plugged in while being operated. The birth mechanism is power intensive and will drain the battery quickly. ▪ Newborn must be plugged in to the charger during use.
	Communication Module is not detected.	Perform a full shutdown of the tablet.
	Disconnected power plug	NOELLE's internal battery is used for transportation. Always use NOELLE connected to the charger.
	Communication module RJ-45 Cable is not connected to the simulator.	Both simulators operate using a wired connection. Connect the wired communication module to the simulator and restart UNI.
	All others	Close the UNI software and unplug the USB communication module for at least 5 seconds, then plug it back in. Restart the software and wait for initialization
Sound quality while streaming is poor.	Sound is too low or too loud.	Sound volume at PC side is managed from PC's volume control. Simulator sound volume is managed from PC's Microphone gain control. Adjust microphone gain until simulator voice level equals user's voice intensity. Always talk as close as possible to the microphone in order to improve quality. Using a headset is recommended.
	Respiration and other undesirable sounds are heard by instructor.	Since simulator's microphone has high sensitivity in order to capture the voice of providers, it also captures all surrounded noises on or around the simulator. This is normal and it is not a malfunction.
	Simulator is set to "Generic" "Setup/Options/Environment" menu.	Make sure to select multiple simulator environment (Setup→Options→Environment tab), and enter the Serial Number of the simulator you are using. **Warning**: **Streaming audio is disabled in "generic mode" simulator is checked.**
Streaming audio does not work, tab is not displayed.	The backup battery on the simulator is depleted	Plug charger into the simulator. Verify LED light on charger indicates "charging" status. ▪ NOELLE should always be plugged in while being operated. The birth mechanism is power intensive and will drain the backup battery quickly. ▪ Reconnect Newborn to the charger.
UNI has set the power mode to STAND-BY automatically	Wired communication module is not connected	Connect the communication module to any USB port.
"Wired communication module not found" message is displayed when UNI is started	Wired communication is module not identified by the computer	Close the software and try disconnecting the communication module for at least five seconds, then plug it back in and restart the software
	Drivers not properly loaded	Perform a full shutdown procedure on the tablet.
	Is the communication indicator panel consistently yellow?	See solution above in section making reference to "**blinking communication indicator is consistently yellow"**

Symptom	Possible Cause	Solution
Chest compressions are not properly detected or not detected at all	Is the respiratory rate set to "0 / min"? Chest compressions are only detected when the respiratory rate is set to 0 per minute (0 / min). Otherwise they are ignored	Set respiration rate to zero
	Simulator is not connected	Verify connection to the simulator.
	All others	See "Calibration Wizard" section inside User's Manual
Newborn artificial ventilations are not properly detected or not detected at all	Simulator is not connected	Verify connection to the simulator.
	All others	See "Calibration Wizard" section inside User's Manual
	Simulator not running	Simulator must be powered on and respiratory rate set at 0.
Newborn simulator's chest does not rise with artificial ventilation (e.g. BVM)	Incorrect respiratory settings	Respiration rate and inspiration percentage must be higher than "0". If problem persist, shut down the simulator and restart the tablet. Turn on the system then verify connection, battery and lung settings.
Newborn's Low chest rise (or no chest rise at all) while breathing	Wrong force sensor reading	When baby is pulled with more than 35 lbs. of force, to avoid damage, the baby is released. If user is not pulling the baby it means that "Force Sensor" is offset. See the "Calibration Wizard" section inside User's Manual and reset the force sensor to its default value ("Reset to Default Force" button)
NOELLE®'s delivery baby is disengaged prematurely	Wrong force sensor reading	Try manual "Release" from button located on the left hand site corner under "Delivery" tab. If baby releases, then calibrate "Force Sensor". See the "Calibration Wizard" section inside User's Manual and reset the force sensor to its default value ("Reset to Default Force" button)
NOELLE®'s delivery baby does not release at delivery end when user is pulling the baby	Dystocia is "ON"	When "Dystocia On" button is checked, the baby is not released until checking "Dystocia Off"
	Motor is "disoriented"	Reset the delivery motor by going to "Setup/Options/" menu, "NOELLE Features" tab, and then click on "Labor Motor" under "Reset…" tab. If delivery mechanism is at the very beginning in a way that it is compressing the rubber boots, the grinding noise won't go away for a minute or so. Should that be the case either let it go (it won't break) or simply move motor forward a few turns, and then reset.
	Initial fetus position was not specified on the software.	Lock the baby into the birthing mechanism and manually turn the baby to either ROA, LOA, LOP and ROP. Then synchronize the baby's position in the womb with the labor position icon located on the labor tab, page 45.
NOELLE®'s delivery mechanism doesn't come to its initial position when using the "Reset" button under the "Labor" tab, or it makes a grinding noise when reaching the end of the rails		Select "Quick Start Scenarios" when starting the software. To change profiles from within the UNI. Go to "File/Profile" menu and then select "Modeled Scenarios"
Pre-built scenarios do cannot be loaded	Volume not set to user's criterion.	Every sound has a volume control. Adjust the volume control located on the status panel to reach the desired level.
A sound is absent or is not heard at desired volume level	Cyanosis intensity not set to user's criterion.	Set Cyanosis level to a desired level by playing with the "Set Max cyanosis level" control.

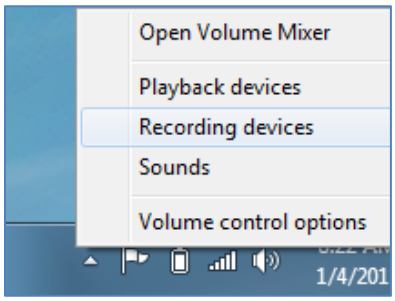
Microphone Boost (Windows® 7)

Use the instructions below to increase the streaming audio volume. The Headset must be connected to the tablet in order to adjust the microphone volume properties. In addition, adjust the recording control on the headset's physical control to high.

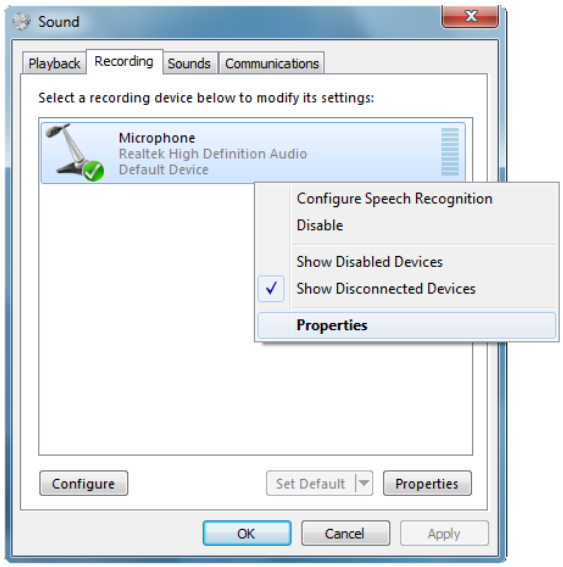
1. Right click on the speaker icon located on the bottom right corner of the laptop's taskbar.



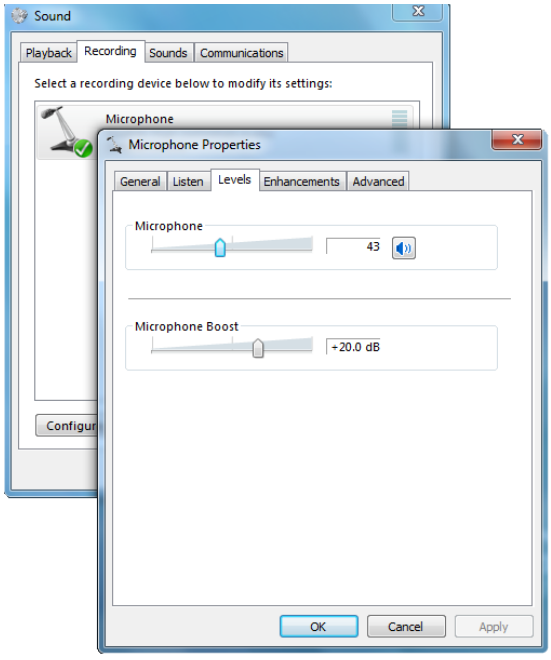
2. The speaker menu is displayed. Click on the recording devices option.



3. The sound properties window and recording tab are displayed. Right-click the microphone option and select properties.



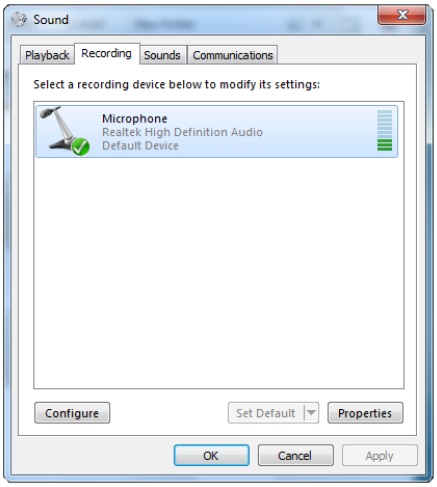
4. From the microphone properties sub menu, select the Levels tab. Use the microphone control to decrease and increase the recording volume. For an additional increase in recording volume, use the microphone boost control.



Microphone boost increases volume and saturation which can decrease overall clarity. For optimal clarity, adjust the microphone volume to 100 and the microphone boost to +10.

5. Click OK to save the changes to the volumes on the microphone properties menu.

6. Click OK to close the Sound properties window.



7. It might be necessary to re-adjust the microphone settings to accommodate environment noise.

Wireless Network

UNI generates the vital signs information displayed on the virtual monitor PC. The information is transmitted through a wireless ad-hoc connection between the two computers in real time.

The wireless settings are configured at the factory, so no additional configuration is required.

Use the “Create an ad-hoc Wireless network” tool to configure the wireless ad-hoc link between the two computers. Then, configure the connection between UNI and the Gaumard Monitors software.

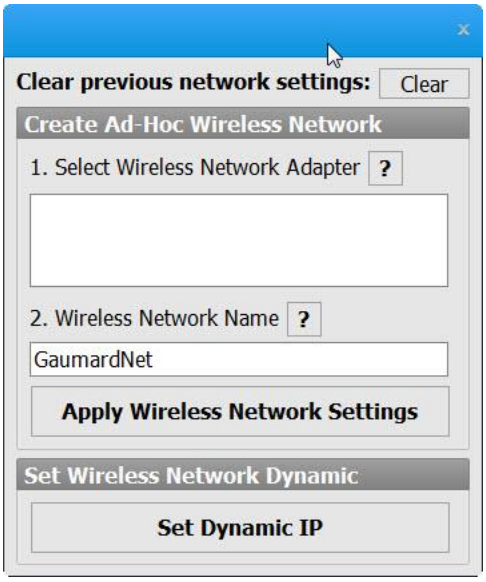
UNI NETWORK CONFIGURATION

Complete the next steps using the “Controller - Create Ad-Hoc Wireless Network” tool built in to UNI software.

1. From the menu bar, go to Help > “Create ad-hoc Wireless Network”

   The “Controller - Create Ad-hoc Wireless Network” window is displayed

2. Select the “Wireless Network Adapter”. If the wireless adapter is not listed, first enable the adapter using the Windows® network menu and then return to this window.

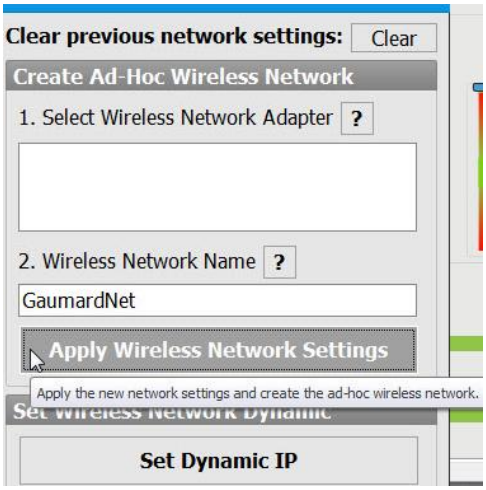


3. Enter a wireless network name (case sensitive). Use the same wireless network name to configure the Gaumard Monitors PC. “GaumardNet” is the required name for Windows® 7 computers.

4. Click “Set Dynamic IP”.to set the wireless network dynamic.

5. Click “Apply Wireless Network Settings” to save the settings.

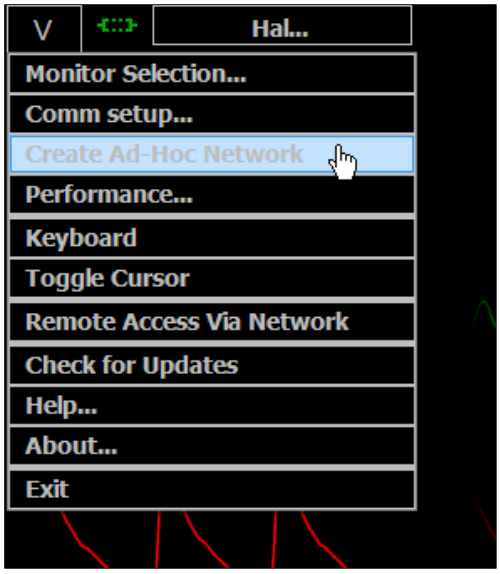
6. Restart the computer.



GAUMARD MONITORS NETWORK CONFIGURATION

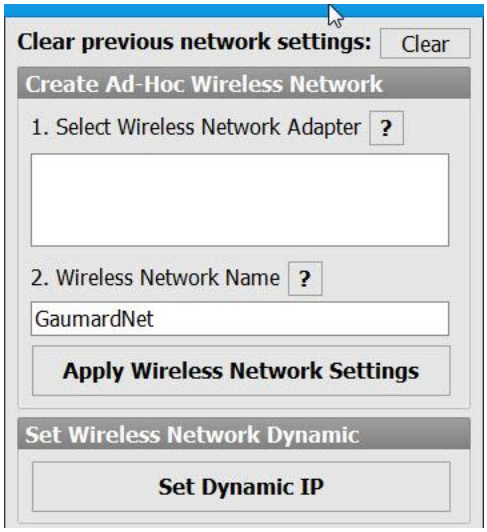
After the UNI control computer is configured, complete the next steps using the "Create an ad-hoc network tool" included in Gaumard Monitors software.

1. On the virtual monitor computer, click the Gaumard Monitors icon to start the vital signs software.
2. Click the V menu near the top left corner and select "Create Ad-Hoc Network".

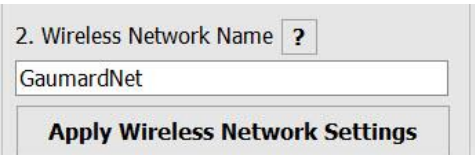


The "Virtual Monitor - Create ad-hoc Wireless Network" window is displayed.

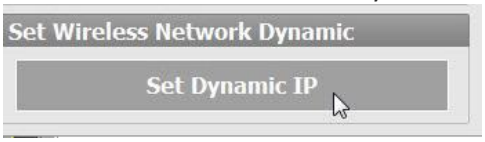
3. Select "Wireless Network Adapter". If the wireless adapter is not listed, first enable the adapter using the Windows® network menu and then return to this window.



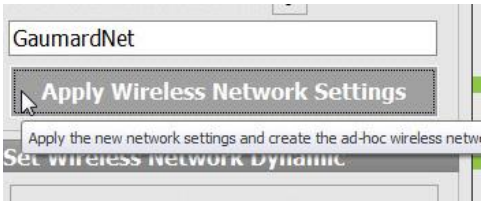
4. Enter a wireless network name (case sensitive). Use the same name entered in the controller computer. “GaumardNet” is the required name for Windows® 7 computers.



5. Click “Set Dynamic IP”.to set the wireless network dynamic.



6. Click “Apply Wireless Network Settings” to save the settings.



7. Restart the computer.

CONFIGURE THE VITAL SIGNS BROADCAST

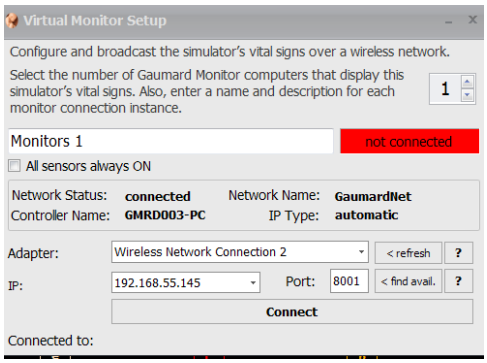
After the wireless ad-hoc link is established between both computers, complete next steps to configure the transmission of the vital signs information.

1. Verify that both computers are connected to the GaumardNet network using Windows® wireless connection menu. If the computers are not connected, select the “GaumardNet” network and click “Connect” manually.

2. Start the UNI control software.
3. On the UNI menu bar, click Monitors> Configuration.

The “HAL Virtual Monitor Setup” window is displayed on the UNI menu bar, click Monitors> Configuration.

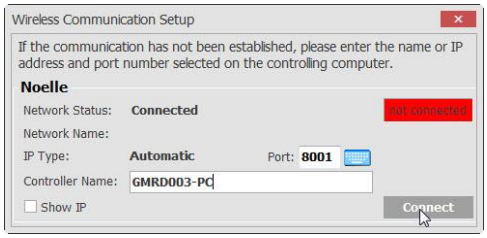
The “HAL Virtual Monitor Setup” window is displayed.



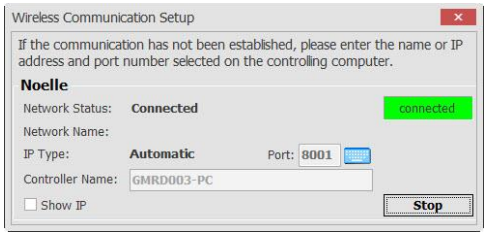
4. Set the adapter to “Wireless network connection”
5. Verify the network status and network name, then click “Connect” to begin transmitting the vital signs information.

6. Write down the “Controller Name” and “Port number”.
7. Start the Gaumard Monitors software on the virtual monitor PC.
8. Click the “V” menu near the top left corner, and then select “Comm Setup”.

The “TCP Comm Setup” window is displayed.



9. Click “Connect” to accept the incoming connection.

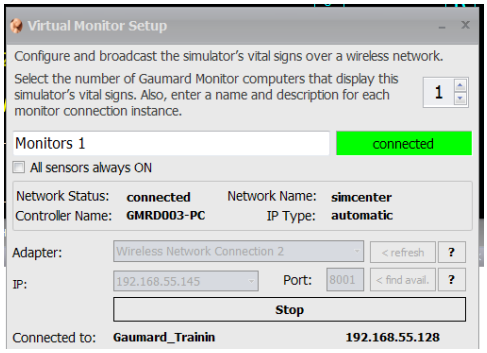


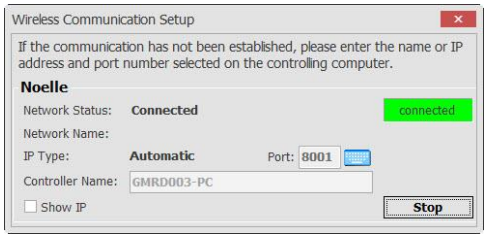
To connect both computers using a local internet network, follow the steps below:

1. Verify that both computers have applied “Set Wireless Network Dynamic”. Refer to UNI and Gaumard Monitors network configuration sections for instructions.
2. Disconnect both computers to the GaumardNet network and connect them to the local network manually using Windows® wireless connection menu.

3. Repeat the same steps listed above to connect the UNI software to the Gaumard Monitors software.

4. Repeat the same steps listed above to connect the UNI software to the Gaumard Monitors software.





Selected Consumables and Replacements Parts

Selected Parts List

Contact Gaumard Scientific for a **complete list** of consumables and replacement parts and their prices.
C=Consumables; R=Replacements; A=Accessories; U=Upgrades; M = Factory Repair ONLY

Item ID	Name	Type	Description
S555.100.001.R2	A/C Virtual Monitor	R	All in one computer
S555.100.004L.D	Lower Left Arm Skin Cover	M	Lower left arm skin cover
S555.100.004L.L	Lower Left Arm Skin Cover	M	Lower left arm skin cover
S555.100.004L.M	Lower Left Arm Skin Cover	M	Lower left arm skin cover
S555.100.004R.D	Lower Right Arm Skin Cover	M	Lower right arm skin cover
S555.100.004R.L	Lower Right Arm Skin Cover	M	Lower right arm skin cover
S555.100.004R.M	Lower Right Arm Skin Cover	M	Lower right arm skin cover
S555.100.007.D	C-Section Abdominal Cover	C	NOELLE stomach cover for C-Section Exercises, dark color
S555.100.007.L	C-Section Abdominal Cover	C	NOELLE stomach cover for C-Section Exercises, light color
S555.100.007.M	C-Section Abdominal Cover	C	NOELLE stomach cover for C-Section Exercises, medium color
S555.100.008.R2.D	Abdominal Cover	R	NOELLE stomach cover with foam insert, dark color
S555.100.008.R2.L	Abdominal Cover	R	NOELLE stomach cover with foam insert, light color

Item ID	Name	Type	Description
S555.100.008.R2.M	Abdominal Cover	R	NOELLE stomach cover with foam insert, medium color
S555.100.010	Battery	M	Rechargeable battery
S555.100.011	Battery Charger	R	Battery charger with label
S555.100.013	Birthing Mechanism	R	Automatic Birthing Mechanism
S555.100.016.D	Birth canal	C	Dark color
S555.100.016.L	Birth canal	C	light color
S555.100.016.M	Birth canal	C	Medium color
S555.100.032	Automatic Boggy Uterus	R	Boggy Uterus for **automatic** PPH
S555.100.033	Episiotomy Trainer Set	R	Episiotomy Trainer set with vulva insert
S555.100.040.D	Articulating baby	R	Articulating birthing fetus
S555.100.040.L	Articulating baby	R	Articulating birthing fetus
S555.100.040.M	Articulating baby	R	Articulating birthing fetus
S555.100.048	Adult IV Filling Kit	A	Fluid dispensing syringe with filling tube
S555.100.060	Simulator Transport Case	R	Soft storage and transport case with wheels
S555.100.062	Shipping Cardboard Box	R	Box dimensions 60"x20"x30" for simulators with soft case
S555.100.080	Simulated Blood Concentrate	C	
S555.100.081	Silicone Oil	R	Oil-based Silicone lubricant
S555.100.087	Wireless Streaming Audio Headset	R	
S555.100.207	Laptop PC	R	GUI Software included
S555.100.310	Wireless keypads	R	Extra pack of five wireless keypads
S555.100.EXW	Two Year Extended	A	Extended warranty for years Two **AND** Three

Item ID	Name	Type	Description
	Warranty		
S555.100.INST	In-Service Training	A	Day of in-service training and installation

Replacing Common Consumable and Replacement Parts

BIRTH CANAL

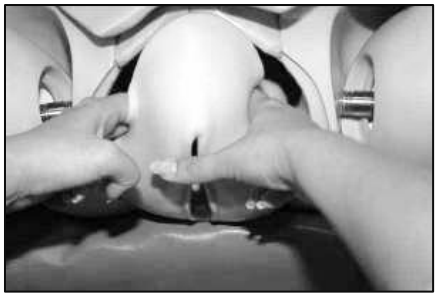
Follow the instructions below to replace the birth canal. You may also use the steps below in case the birth canal has to be removed temporarily to adapt the episiotomy kit.

REMOVE BIRTH CANAL

1. Insert your left hand at the 9 o'clock position, between the lower torso and the birth canal insert. Slowly push inward.

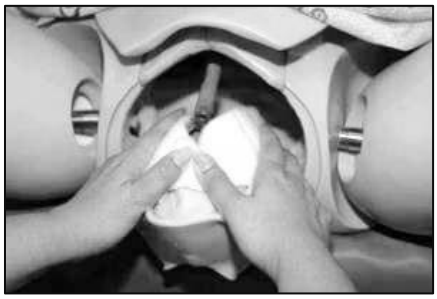
Warning:
Do not pull the birth canal to remove.

2. Repeat instructions in step 1 with right hand at the 3 o'clock position.



3. Push inward on the birth canal insert. Then place your thumbs on the top of the birth canal insert and push downward.

4. Slowly pull the birth canal insert towards you. When the urine catheter tube is visible, detach from the birth canal insert.



5. Finally, after removing the urine catheter tube, gently remove the birth canal insert.

ATTACH THE BIRTH CANAL

1. Place birth canal insert into polythene bag and ensure the bag covers the Velcro on the outer wall of the insert as shown in picture.

2. While first inserting the plastic bag through the birth canal opening on the mannequin, gently position the birth canal insert with the approximate final alignment to the opening.

3. Push the birth canal insert into position. Place your hands on the lower half of the insert with your fingers holding the bag in place. Steady the front of the insert with your thumbs. Without removing the plastic, orient the birth canal insert so that it is properly aligned with the opening on the lower torso of the mannequin.

4. Gently begin to remove the polythene bag with one hand while holding the insert in place with the other, as pictured below. It is easier to start at the top, then work down the sides towards the bottom.

5. Place one hand towards the bottom of the birth canal insert when pulling out the bottom portion of the polythene bag.

6. With the birth canal insert in place, pull the post-partum hemorrhage tube through the hole in the bottom of the birth canal insert as

shown in the picture. This is to position the hemorrhage tube in the correct location. The birth canal insert is now ready for normal use.

Warranty

EXCLUSIVE ONE-YEAR LIMITED WARRANTY

Gaumard warrants that if the accompanying Gaumard product proves to be defective in material or workmanship within one year from the date on which the product is shipped from Gaumard to the customer, Gaumard will, at Gaumard's option, repair or replace the Gaumard product.

This limited warranty covers all defects in material and workmanship in the Gaumard product, except:

1. Damage resulting from accident, misuse, abuse, neglect, or unintended use of the Gaumard product;
2. Damage resulting from failure to properly maintain the Gaumard product in accordance with Gaumard product instructions, including failure to property clean the Gaumard product; and
3. Damage resulting from a repair or attempted repair of the Gaumard product by anyone other than Gaumard or a Gaumard representative.

This one-year limited warranty is the sole and exclusive warranty provided by Gaumard for the accompanying Gaumard product, and Gaumard hereby explicitly disclaims the implied warranties of merchantability, satisfactory quality, and fitness for a particular purpose. Except for the limited obligations specifically set forth in this one-year limited warranty, Gaumard will not be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory regardless of whether Gaumard has been advised of the possibilities of such damages. Some jurisdictions do not allow disclaimers of implied warranties or the exclusion or limitation of consequential damages, so the above disclaimers and exclusions may not apply and the first purchaser may have other legal rights.

This limited warranty applies only to the first purchaser of the product and is not transferable. Any subsequent purchasers or users of the product acquire the product "as is" and this limited warranty does not apply.

This limited warranty applies only to the products manufactured and produced by Gaumard. This limited warranty does not apply to any products provided along with the Gaumard product that are manufactured by third-parties. For example, third-party products such as computers (desktop, laptop, tablet, or handheld) and monitors (standard or touch-screen) are not covered by this limited warranty. Gaumard does not provide any warranty, express or implied, with respect to any third-party products. Defects in third-party products are covered exclusively by the warranty, if any, provided by the third-party.

Any waiver or amendment of this warranty must be in writing and signed by an officer of Gaumard.

In the event of a perceived defect in material or workmanship of the Gaumard product, the first purchaser must:

1. Contact Gaumard and request authorization to return the Gaumard product. Do NOT return the Gaumard product to Gaumard without prior authorization.
2. Upon receiving authorization from Gaumard, send the Gaumard product along with copies of (1) the original bill of sale or receipt and (2) this limited warranty document to Gaumard at 14700 SW 136 Street, Miami, FL, 33196-5691 USA.
3. If the necessary repairs to the Gaumard product are covered by this limited warranty, then the first purchaser will pay only the incidental expenses associated with the repair, including any shipping, handling, and related costs for sending the product to Gaumard and for sending the product back to the first purchaser. However, if the repairs are not covered by this limited warranty, then the first purchaser will be liable for all repair costs in addition to costs of shipping and handling.

EXTENDED WARRANTY

In addition to the standard one year of coverage, the following support plans are available:

- Two-Year Extension (covers second and third years)
- Call for pricing (USA only)

Contact Us

On the web
www.Gaumard.com

Technical Support
support@gaumard.com

Sales and Customer Service sales@gaumard.com

Phone:

Toll-free in the USA: (800) 882-6655

Worldwide: 01 (305) 971-3790

Fax: (305) 667-6085

Before contacting Tech Support **you must**:

1. Have the simulator's Serial Number (located in the left leg under the IM site)
2. Be next to the simulator if troubleshooting is needed

Gaumard Scientific

14700 SW 136 Street

Miami, FL 33196-5691 USA

Office hours: Monday-Friday, 8:30am - 4:30pm EST (GMT-5, -4 Summer Time)

Always dispose of this product and its components in compliance with local laws and regulations.

The NOELLE simulation system is protected by US patent; other Patents Pending.

Gaumard®, NOELLE ®, HAL® are trademarks of Gaumard Scientific Company, Inc.

© Gaumard Scientific Company, 2014. Made in U.S.A. All rights reserved.