

# SimNewB

## User Guide





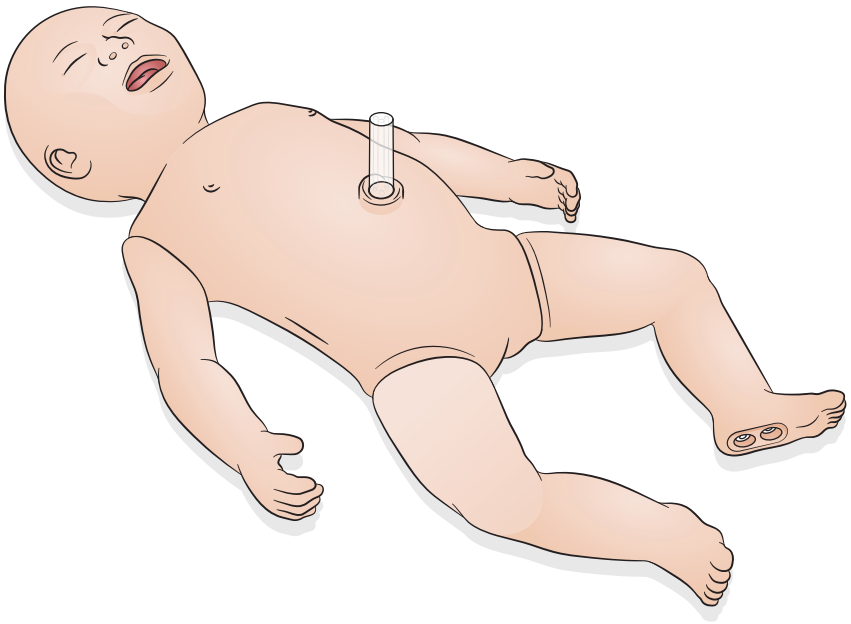
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# Introduction

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SimNewB is a tetherless newborn simulator designed to help improve neonatal resuscitation and to meet the specific learning objectives of neonatal resuscitation protocols. Focusing on the first 10 minutes of life, SimNewB provides realistic training for critical interventions.

Items included may vary in appearance and are subject to change.





## System Overview & Setup

SimNewB can be controlled by the operator either by using a tablet or PC running Laerdal's LLEAP software, or using SimPad Plus which is Laerdal's proprietary tablet.

Both LLEAP and SimPad Plus allow the operator to run sessions either by using pre-programmed scenarios in Automatic Mode, or in Manual Mode.

Using either LLEAP or SimPad Plus allow vital signs to be displayed on a simulated Patient Monitor (optional).

Both SimNewB and the Patient Monitor can be operated wirelessly.



LLEAP



SimPad PLUS



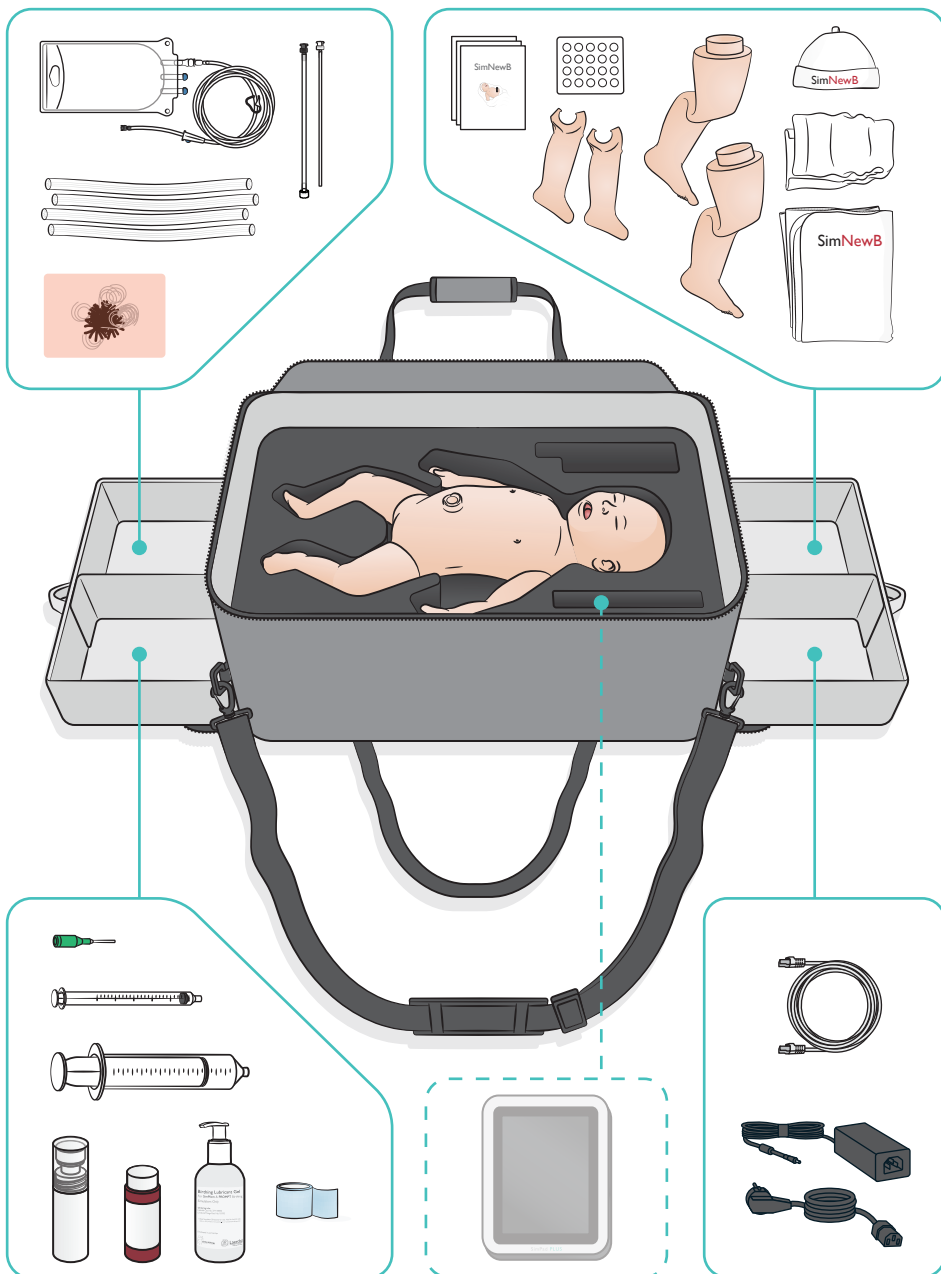
Patient Monitor



### Note

- Find SimPad PLUS User Guide on [www.laerdal.com/support](http://www.laerdal.com/support)
- To access LLEAP help files, go to 'Help' on Laerdal Simulation Home
- For detailed connection instructions, download the 'Wireless Setup Overview' from [www.laerdal.com/SimNewB](http://www.laerdal.com/SimNewB)
- To get the most out of your simulation training, download complimentary scenarios here: [www.laerdal.com](http://www.laerdal.com)

## Items Included & Storage



## Airway Features

- Anatomically realistic airway
- Nasal and oral ET tube insertion
- LMA insertion
- Sellick Maneuver
- Bilateral and unilateral chest rise and fall with positive pressure ventilation
- Right mainstem intubation
- Suctioning
- Variable lung resistance
- Gastric tube insertion
- Stomach distention
- Lung Recruitment Maneuver

## Breathing Features

- Spontaneous breathing with variable rate and depth
- Bilateral and unilateral chest rise and fall
- Normal and abnormal breath sounds
- Anterior lung sounds
- Unilateral breath sounds
- Simulated Oxygen Saturation
- Unilateral thoracentesis
- Pneumothorax

## Vascular Features

- Bilateral IO access
- Simulated umbilical cord
- Umbilical access
- Simulated blood flashback on cannulation

## Circulation Features

- Umbilical pulse
- Bilateral brachial pulse
- Central cyanosis

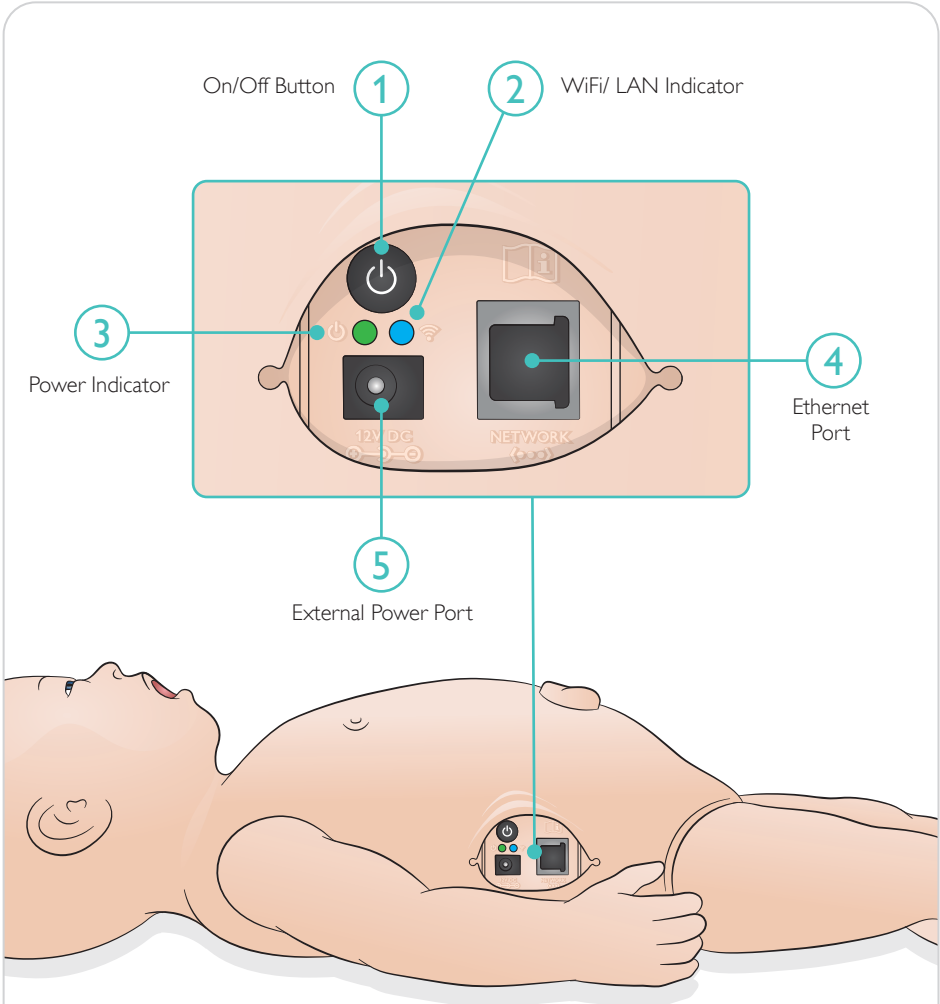
## Cardiac Features

- Basic CPR training

## Other Features

- Normal, blown and constricted pupils
- Vocal, lung and heart sounds
- Arms - movements and seizures




# Power Panel

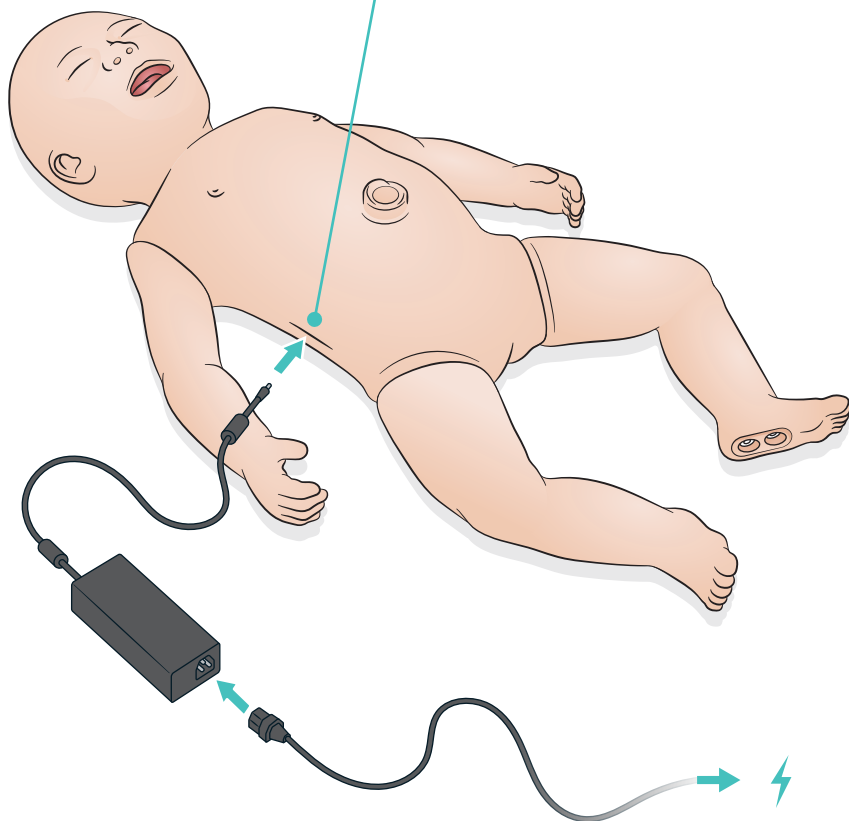
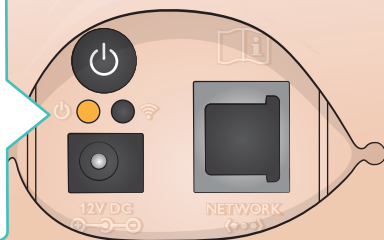


## Power Indicator Status

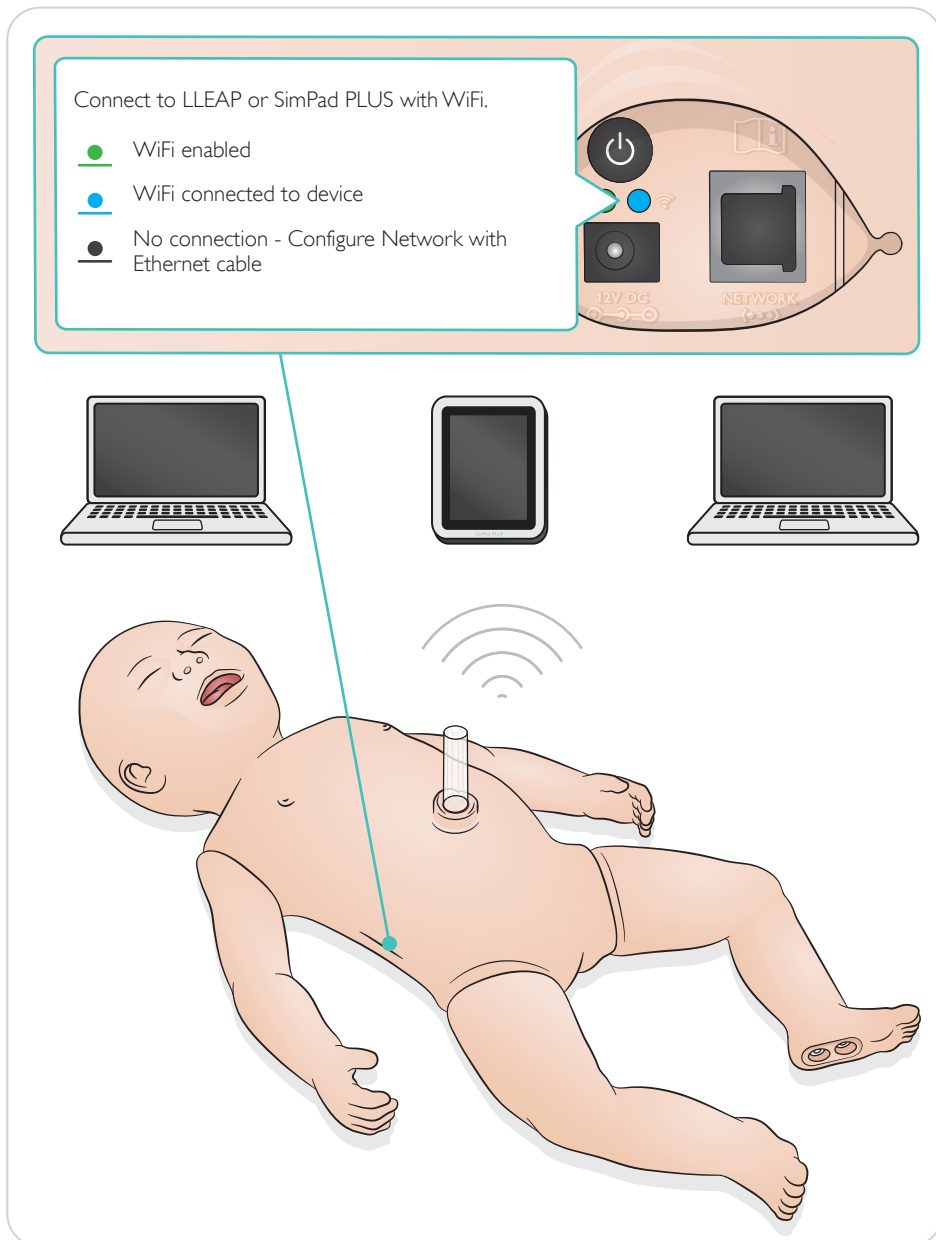
- |                   |                           |
|-------------------|---------------------------|
| On                | Failure updating software |
| Simulator booting | 10 secs - Battery low     |
| Software updating | Service required          |
| Battery charging  | Battery fully charged     |

Fully charge the battery before first use.

-  Battery charging
-  Battery fully charged
-  10 secs - Battery low



## Connect





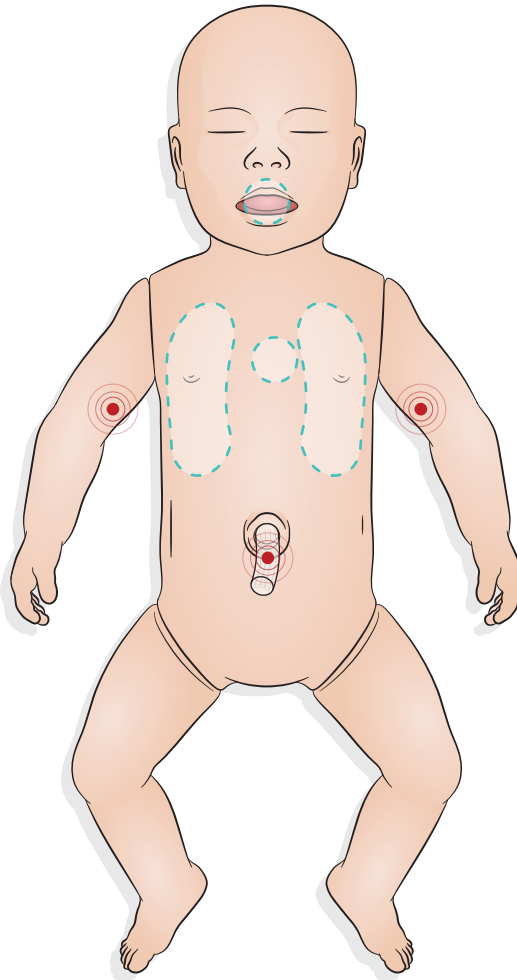
Note

For detailed connection instructions, download the 'Wireless Setup Overview' from [www.laerdal.com/SimNewB](http://www.laerdal.com/SimNewB)

## Overview Pulses and Sounds

Pulses and sounds are controlled in SimPad PLUS or LLEAP.

-  Umbilical and Brachial Pulses
-  Vocal, Lung and Heart Sounds



## Preparing for Simulation - Inserting the meconium module

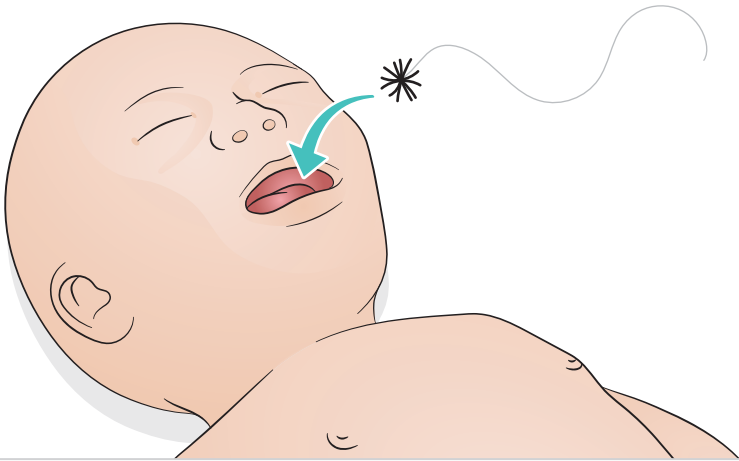
- Insert the module with a finger - do not use force.
- A suction catheter @ 100 mmHg will remove the meconium module.
- A tether has been added to ensure removal of the object.



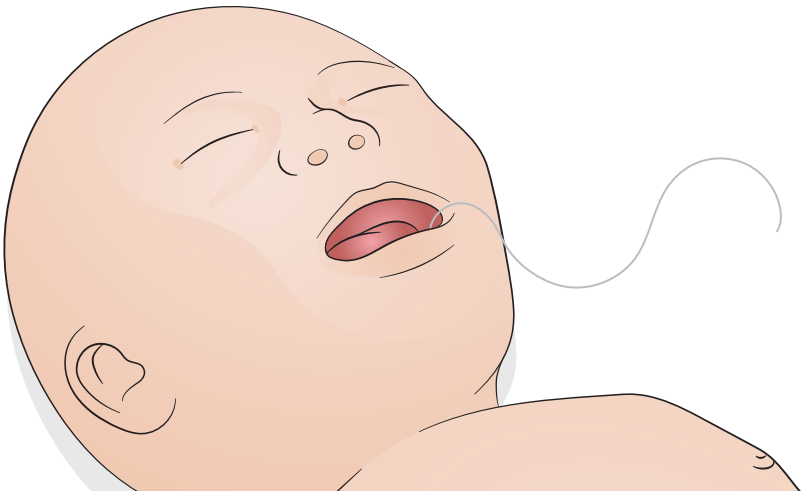
Notes:

- *Do not add lubricant to the module*
- *Do not insert the meconium module past uvula*

1



2

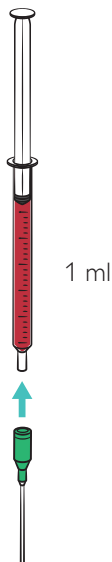




## Preparing for Simulation - Umbilical Venous Catheterization

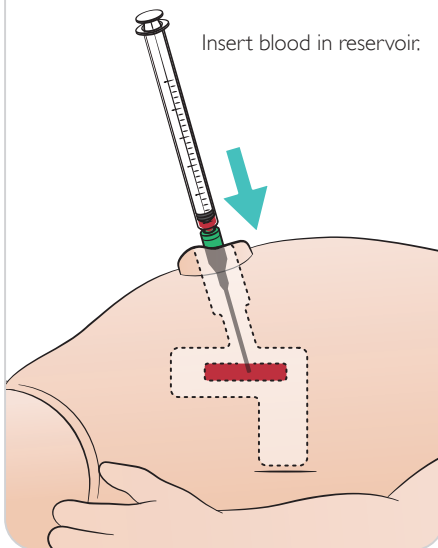
1

Place tip and fill with maximum 1 ml blood.



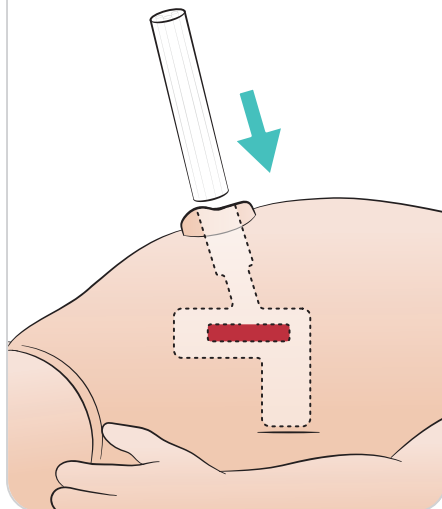
2

Insert blood in reservoir.



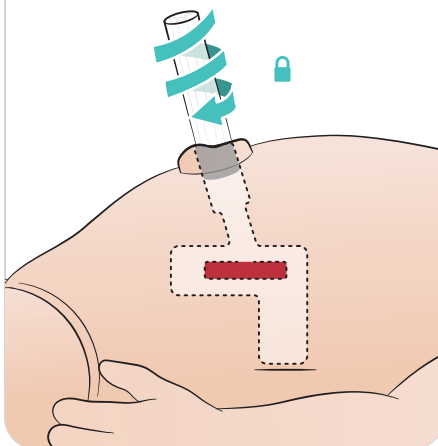
3

Place Umbilical Cord into naval.



4

Twist to lock in place.

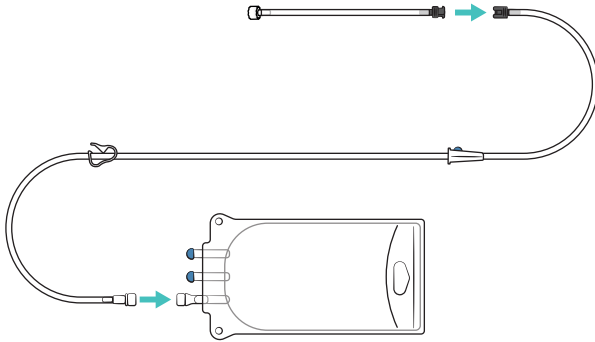


# Preparing for Simulation - Umbilical Venous Catheterization

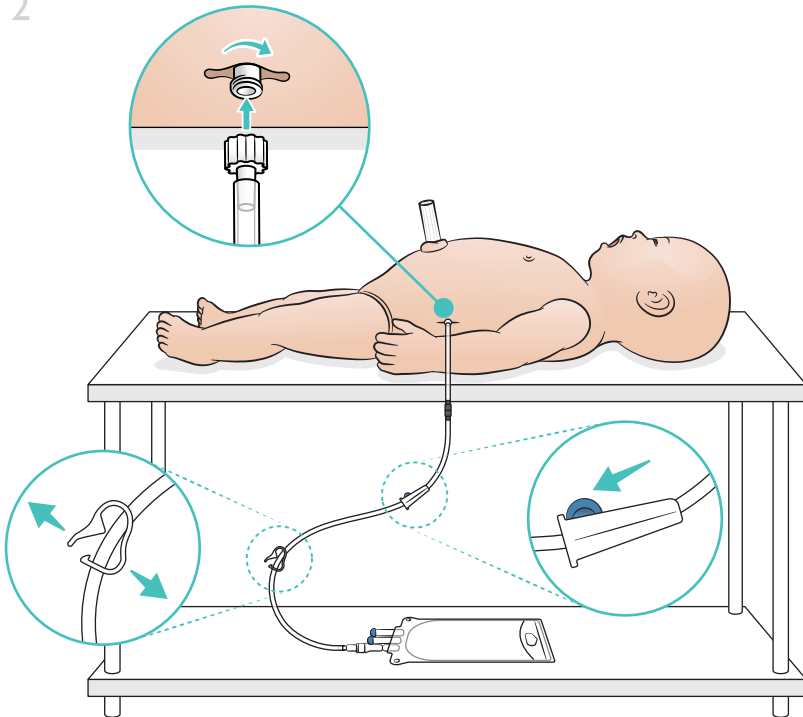
## Large Volume Infusions

If scenario requires large volume infusions of fluid (exceeding 10 ml), connect empty drain bag to simulator:

1

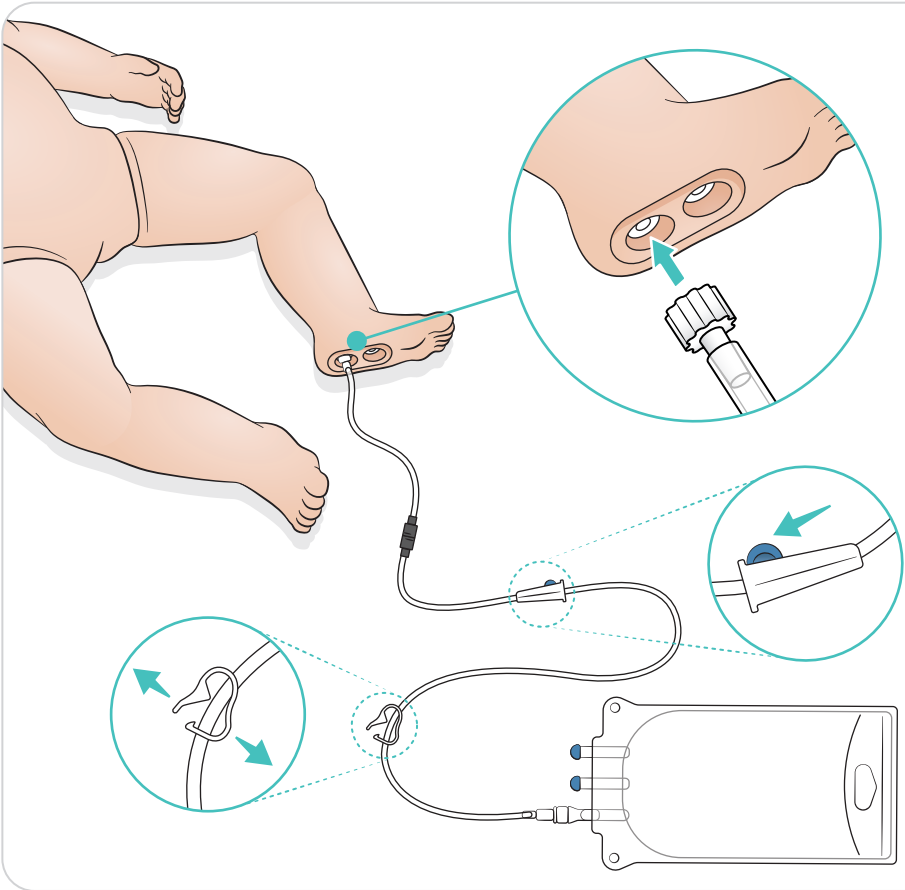
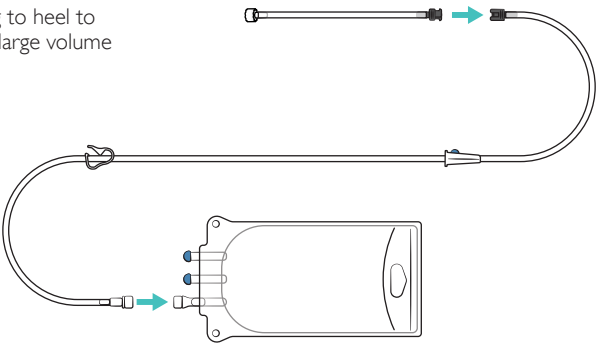


2



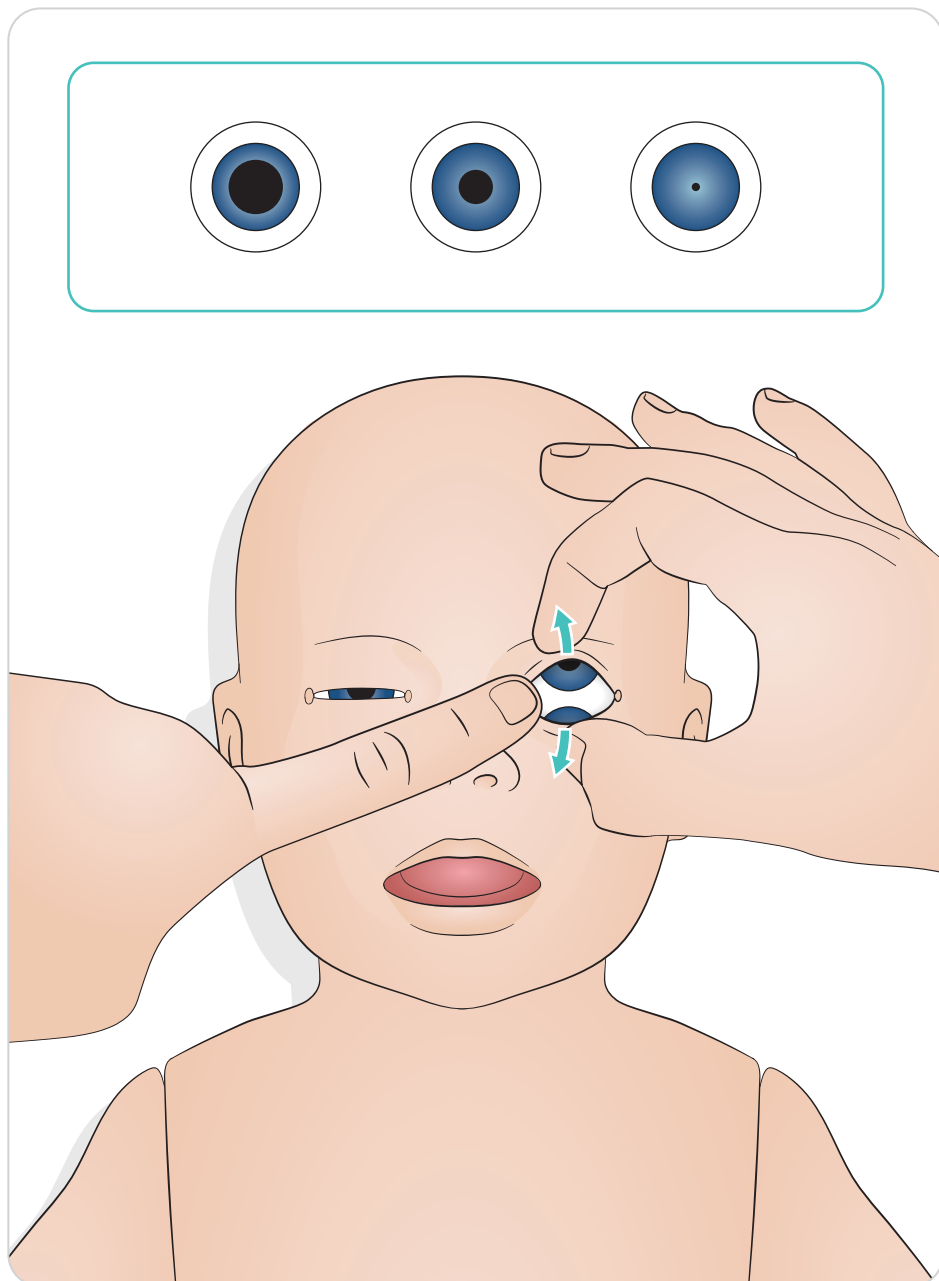
# Preparing for Simulation - IO Leg - Large Volume Infusions

Connect empty drain bag to heel to prepare for intraosseous large volume infusion of medication.



## Preparing for Simulation - Choose Pupils

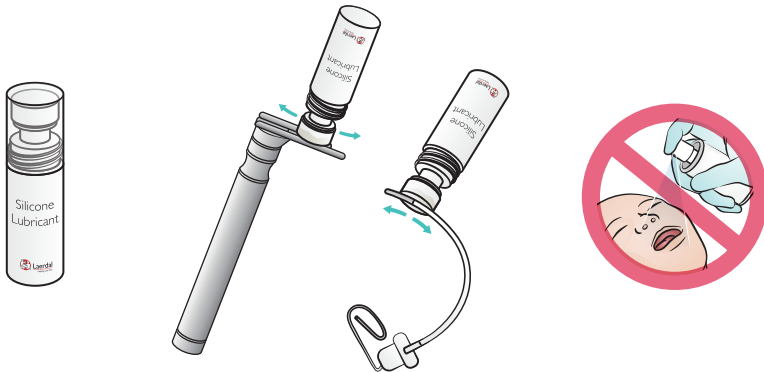
Rotate the eyes to select pupil type.



## Preparing for Simulation - Lubrication

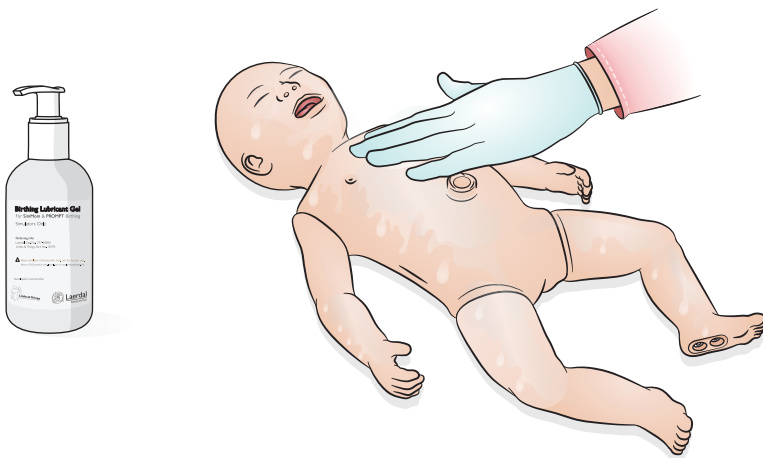
### Lubricate Tools

Lubricate laryngoscope blade and tubes prior to insertion into the airway. Non-lubricated instruments and tubes may cause damage to the airway. Only use Silicone Lubricant provided by Laerdal Medical.



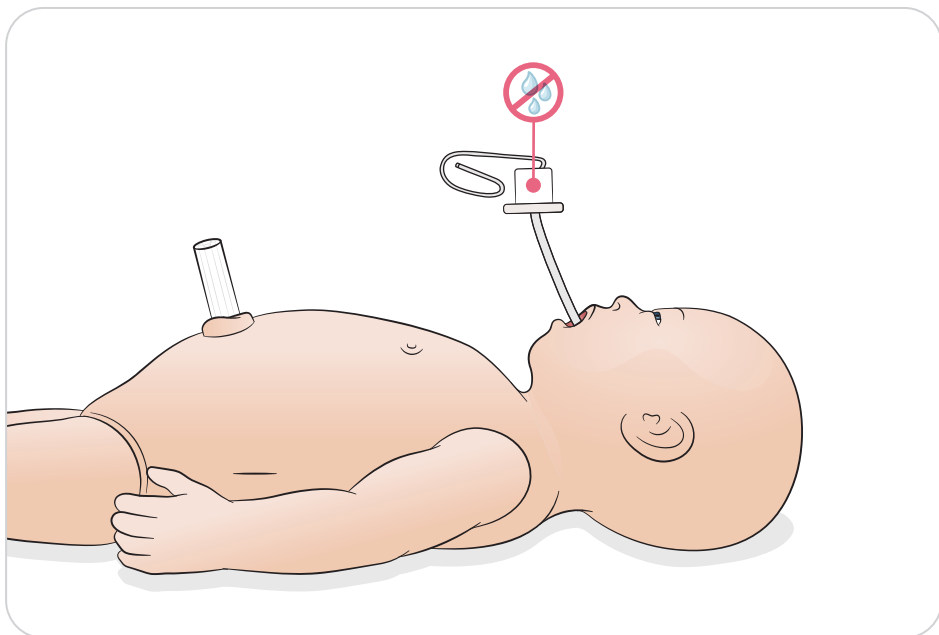
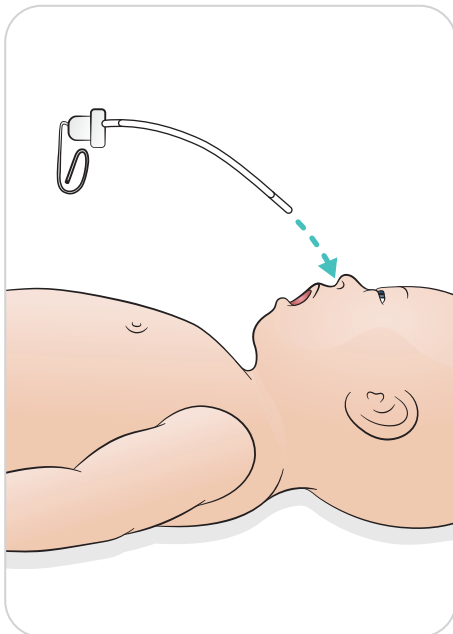
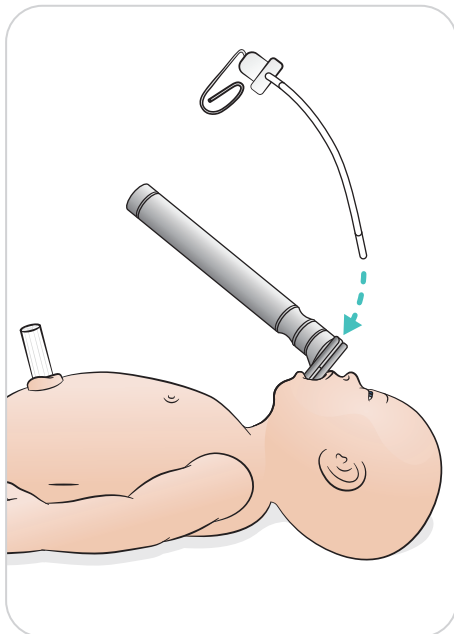
### Lubricate SimNewB

Lubricate the front of the simulator prior to delivery scenarios. Only use the Birthing Lubricant Gel provided by Laerdal Medical.

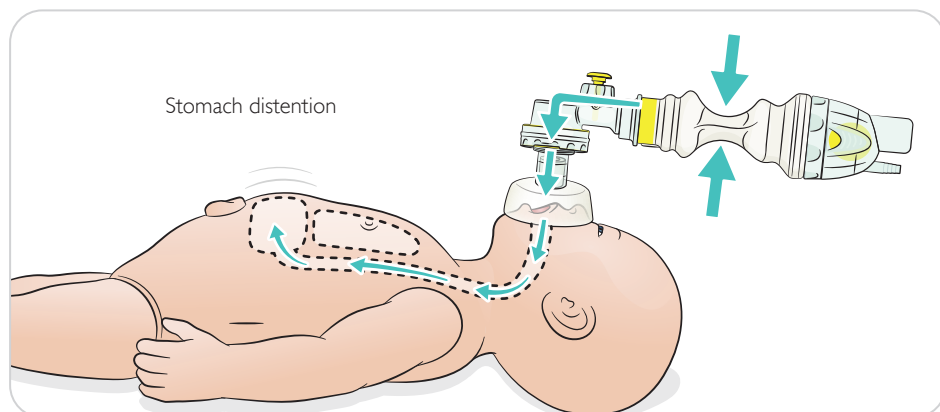
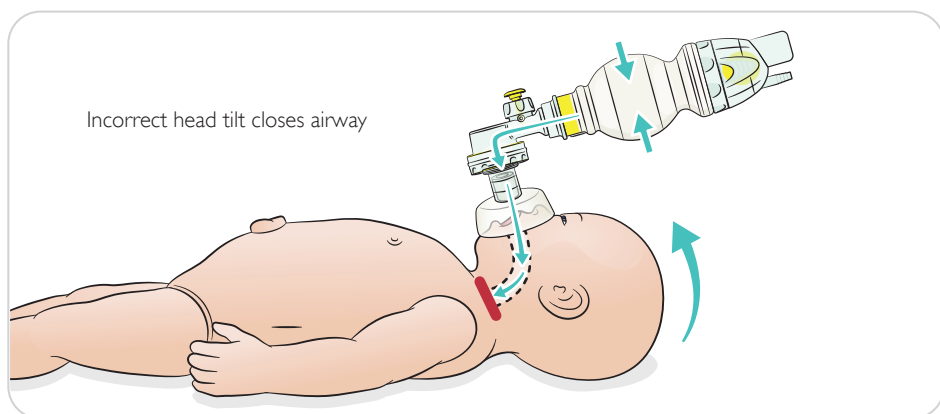
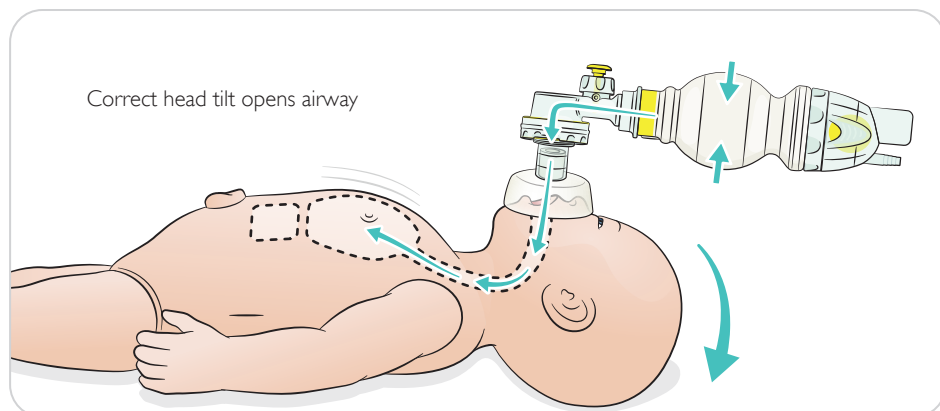


## Use - Intubation

Perform nasal or oral intubation.



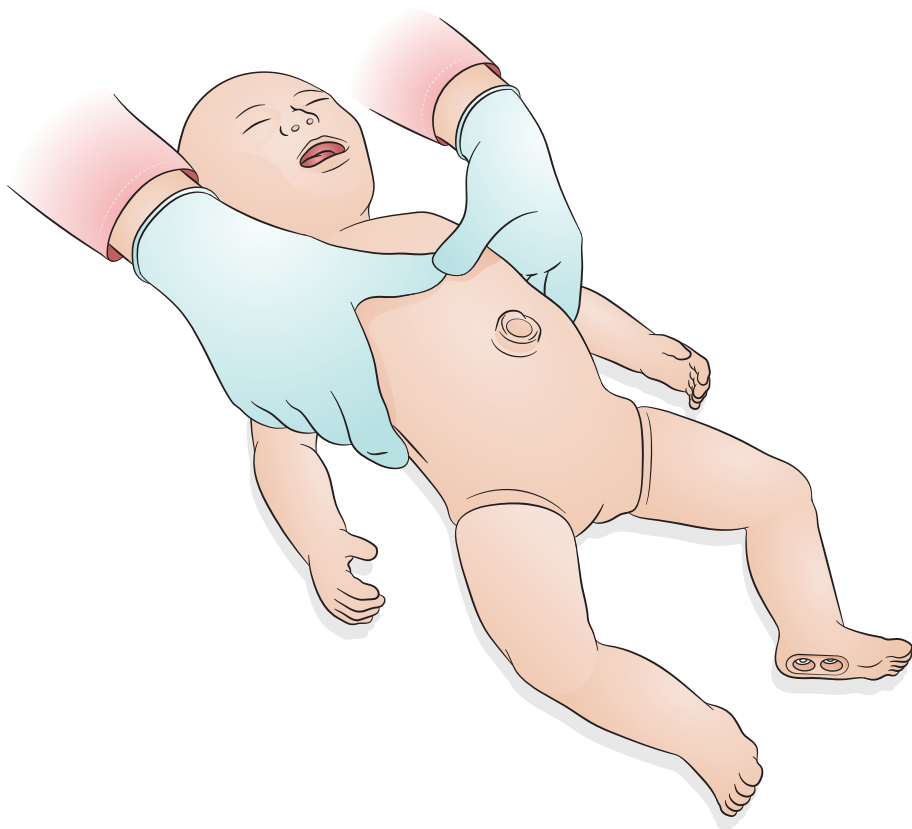
Perform ventilations with visual chest rise.



## Use - CPR

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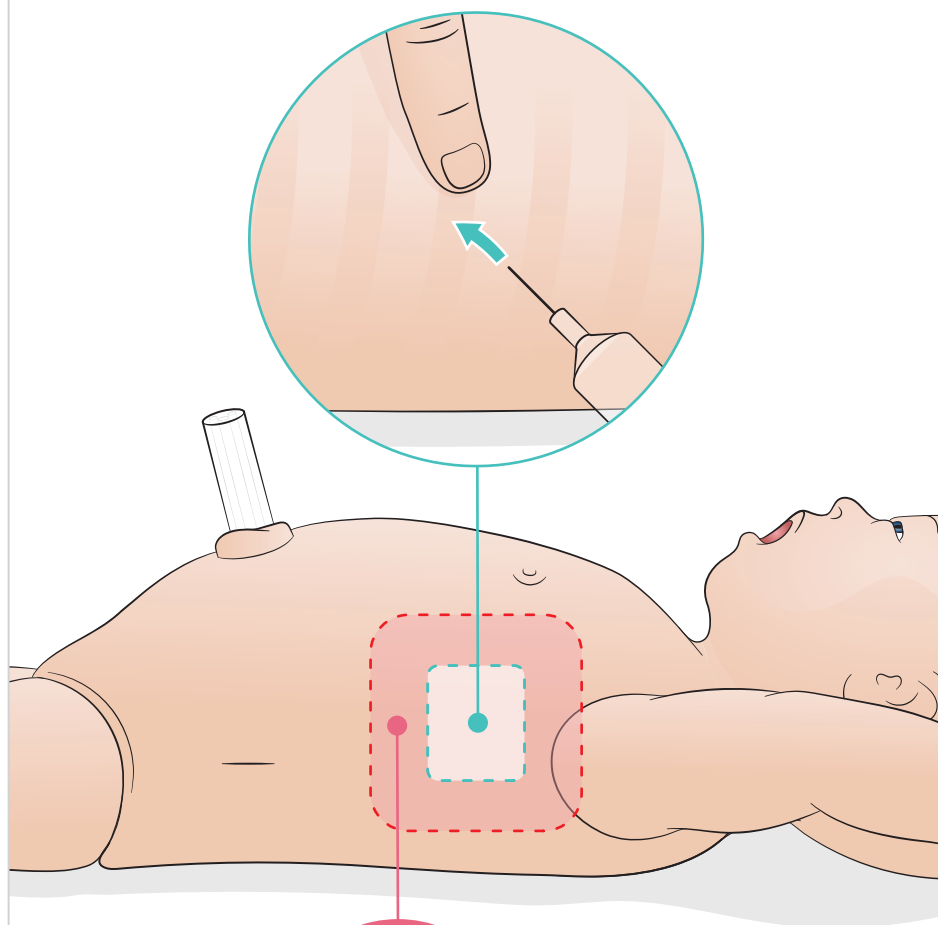
Perform basic CPR.





## Use - Unilateral Left Thoracentesis Midaxillary Access

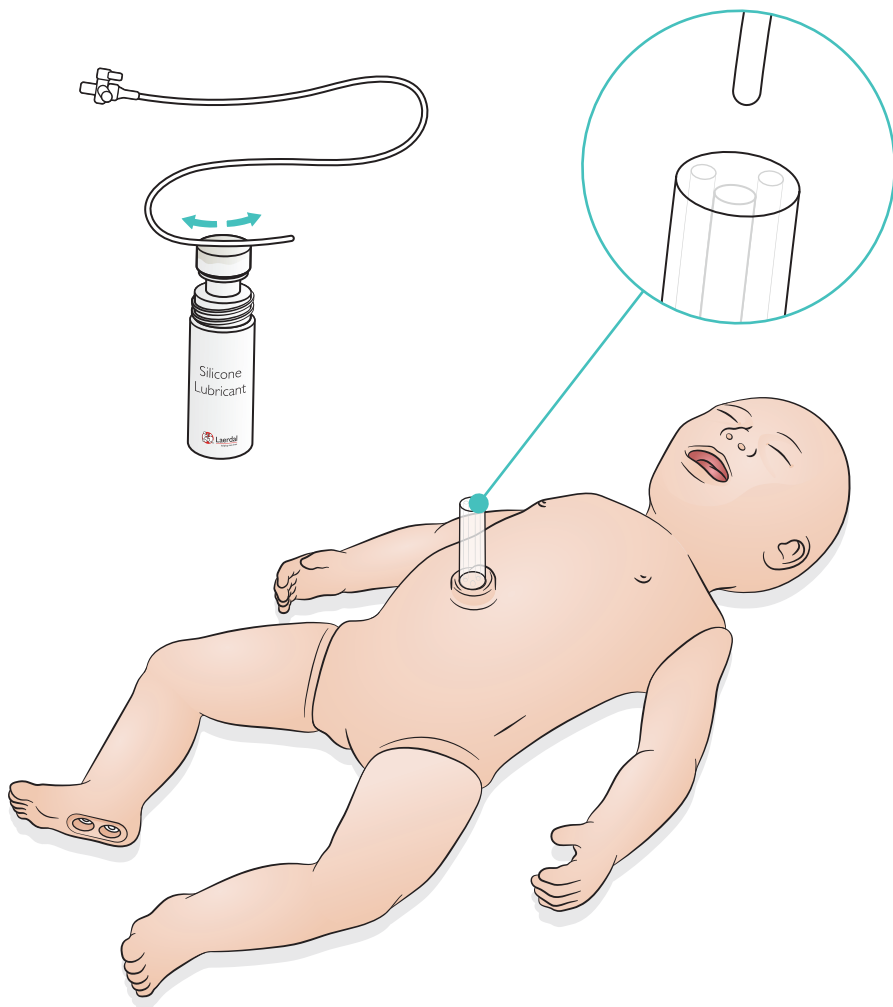
Insert needle between the 4th and 5th intercostal space.



**⚠ Caution**  
Insertion of the needle outside  
this area may cause damage to  
the simulator.

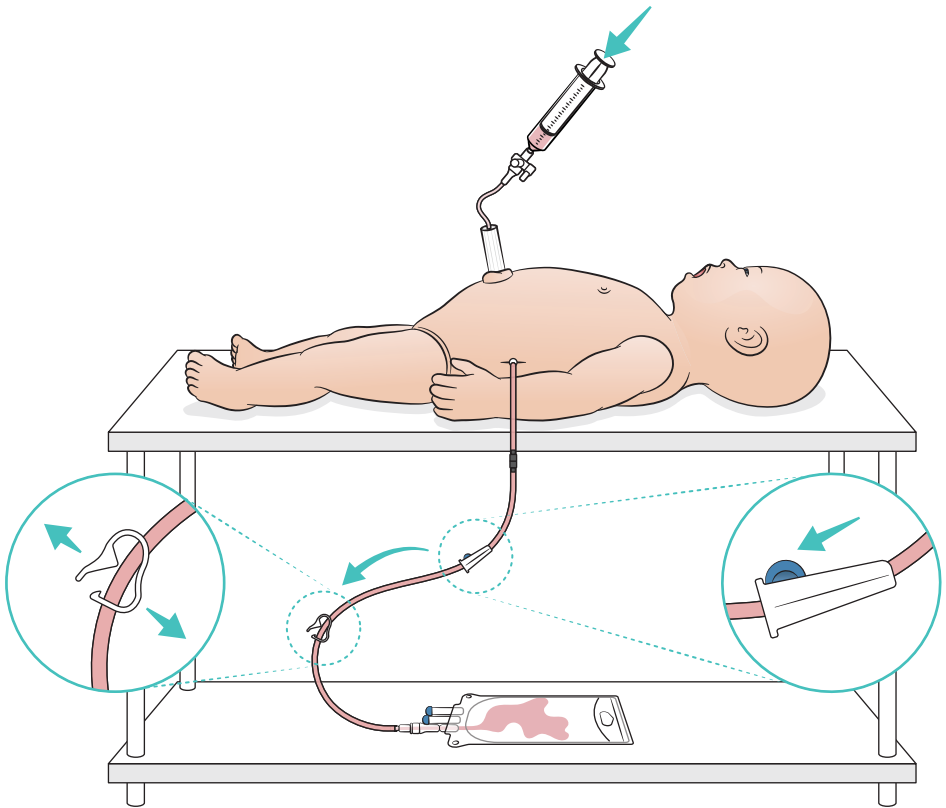
## Use - Umbilical Venous Catheterization

Simulated umbilical cord with venous and arterial access.  
Simulated blood flashback on cannulation.



## Use - Large Volume Infusions

For large volume infusions of fluid (exceeding 10 ml), connect empty drain bag to simulator.

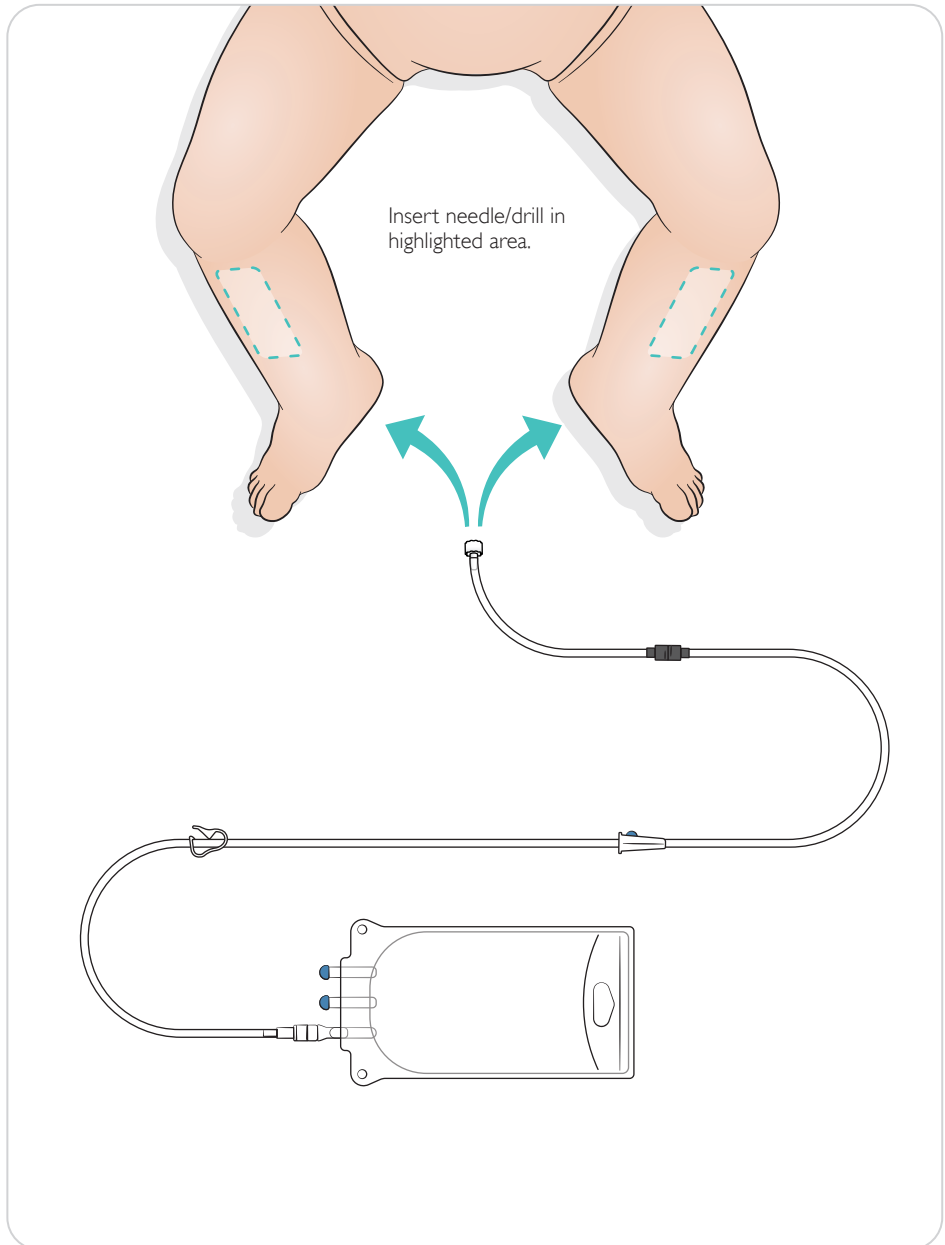


# Use - IO Leg



## Note

The IO Leg should be patched or replaced after each simulation when using fluids.



## Use - Lung Recruitment Settings

### Lung Recruitment Settings

Change between 4 and 7 opening breaths before you start session.

### SimPad Plus

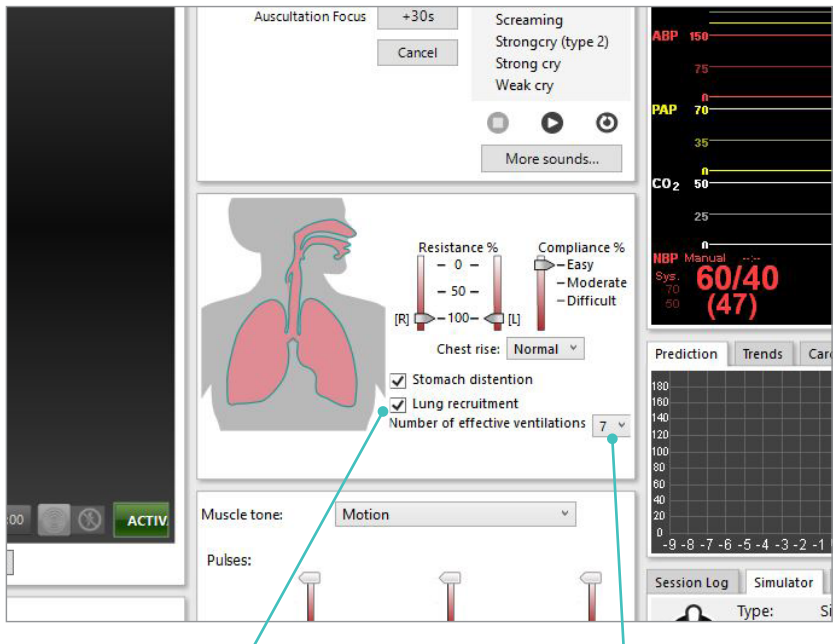
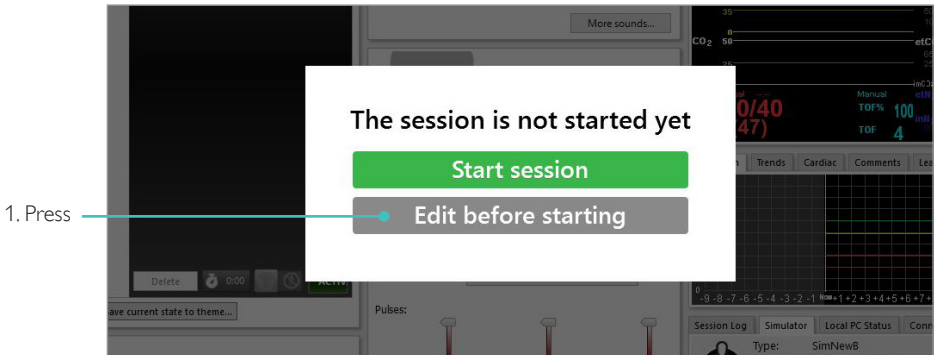
Activate Lung Recruitment in Manual Mode before starting scenario.



# Use - Lung Recruitment Settings

## LLEAP

Activate Lung Recruitment in Manual Mode before starting scenario.



2. Check this box to engage Lung Recruitment

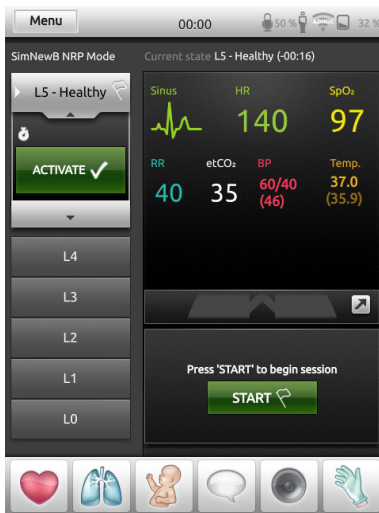
3. Select ventilation number

## Level Settings

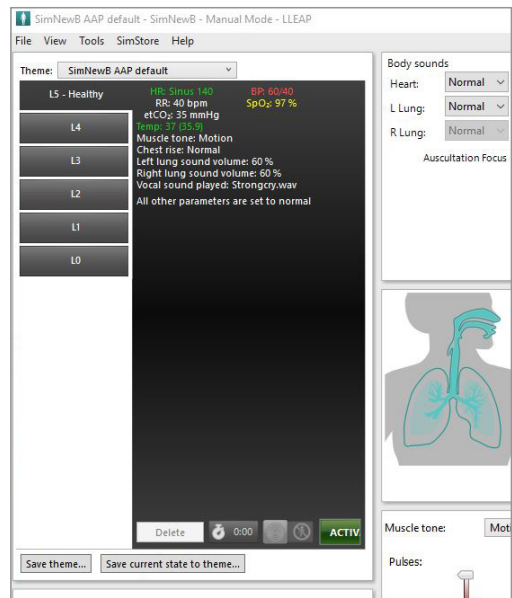
Use Levels to simplify operation when running sessions in Manual Mode. Each Level 0 - 5 represents a predefined set of vital signs.

Toggle directly between Levels as the session progresses to change the clinical state of SimNewB.

## SimPad Plus



## LLEAP



# Care and Cleaning

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## General Care

- To maintain simulator skins, wash hands before use and place the simulator on a clean surface.
- Use gloves during simulation scenarios. Avoid using colored plastic gloves, as they may cause discoloration of the simulator skin.
- If a training session involves the use of fluids in the Umbilical Reservoir and IO Leg, drain the fluid immediately after the training session.

## Skin

- Use a lint free cloth to remove dirt and dust.
- Clean skin with mild soap and water. Do not submerge.
- To remove birthing lubricant, use lukewarm soapy water.



### Notes

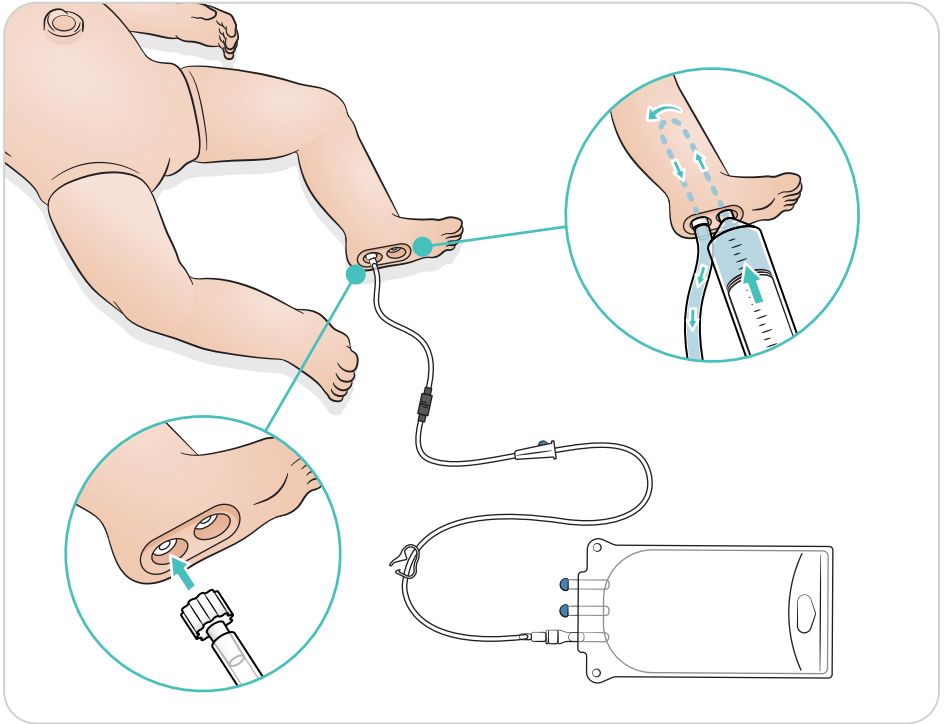
*These can discolor the manikin:*

- *Pigments from lipstick and pens*
- *Latex gloves*
- *Using clothes other than what is originally provided with the simulator.*



### Cleaning IO Leg Module

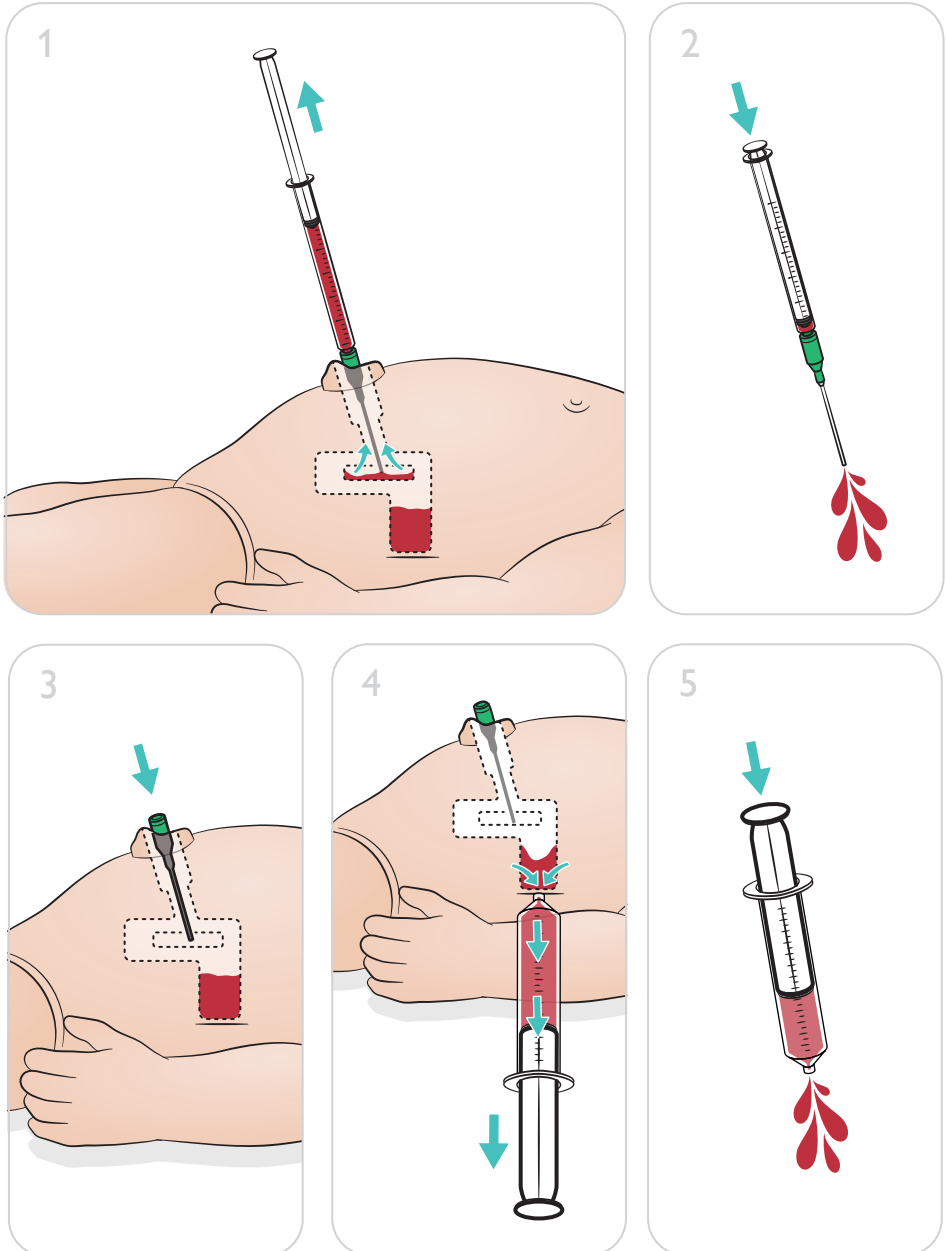
Remove remaining fluid from internal reservoir and flush with water. Repeat until clean.



# Care & Cleaning

## Cleaning Umbilical Reservoir

Remove remaining fluid from internal reservoir and flush with water: Repeat until clean.

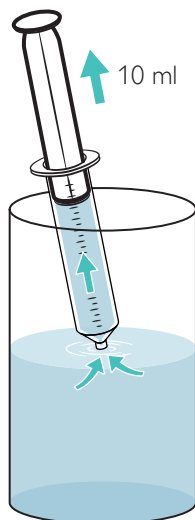




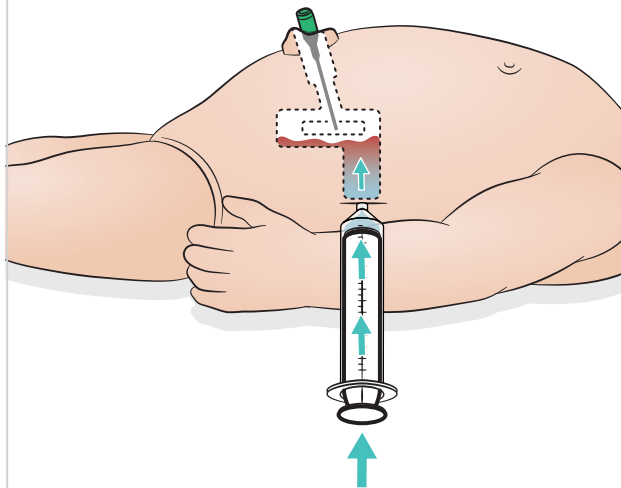
Note

Remove the needle from the navel when the cleaning procedure is completed.

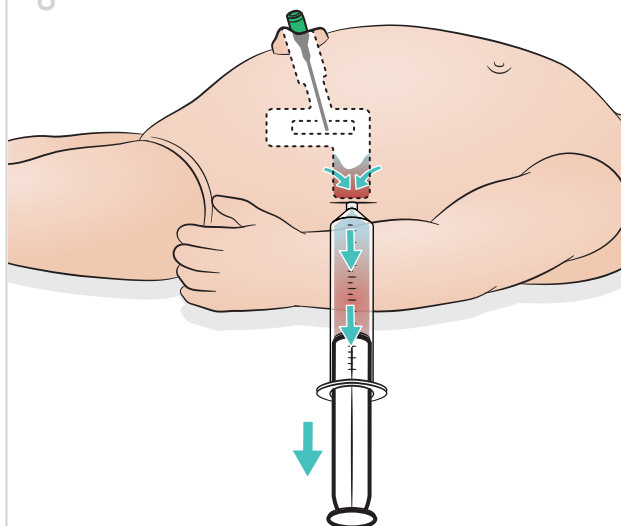
6



7



8



9

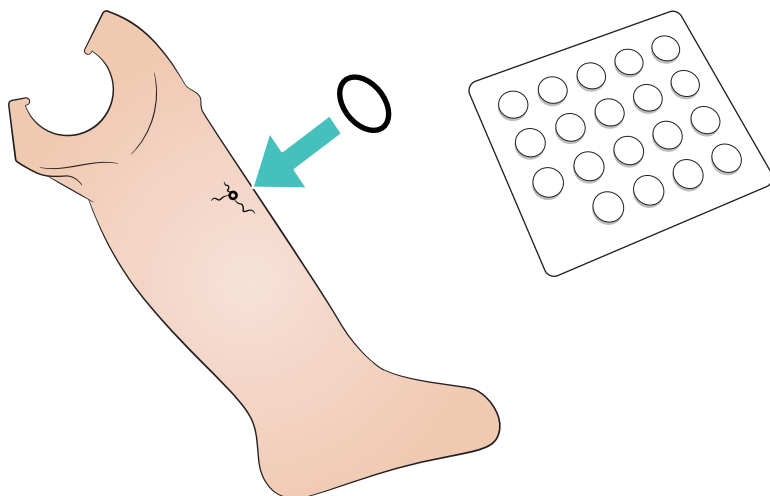


# Maintenance

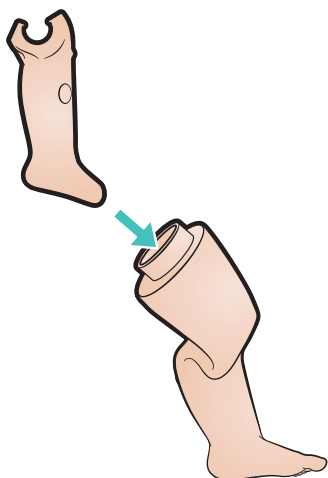
## Repair IO Leg Module

After performing IO procedures using fluids, clean and repair, or replace the IO leg module.

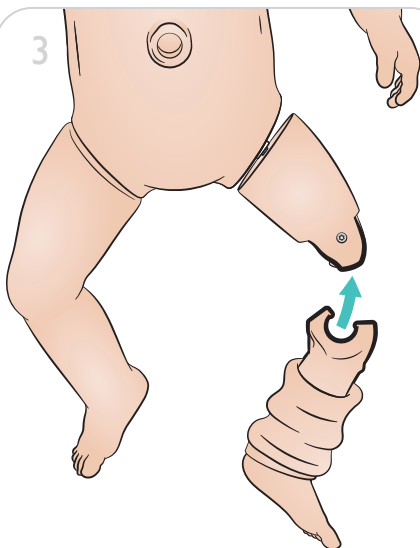
1



2

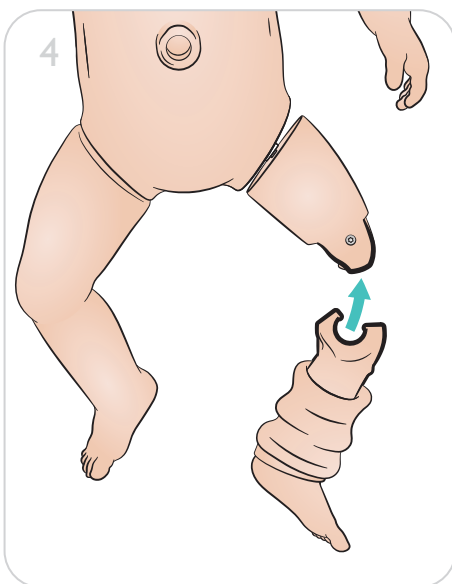
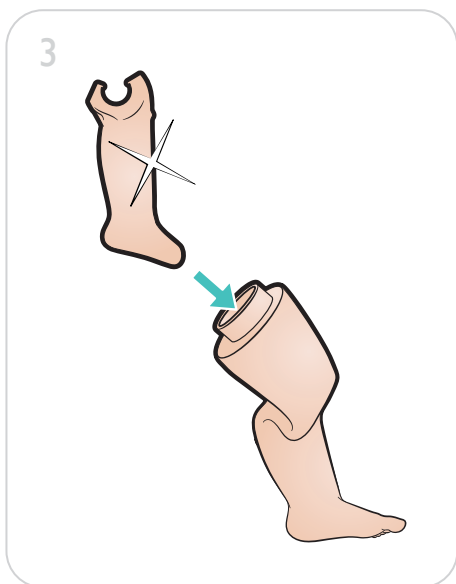
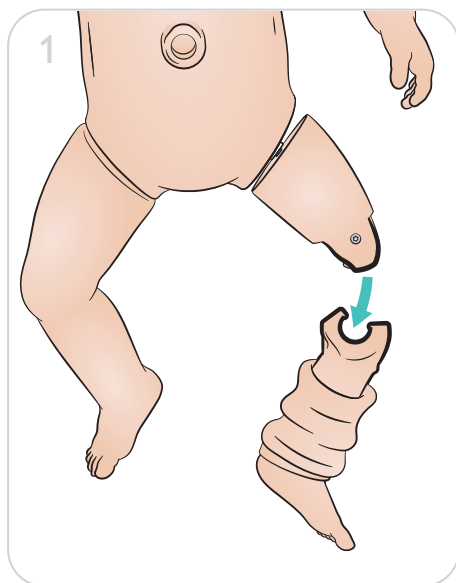


3



## Maintenance

### Remove and Replace IO Leg Module







To help you get the most out of your product, visit

[www.laerdal.com/support](http://www.laerdal.com/support)



Downloads



How-To Videos



User Guides



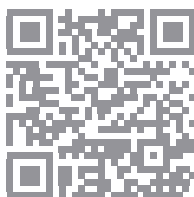
Local Language



Frequently Asked Questions



Customer Service



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helping save lives