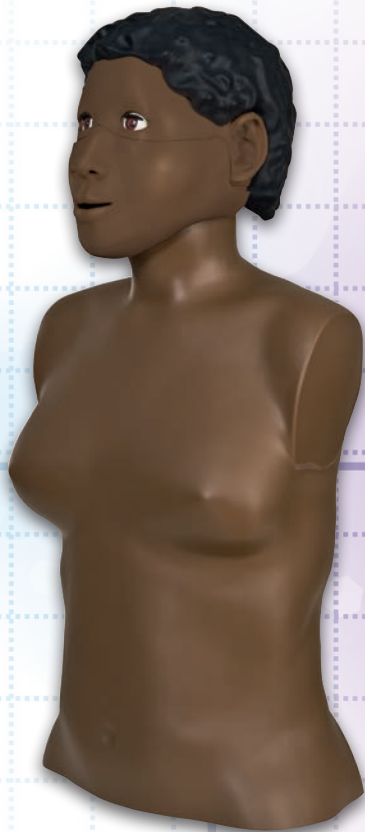


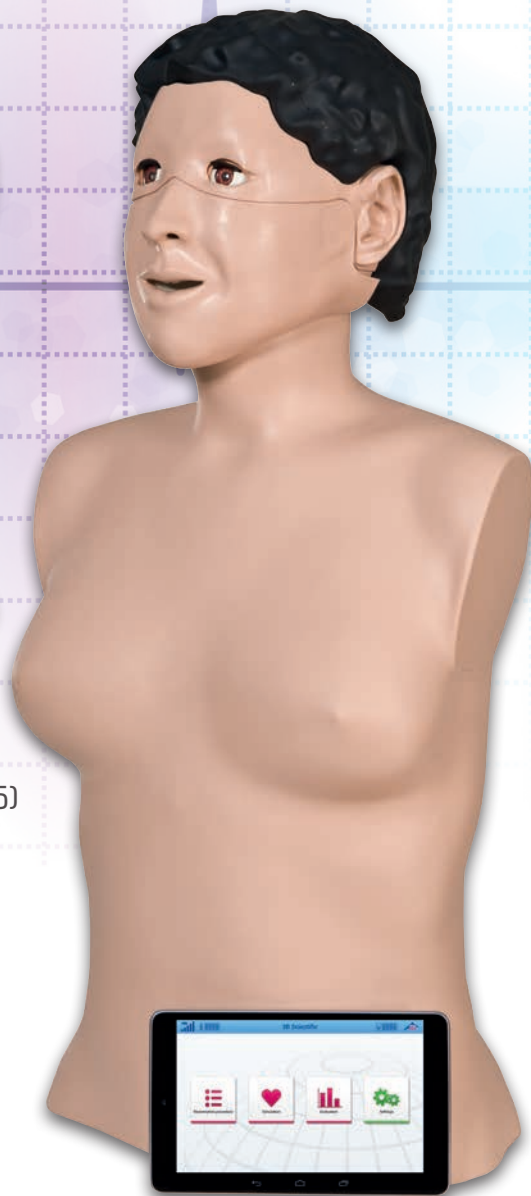


*...going one step further*



**CPRLilly™ P70/1** (1017774)

**CPRLillyPRO™ P71/1** (1017775)



**CPRLilly™ P70** (1017772)

**CPRLillyPRO™ P71** (1017773)

# CPRLilly™ (P70) und CPRLillyPRO™ (P71)

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# Introduction

Thank you for choosing this 3B Scientific® product. Please read the operating instructions carefully before setting up the device. This will ensure that it works correctly, and that you can work satisfactorily with this product.

CPRLilly™ and CPRLillyPRO™ are training simulators for cardio-pulmonary resuscitation (CPR). The simulator meets the latest CPR guidelines of the AHA (American Heart Association) and the ERC (European Resuscitation Council). The simulator has a robust construction, is easy to use, and offers realistic working scenarios. It is therefore suitable both for medical training and for first aid courses in schools and associations. It offers all the necessary features for learning about the life-saving algorithm comprising heart massage and artificial respiration for adults. Its features are:

- Torso with shoulders and the necessary anatomical features for finding the ideal pressure point for cardiac massage
- Head with airways for mouth-to-mouth and mouth-to-nose resuscitation
- Head tilt to open the airways
- Resuscitator ventilation is possible
- Realistic thoracic spring force and the required compression depth of 5 cm prepare the trainee for a situation with a real person
- A sound indicates that the required compression depth has been reached
- Thanks to the disposable respiration bags the mannequin is hygienic, and is easy to clean and maintain
- CPRLilly™ and CPRLillyPRO™ have two respiratory systems that are disconnected from each other. The advantage: the user's breath goes into the disposable throat bag only. The inner circulation is not contaminated.
- CPRLilly™ and CPRLillyPRO™ are developed and made in Germany.
- While developing CPRLilly™ and CPRLillyPRO™, we paid special attention to creating a simulator that would be quick and easy to use, especially with regard to hygiene and for large training groups. The face mask is dish-washer safe and replacements can be bought. For maximum hygiene you can provide each course participant with his or her own mask and disposable throat bag.

## Delivery contents:

CPRLilly™ (P70) and CPRLillyPRO™ (P71) each comprise 1 simulator

5 Lower face masks (including teeth)

25 Throat bags

1 Carry case

1 Disinfectant

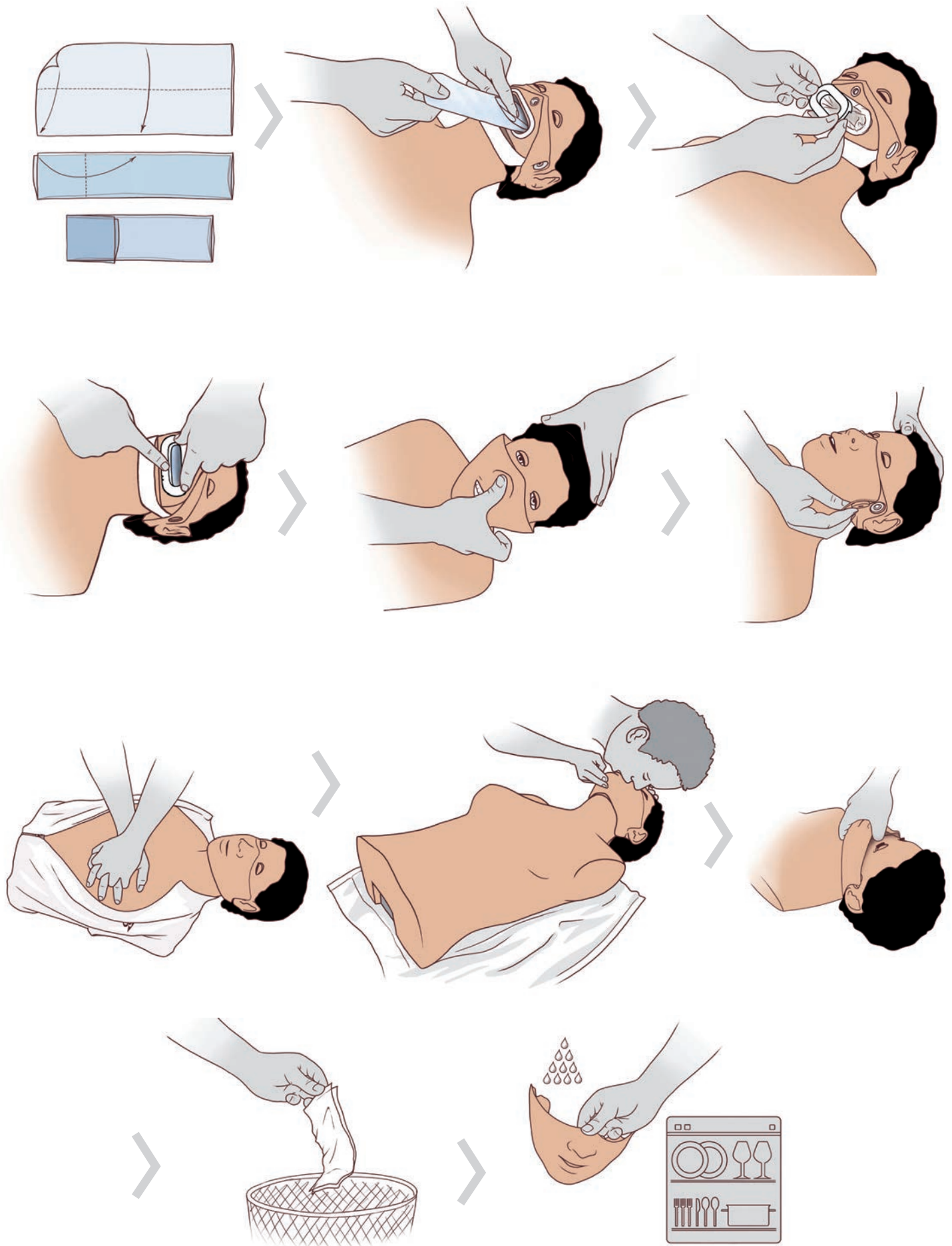
1 Tracksuit top

1 Android tablet PC (version P71)

1 Plug adaptor for the charger (version P71)

1 Charger (version P71)

## Quick Introduction



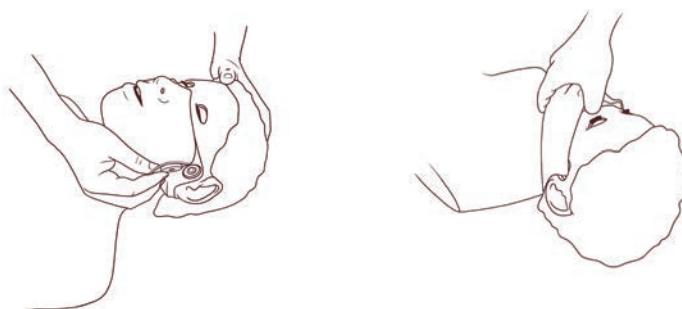
## Assembly (start-up and use)

### Instructions (safety and general information)

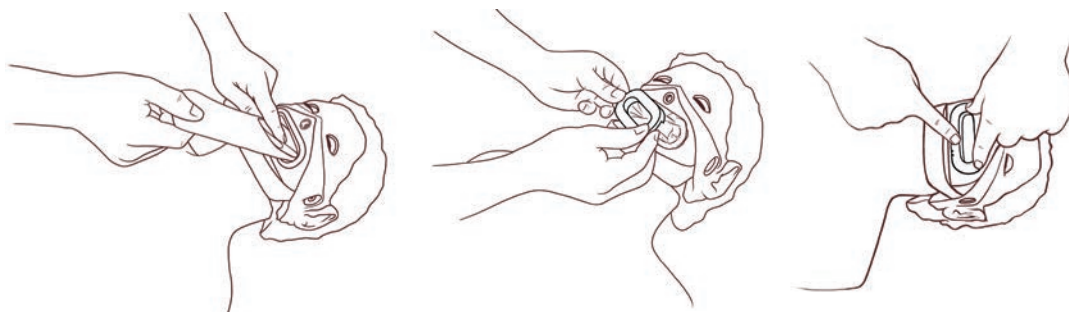
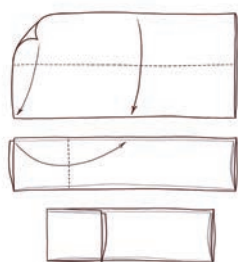
- Fully charge the CPR*Lilly*PRO™ and the Android tablet using the power pack provided before using it for the first time! For the CPR*Lilly*PRO™ this may take up to 3 hours. While on charge, the LED indicator will flash orange quickly. When the LED flashes orange slowly, the battery is fully charged. (Version P71)
- To avoid getting moisture into the inner circulation, respiration may only be carried out when a throat bag has been inserted.
- The throat bag should not be changed in the rain, because water could get into the inner circulation. The CPR*Lilly*™ and CPR*Lilly*PRO™ could get damaged
- When being used, “noises” will be heard (version P71).  
This does not mean that the simulator is not working properly!

## Assembly / Installation

### • Removing the face mask



### • Putting in a new bag



### • Attaching a face mask



### • Disinfecting the face mask





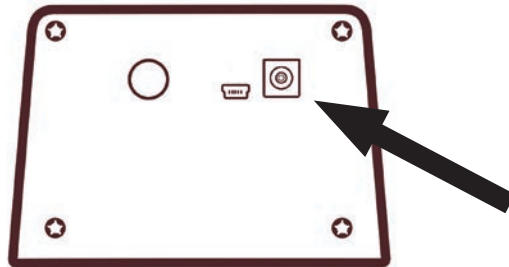
### Power supply (Version P71)

The CPR*Lilly*PRO™ is powered via the small-device 15 Volt socket. CPR*Lilly*PRO™ comes with a multinational mains adaptor for use in over 150 countries. It can operate between 100 and 240 Volts and at a mains frequency of 50 or 60 Hz. We recommend always charging the CPR*Lilly*PRO™ with the supplied mains adaptor included.

### Changing/charging the battery

#### Doing a course with a flat battery

Even if the battery is flat, you can still do your course! Simply connect the mains adaptor to the CPR*Lilly*PRO™.



### Extended period of non-use

If the device is not used for an extended period of time, ensure that CPR*Lilly*PRO™ is charged at least every two years, so that the battery is not damaged by becoming completely discharged.

If you intend to not use the device for an extended period, charge the battery up completely until the LED flashes orange slowly.

### Changing the battery

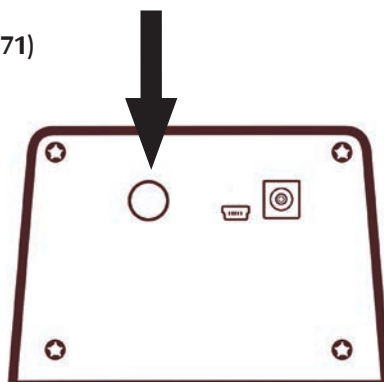
The CPR*Lilly*PRO™ has a very long-life NiMH battery that only discharges very slowly. It should only be changed by a specialist or an authorised electrician. You can order a replacement battery from the accessory list if necessary. The instructions for inserting the new battery are provided with the battery.

If the LED flashes red, either a battery defect has been detected, or the connected charger is not powerful enough. If the LED is flashing red, but you are using the original mains adaptor, please contact the customer service.

## Simulations

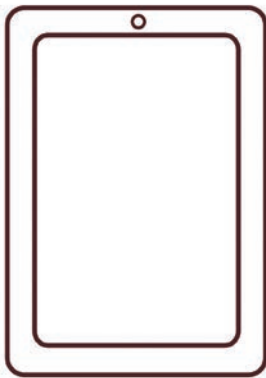
### Switching the device on/off (Version P71)

#### 1. Switching on the device

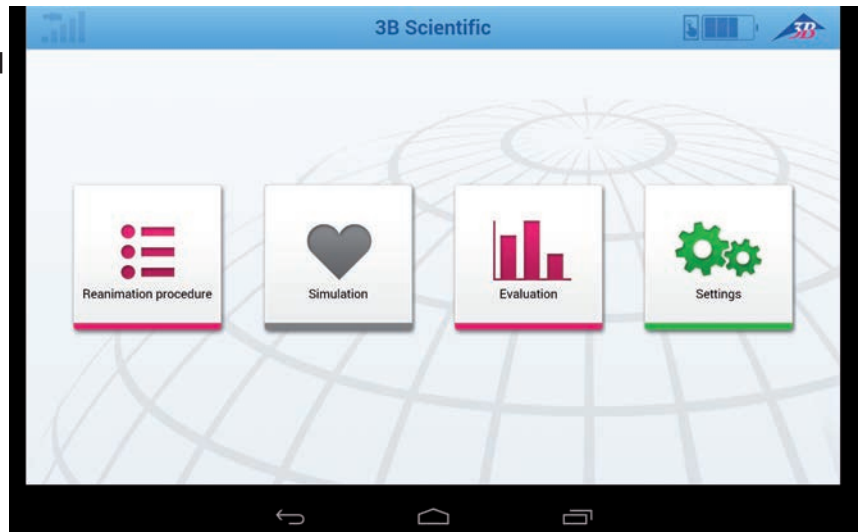


The electronics inside the CPR*Lilly*™ automatically switch off after 5 minutes of inactivity, or the device can be switched off manually by holding down the on/off button.

## 2. Switching on the tablet and starting up the programme



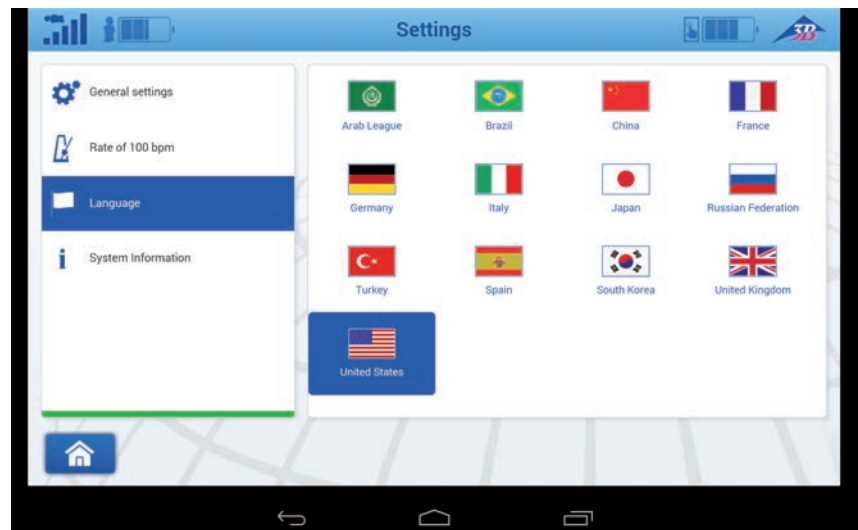
The app can also be used offline without connecting to CPRLillyPRO™. Some functions are not available without an existing connection.



## 3. About the software

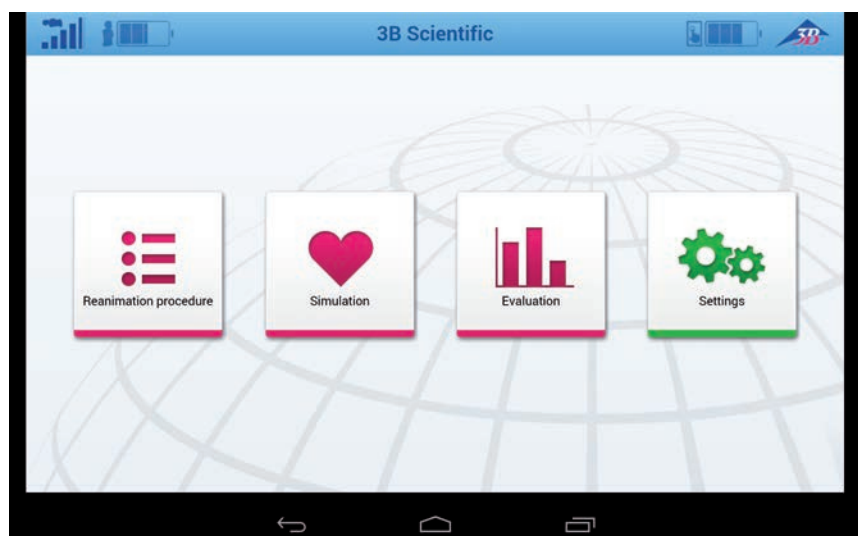
### 3.1. Selecting the language

Upon initial set-up the app is automatically set to English. Once the tablet has booted up, the select dialogue-box for the language of the application software is displayed on the touch-sensitive screen. To change language, select Settings, then Language.



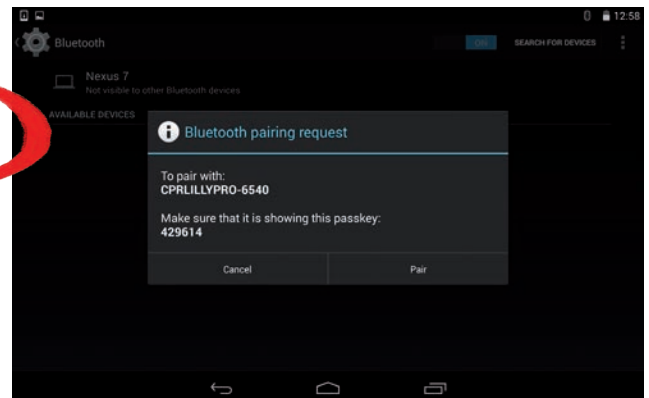
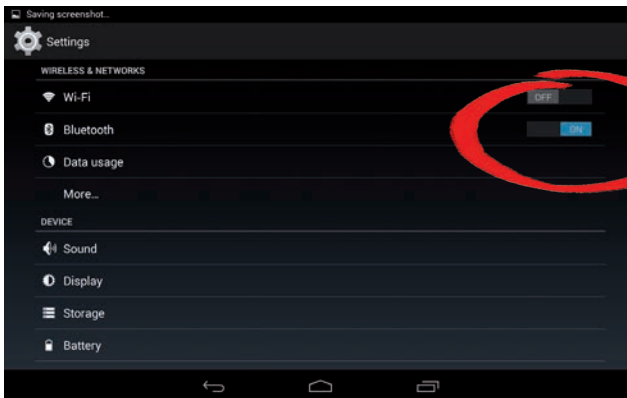
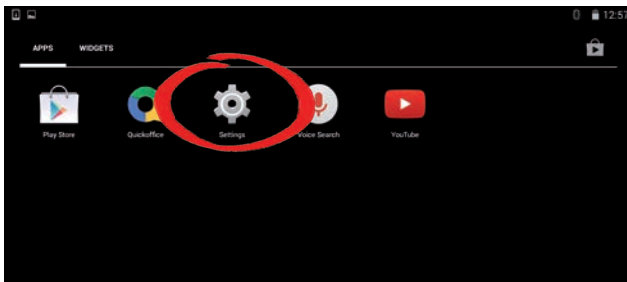
### 3.2. Function menu

The following application notification is displayed. The heart turns red when a connection to CPRLillyPRO™ exists. The connection display indicates the strength of the connection.

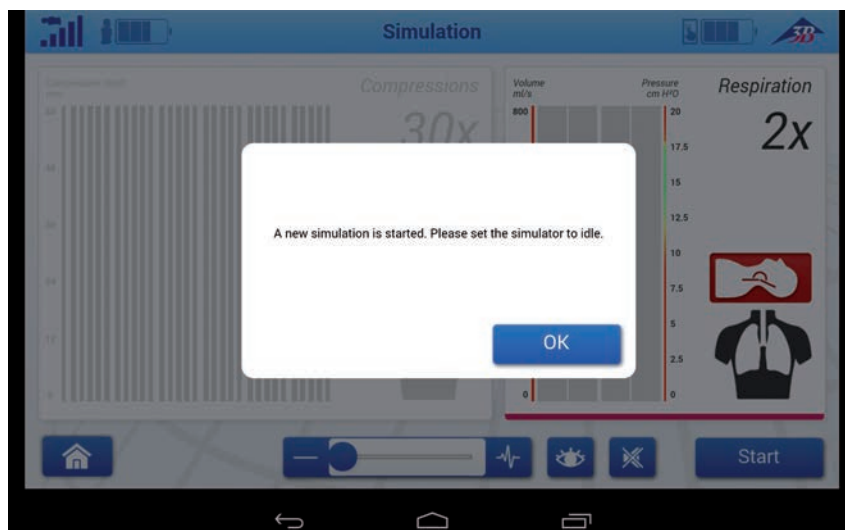


### 3.3. Setting up/removing a Bluetooth connection

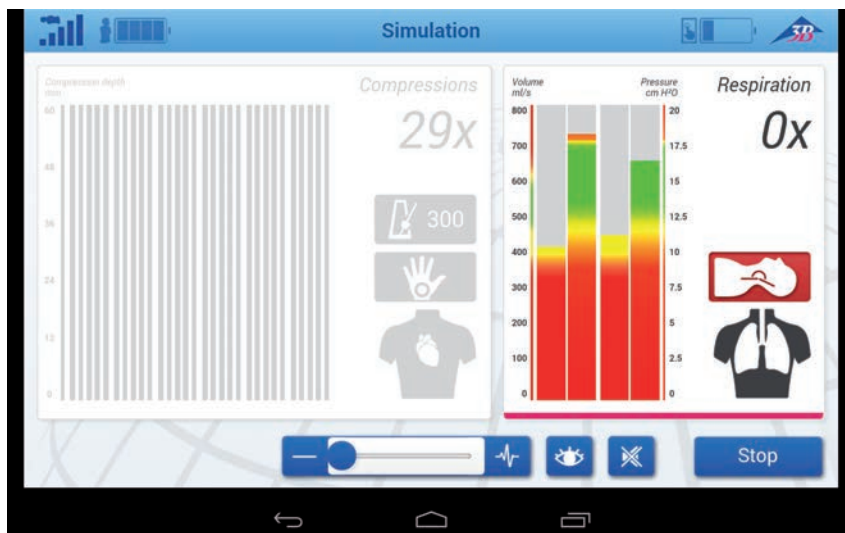
To connect another CPRLillyPRO™, Bluetooth can be deleted or set up again via the Settings function. Only one CPRLillyPRO™ can be connected to the tablet at a time.



### 3.4. Starting a new simulation

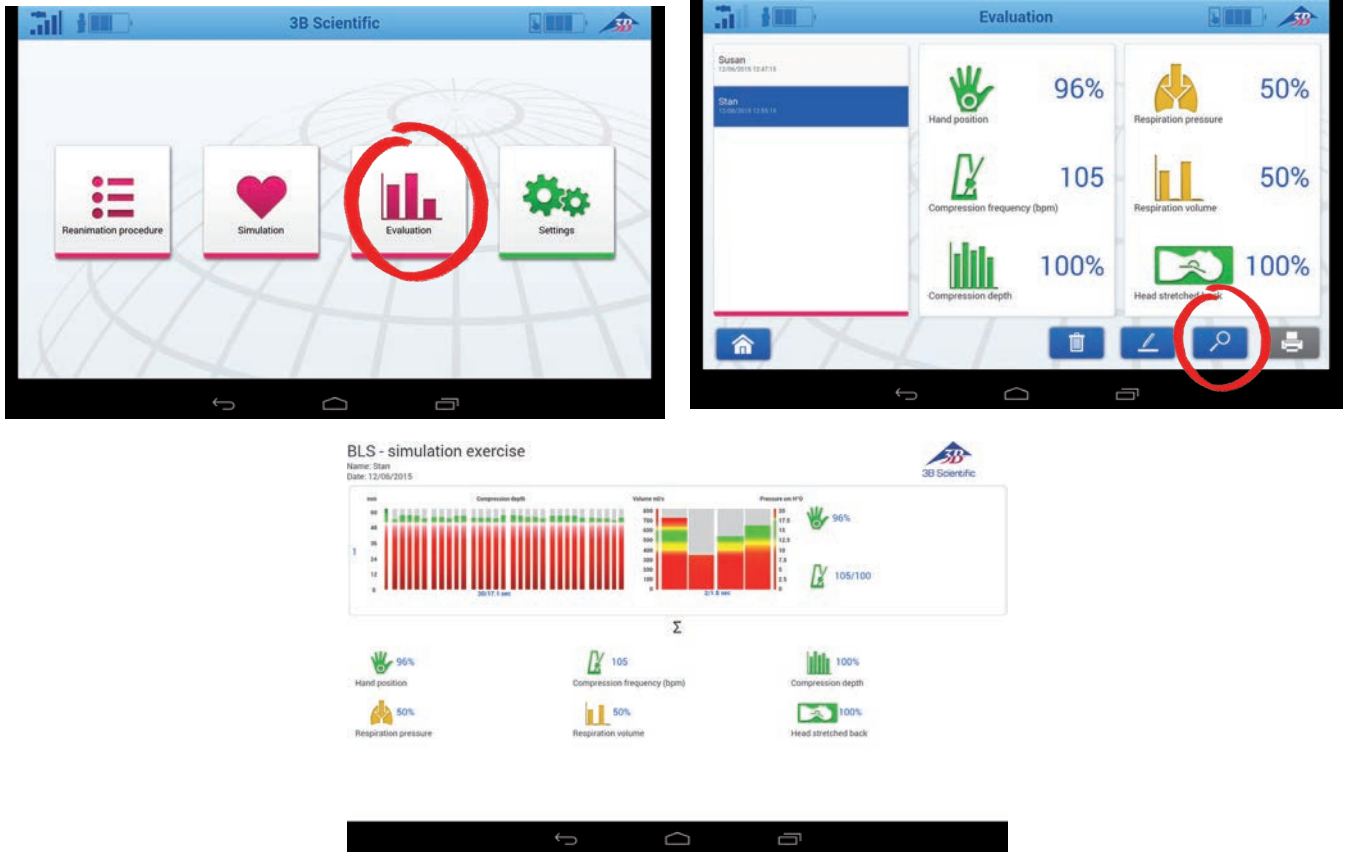






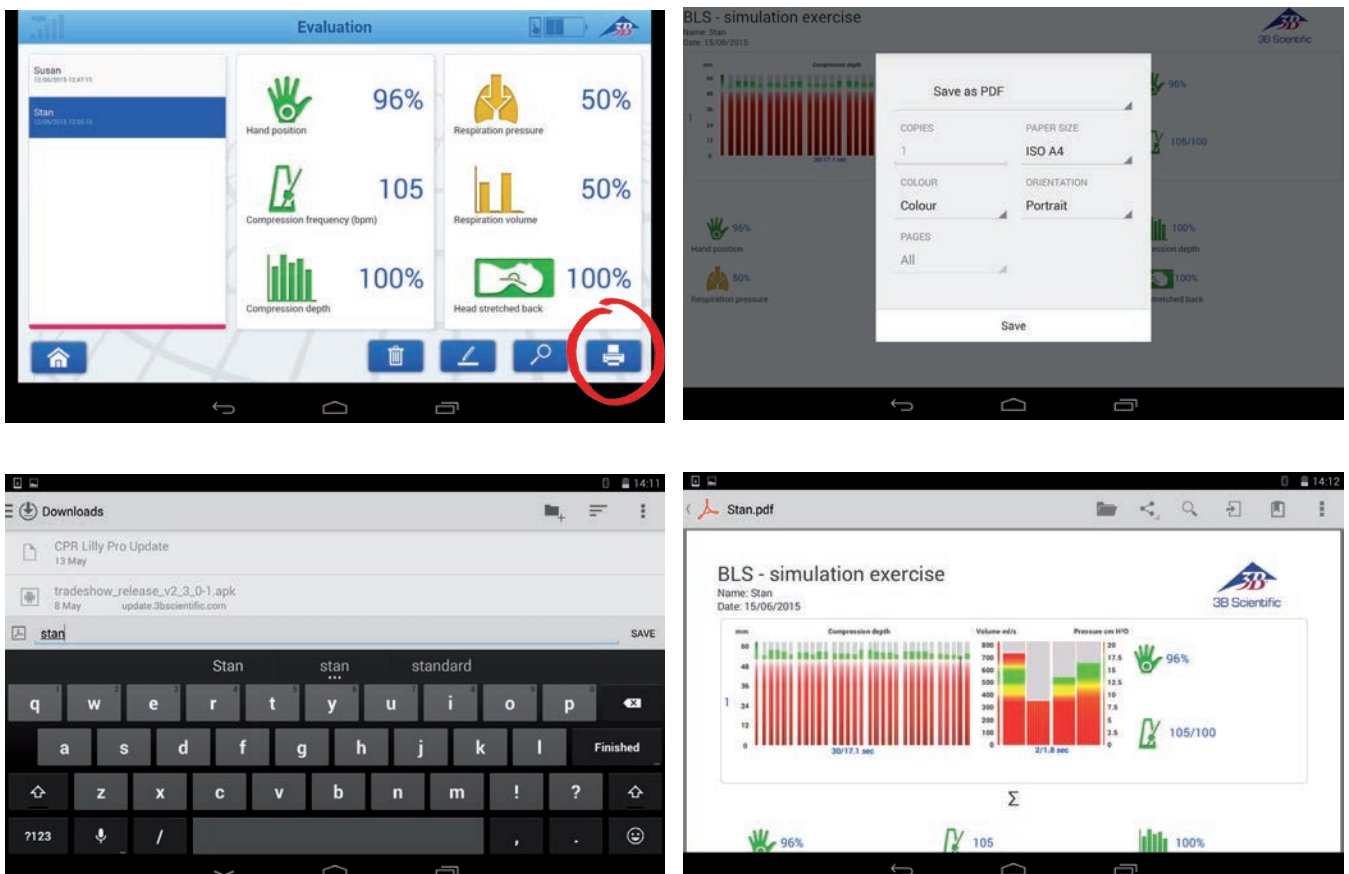
The screenshot shows the 'Simulation' app interface with a 'Prompt' dialog box. The dialog box contains the text 'Please enter a name.' and a text input field with the name 'John' entered. Below the input field is an 'OK' button. The background shows the 'Respiration' section with '0x' and a lung icon. The bottom bar contains a home icon, a slider, a heart rate icon, an eye icon, a cross icon, and a 'Stop' button.

### 3.4. Displaying / evaluating the graphs



### 3.5. Exporting the data

It is only possible to export data if the CPRLillyPRO™ is switched off and/or the Bluetooth connection has been deactivated. If CPRLillyPRO™ is connected, the Print icon is deactivated.



## Compression

If fewer than 30 compressions per cycle are made, the remainder will be allocated 0 points. If more than 30 compressions per cycle are made, the additional compressions will not be assessed.

	green	
	in mm	in %
lower limit	$\geq 50$	$\geq 83$
upper limit	$\infty$	$\infty$

## Compression frequency

If fewer than 30 compressions per cycle are made, only the completed compressions will be counted. If more than 30 compressions per cycle are made, the additional compressions will not be assessed. The BPM values can only be shown after the first 2 compressions; otherwise 0 is shown. An average compression frequency is given for all compressions made.

	lower yellow	green	upper yellow
	in BPM	in BPM	in BPM
lower limit	$\geq 85$	$\geq 95$	$> 105$
upper limit	$< 95$	$\leq 105$	$< 115$

## Volumen

If fewer than 2 ventilations per cycle are made, the remainder will be allocated 0 points.  
If more than 2 ventilations per cycle are made, the additional ventilations will not be assessed.

	lower orange		lower yellow		green		upper yellow		upper orange	
	in ml/s	in %	in ml/s	in %	in ml/s	in %	in ml/s	in %	in ml/s	in %
lower limit	$\geq 360$	$\geq 45$	$\geq 384$	$\geq 48$	$\geq 464$	$\geq 58$	$> 608$	$> 76$	$\geq 624$	$\geq 78$
upper limit	$< 384$	$< 48$	$< 464$	$< 58$	$\leq 608$	$\leq 76$	$< 624$	$< 78$	$< 664$	$< 83$

## Pressure

If fewer than 2 ventilations per cycle are made, the remainder will be allocated 0 points.  
If more than 2 ventilations per cycle are made, the additional ventilations will not be assessed.

	lower orange		lower yellow		green		upper yellow	
	in cm H <sub>2</sub> O	in %	in cm H <sub>2</sub> O	in %	in cm H <sub>2</sub> O	in %	in cm H <sub>2</sub> O	in %
lower limit	$\geq 10,56$	$\geq 48$	$\geq 12,54$	$\geq 57$	$\geq 14,3$	$\geq 65$	$> 18,7$	$> 85$
upper limit	$< 12,54$	$< 57$	$< 14,3$	$< 65$	$\leq 18,7$	$\leq 85$	$\leq 19,14$	$\leq 87$

## Hand placement

Depending on the compressions.

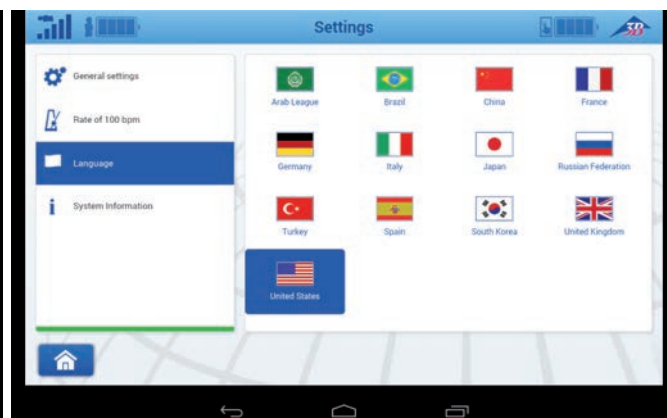
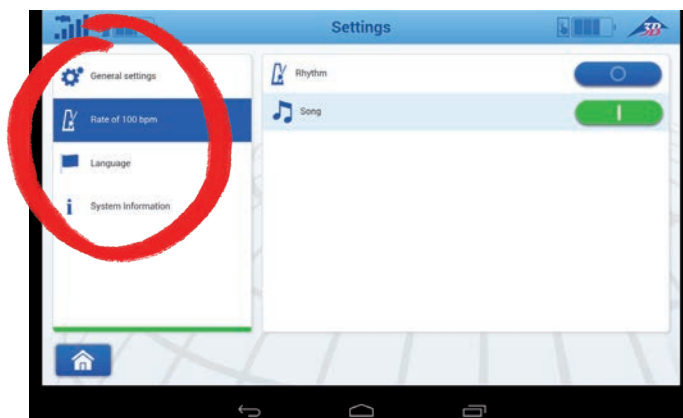
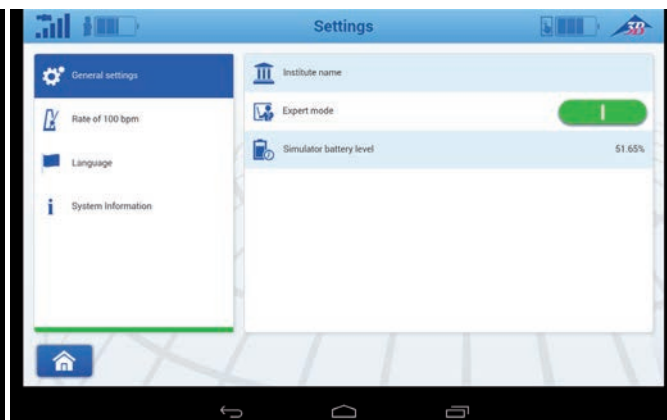
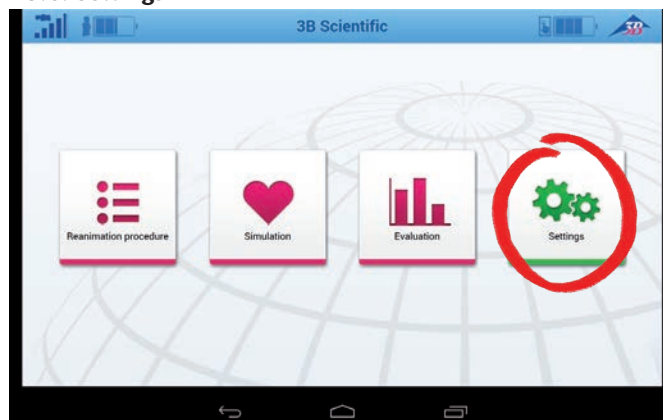
Richtig	green
wrong	red

## Head tilt

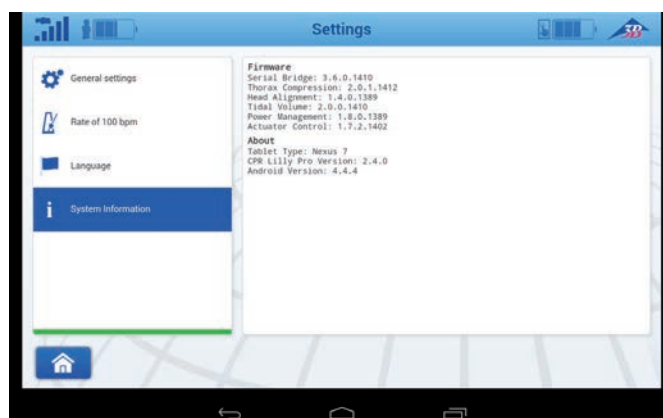
The head tilt is only assessed in connection with respiration. For a movement of 23 degrees or more from the resting position, the head tilt display lights up green. The assessment may show a yellow symbol for the head tilt, regardless of the mean over the simulation round.

red	yellow	green
<50%	>=50%	>=80%

### 3.6. Settings

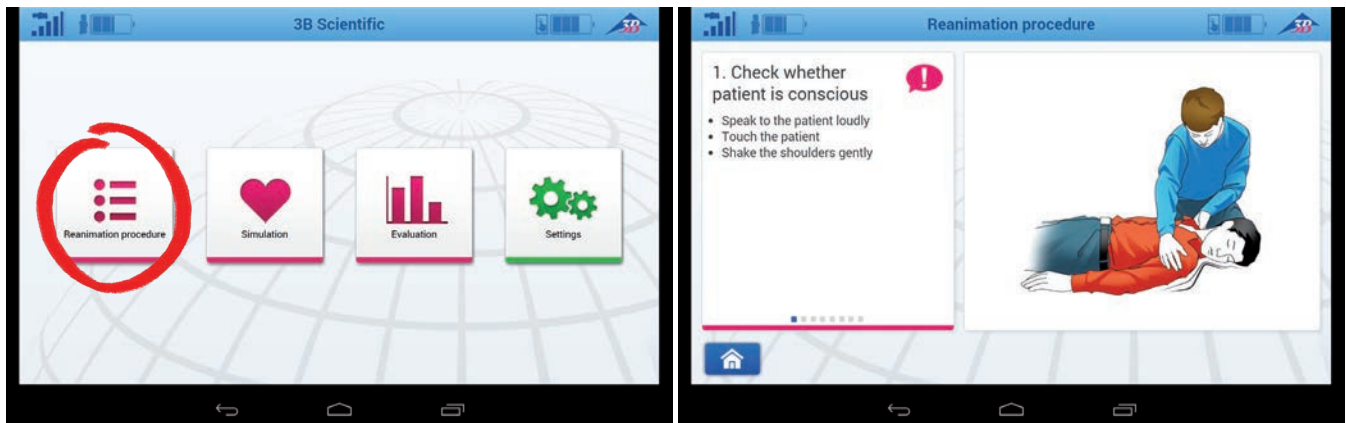


Instead of the metronome, the song „Stayin' alive“ can be selected.



In online mode, the firmware versions of the CPR Lilly PRO™ can be queried via the tablet. They are not visible unless a doll is connected.

### 3.7. Introduction



## Medical procedures

### 1. Heart massage

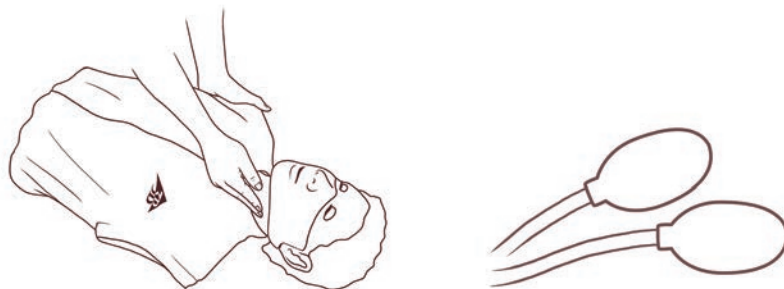
#### a) Talk to the patient (eyes open)

The “speak to doll” function (that opens the eyes) can be set via the tablet.



#### b) Check the pulse (settings via the tablet)

If you have a P70, please connect two squeeze balls to the connectors for eye-blinking and pulse. By compressing the balls, you can control the pulse and eye-blinking as a trainer. To control the pulse and eye-blinking via the software, please activate the learning mode using the “Settings” and “General” menus.



The pulse can be adjusted with the white squeeze ball (P70) or via the software (P71).





### c) Expose the chest



### d) Heart massage (curve / graph)



## 2. Clearing the mouth and pharynx area



To free the airways, the simulator head can be rotated by 90°.

A blunt foreign body may be introduced into the mouth of the CPR*Lilly*™ or the CPR*Lilly*PRO™. Even semi-liquid foreign bodies, such as shaving foams, can and should be introduced for practice purposes. They can then be thrown away with the throat bag.

**Important:** Sharp foreign bodies or removing items with sharp foreign bodies are not permitted. The respiratory system of CPR*Lilly*™ or CPR*Lilly*PRO™ would be damaged by this.

## 3. Artificial respiration



## General safety instructions

- The CPR*Lilly*™ and CPR*Lilly*PRO™ packaging is not a toy – there is a risk of suffocation!
- Intubation is not possible
- Do not „fish around“ for the throat bag with sharp objects (such as a knife)!
- The CPR*Lilly*™ or the CPR*Lilly*PRO™ should not be used near open flames.
- Do not use the CPR*Lilly*™ or CPR*Lilly*PRO™ outside in heavy rain
- Do not plunge the CPR*Lilly*™ or CPR*Lilly*PRO™ under water
- Do not use sharp objects to operate the touch screen
- Joint in the head: Do not remove the studs (risk of injury)
- When in operation, „noises“ will occur. This does not mean that the simulator is not working properly!
- Important! Do not press on the abdomen area. There is a risk of damaging the electronics.
- The CPR*Lilly*™ or the CPR*Lilly*PRO™ should only be used for artificial respiration if a throat bag has been inserted
- It is not advisable to change the bag in the rain (water can enter the inner respiratory system of the CPR*Lilly*™ or the CPR*Lilly*PRO™)

## FAQ

### • Can I use my own song for the simulation?

*No.*

### • Where do I choose the languages?

*In the settings window under the language section*

### • How do I switch the acoustic rhythm output to the song?

*In the settings window under the section 100 bpm rate*

### • Where can I find the silence button?

*You can find this in the simulator window if the teaching mode has been activated*

### • What do the colours on the LED button mean?

*green light → The CPR*Lilly*PRO™ is switched on and ready for use*

*no light → CPR*Lilly*PRO™ is switched off*

*green-red flashing light → the battery is almost flat*

*flashing slowly orange → the battery is charged*

*flashing quickly orange → the battery is being charged*

*flashing red only → device error*

### • What should I do if the LED is flashing red?

*Remove the USB cable from the device*

*Hold the LED button down for five seconds until the device switches off.*

*Plug the cable back in and press the LED button.*

**If, after trying the LED button several times, the red light keeps flashing, contact your supplier.**

### • How do I set up a Bluetooth connection to the BLS simulator?

*Please go to the tablet settings and look for Bluetooth, then activate Bluetooth.*

*The Bluetooth connection is switched on and configured upon leaving the factory.*

### • Is the simulation data lost if I accidentally touch the start screen button (home button)?

*Unfortunately, the simulation will be lost if you do this. The program is stopped and must be restarted.*

### • Why can I not breathe into the CPR*Lilly*™?

*The head has not been tilted back. Tilt back the head to enable respiration.*

*The volume of the air contained inside is not sufficient. Please remove the throat bag briefly in order to fill the breathing system with air*

## Maintenance and care

### Storage

- The CPR*Lilly*™ or CPR*Lilly*PRO™ is best stored in a dry place at room temperature
- Protect the CPR*Lilly*™ or CPR*Lilly*PRO™ from direct sunlight because heat of over 40°C can deform the material or make it brittle
- Never store the CPR*Lilly*™ with a fully discharged battery. Not even for a short time.

### Care instructions

All parts that come into contact with the trainee, such as the face skin, the mouthpiece and the airbag holder, can be disinfected with the disinfectant provided. The disposable airways (airbag) also ensure that using the device is especially hygienic. Please do not use any harsh chemicals for cleaning, because they can damage the model materials.



The upper skin of the CPR*Lilly*™ or the CPR*Lilly*PRO™ may, if severely soiled, be cleaned in a washing machine without the spin cycle (e.g. using the wool programme) at a maximum of 40° C with usual washing products. The rest of the surface of the simulator can be cleaned with a mild soap solution. Do not use any cleaning products containing solvents because the surface could be damaged. The disinfectant provided has been tested on the simulator material.

The tracksuit top can be washed by hand or in the washing machine using normal washing products in warm water up to a temperature of 40°C.

## Replacement part orders

Article N°	Replacement parts
1017737	Upper face mask light (1x) 
1017764	Upper face mask dark (1x) 
1017738	Lower face mask with teeth light (5x) 
1017765	Lower face mask with teeth dark (5x) 
1017739	Throat bag (pack of 50) 
1017743	Throat bag (pack of 100)
1017744	Carry bag
1013579	Disinfectant
1017746	Tracksuit top 
1013678	Resuscitator 
1017747	Torso skin light 
1017766	Torso skin dark 
1017748	Bag clip 
1017749	Lower jaw 
1017758	Eyes light (pair) 
1017767	Eyes dark (pair)
1017759	Eye rings (pair), light 
1017778	Eye rings (pair), dark 
1017750	Squeeze ball (light blue) 
1017751	Squeeze ball (white) 

## Technical data

### Dimensions

- Simulator (H x W x D) 26 x 39 x 78 cm, Weight: P70 8 kg, P71 9 kg

### Power requirements

- Supply voltage: 15 V
- Safety extra low voltage (device class III)

### Operating conditions

- CPRLilly™ and CPRLillyPRO™ are splash-proof (protection class IP 45)
- Operating temperature: -10°C to 40°C
- Storage temperature: -20°C to +60°C
  
- The plastics used meet the requirements of the DIN EN 71-3/9 Toy Safety Directive
- The CPRLilly™ and CPRLillyPRO™ are designed for use outdoors and can therefore also be used outside.



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08/2015

v1.1

P70 (1017772), P70/1 (1017774), P71 (1017773), P71/1 (1017775)