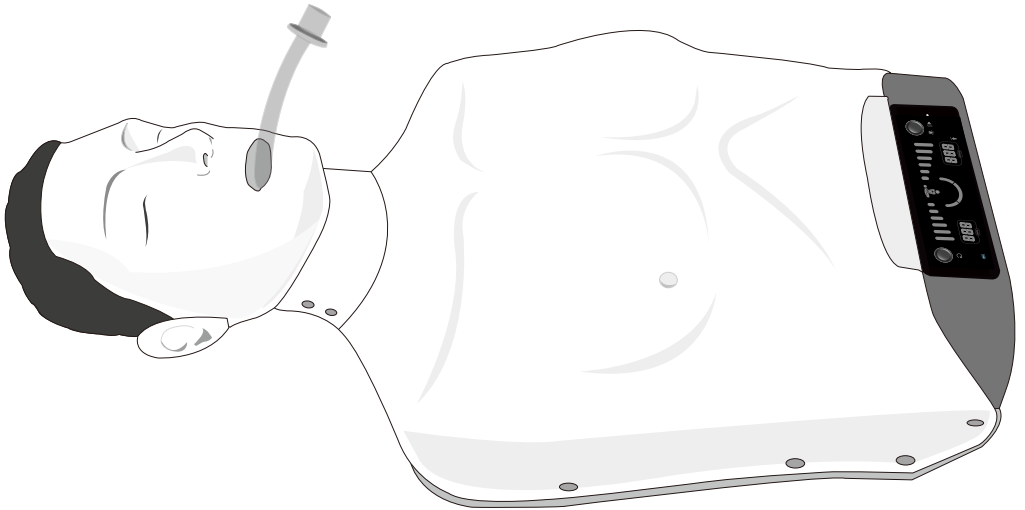


SEEM-Air

# CPR & Airway Management Training Model

## USER GUIDE



## Product Information

Product Name	CPR & Airway Management Training Model
Model Name	BT-SEEM-Air
Manufacturer	BT Inc.
Device Name	CPR Training Model (Sherpa X )
Country of Origin	Republic of Korea



(Contains FCC ID : S7A-IW05)

## Product Specification

Dimensions	330 X 670 X 210mm
Weight	6.4 kg
Power Converter	Input AC100-240~, 50/60Hz, 0.4A Output DC 12V, 1.5A
Battery	6EA of LR14 (C, 1.5V)

## Customer Service

Website	<a href="http://www.btinc.co.kr">www.btinc.co.kr</a>
Address	A-313, Samsung Techno-valley, 140, Tongil-ro Deogyang-Gu, Goyang-Si, Gyeonggi-do, 10594, Republic of Korea
Telephone	+82-2-2038-2903
E-mail	<a href="mailto:bt@btinc.co.kr">bt@btinc.co.kr</a>



### Cautions for battery disposal

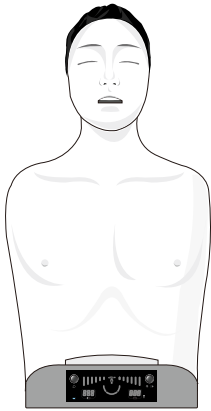
\* Please follow the regulations of corresponding area of the disposal of used batteries

## **Cautions**

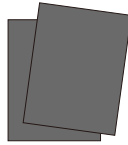
Please read it carefully to ensure correct usage and user's safety through understanding of the product.

- Ⓞ Use only components provide or approved by BT Inc.
- Ⓞ Do not use the product for other purposes described in this manual.
- Ⓞ If you disassemble or modify the product without any permission by BT Inc, you cannot get the warranty. Also, making imitated or altered products for commercial purposes are prohibited by law.
- Ⓞ During the usage, please contact us after any electricity power off when the product is overheated or smelled something burning.
- Ⓞ Keep the product away from water or moisture. If the product gets wet, do not turn it on.
- Ⓞ Do not use the product near strong magnetic fields or high voltage power lines. The product might malfunction due to the electromagnetic waves.
- Ⓞ Do not use the product under a weather of lightning. It can cause the product malfunction and increases the risk of electric shock.
- Ⓞ Do not use the product with temperatures below 0°C or above 40°C.  
(Operation temperature : 0°C ~ 40°C, Storage temperature : -10°C ~ 50°C)
- Ⓞ Do not keep the product near hot places such as heaters. Deterioration of product or internal damage might occur.
- Ⓞ Never clean the product with chemical substances such as solvent, benzene or thinner, as these may Cause ignition or cause the surface deterioration.
- Ⓞ BT Inc. can change or adjust the product specification without any notice in order to improve the product.

# Components



**Adult Torso Training Model**



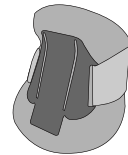
**Magnetic sticker for AED trainer pads**



**Lubricant for intubation**



**Power Adaptor**



**Cervical collar**

\* etc. - Storage bag, USB Cable(Power bank connector)

\* Option (sold separately) - Tablet, Power bank

## Consumables

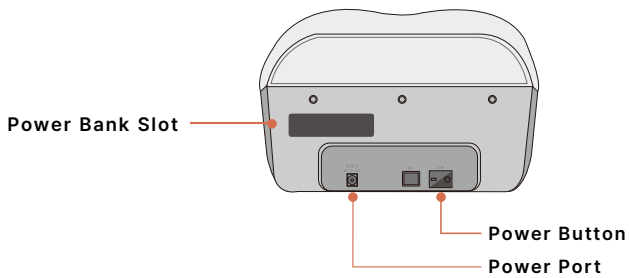
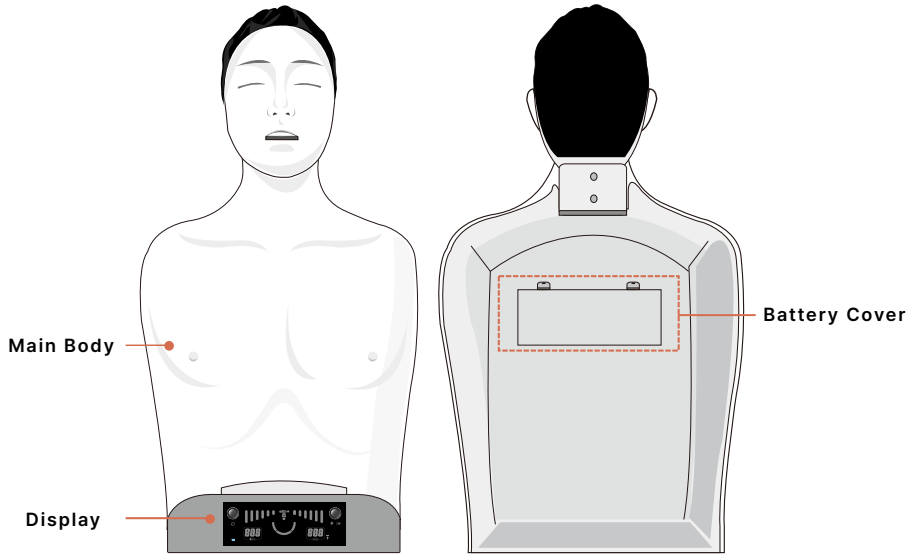
- Magnetic Sticker for AED trainer pads
- Skins(Face, Body)
- Lung Bag
- Lubricant for intubation
- Airway for replacement

## Recommended Clinical Supply Sizes

ETT	I.D. 7.0~8.0mm
I-gel / LMA	#3, #4
Combitube	37Fr
OPA	80mm(Green)
NPA	6~7 (24~28Fr)

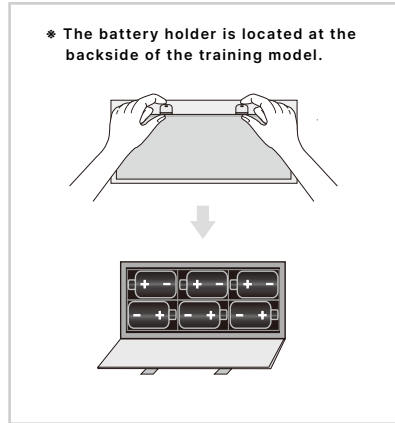
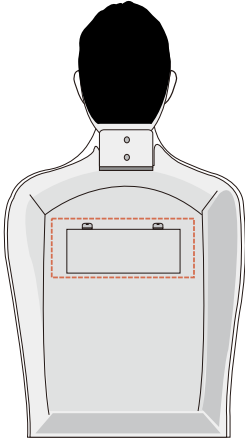
- The following clinical supply sizes are recommended for use with our CPR & Airway management Training Model.
- Other sizes may cause damage to the products.
- Lifetime of the consumables may differ depending on the skill level of the users.

# Features



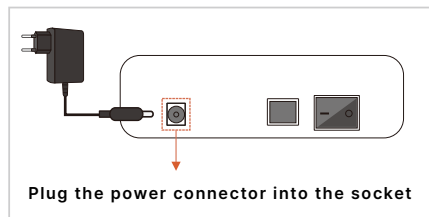
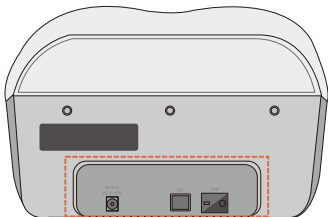
# Power Connections

## (1) Battery power supply



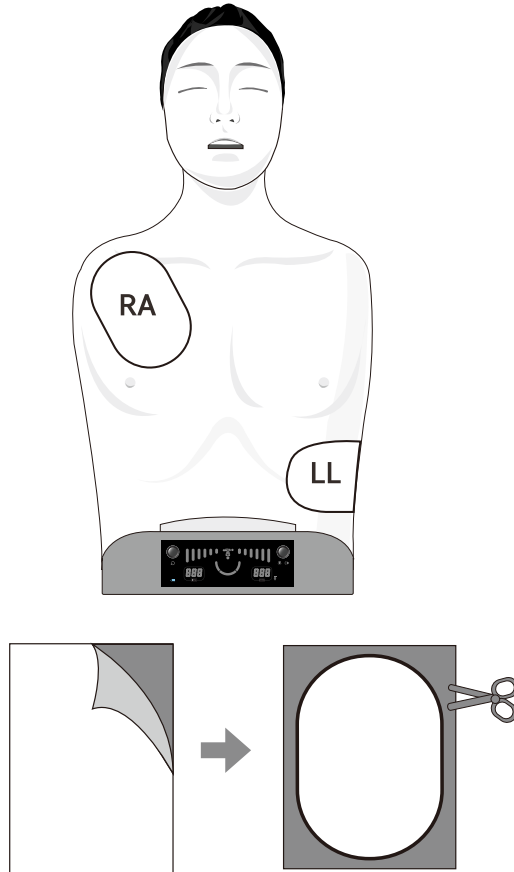
- ① Open the battery cover at the backside of the training model by pressing the stoppers with both index fingers.
- ② Insert 6 batteries into the battery holder with correct polarities.
- ③ Use LR14(C-type, 1.5V) standard batteries only.

## (2) External AC power supply



- Use only the power converter supplied by manufacturer.
- In case of using a power bank, please use an included USB cable.
- Some models of power banks may not be compatible with product.

## Installation

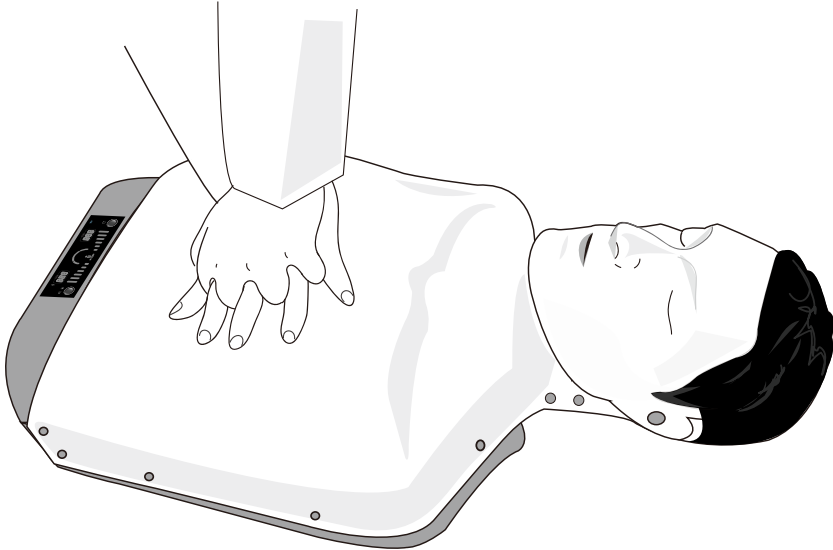


- ① Prepare the AED trainer.
- ② Remove the release liner from the provided magnetic stickers.
- ③ Put magnetic stickers on AED trainer's pads.
- ④ Cut the outer edge of magnetic stickers.
- ⑤ AED trainer's pad will be attached to the training model due to embedded magnets inside of the training model.

- Adhesion may vary depending on the condition and location of pads.

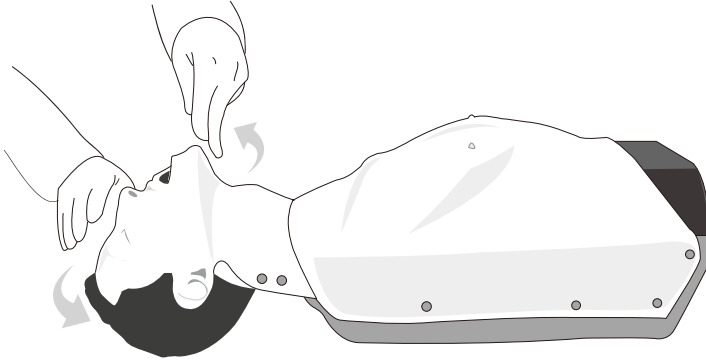
## Functions

### (1) Chest Compression

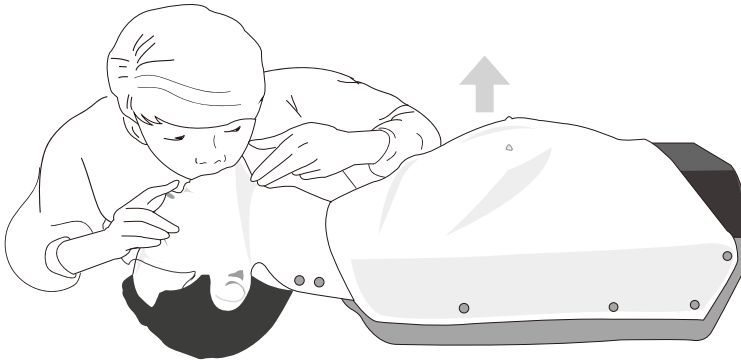


- ① Connect the power adaptor or insert fully charged batteries, then press and release the power button.
- ② When the display is on, select the display option and start the chest compression.
- ③ Compression depth, compression rate, total compression counts and correct compression counts are displayed on the LED panel.

## (2) Opening Airway

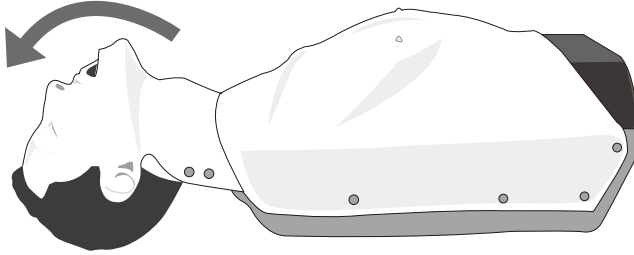


## (3) Ventilation

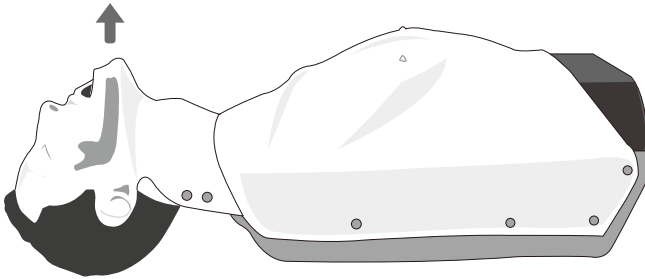


- ① Tilt the head back to open the airway.
- ② Pinch the nose of the training model and conduct mouth to mouth resuscitation.  
(Pay attention to the chest rising.)
- ③ Ventilation number, ventilation time, the number of correct ventilation and total ventilation are displayed on the LED panel.

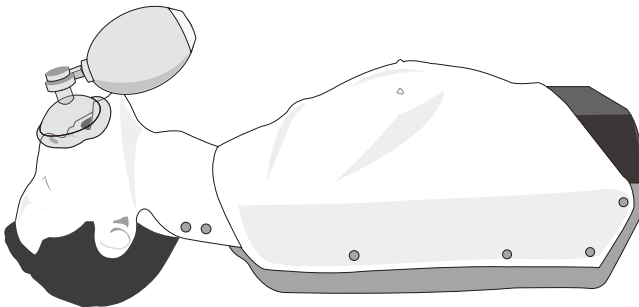
(4-1) Head tilt-Chin lift



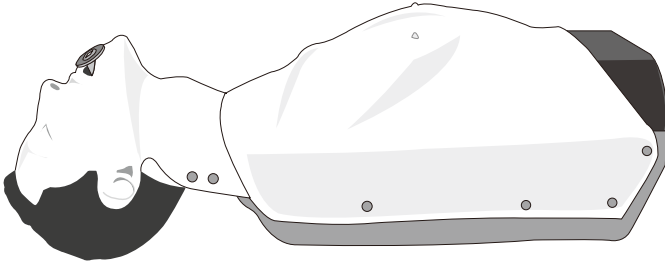
(4-2) Jaw thrust maneuver



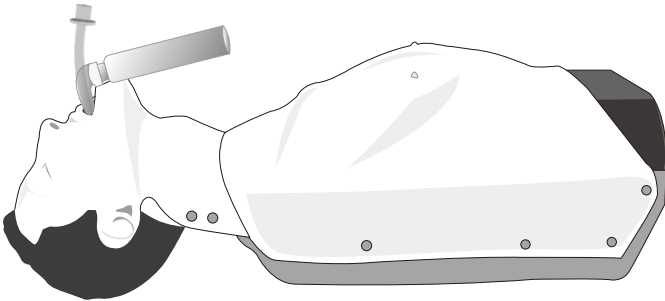
(4-3) Bag-valve-mask ventilation



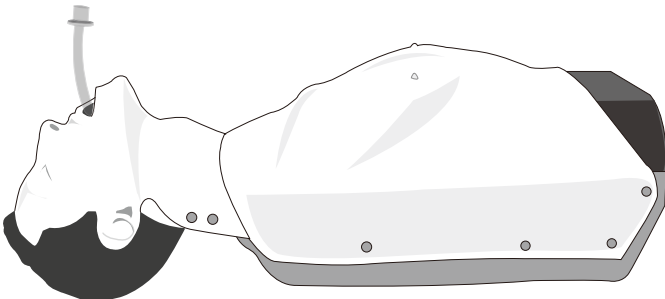
(4-4) Insert OPA/NPA



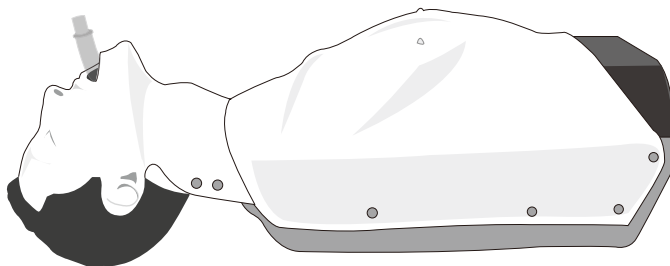
(4-5) Intubation with a laryngoscope



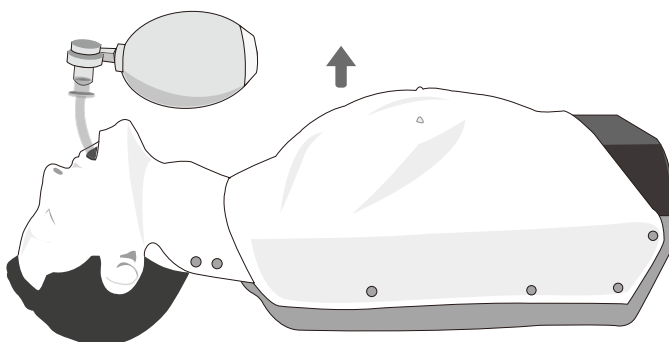
(4-6) Intubate ETT



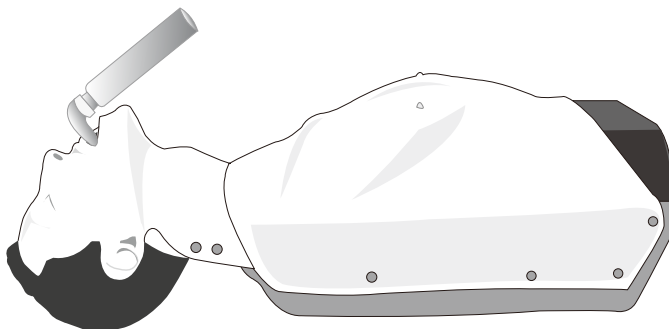
(4-7) Intubate I-gel



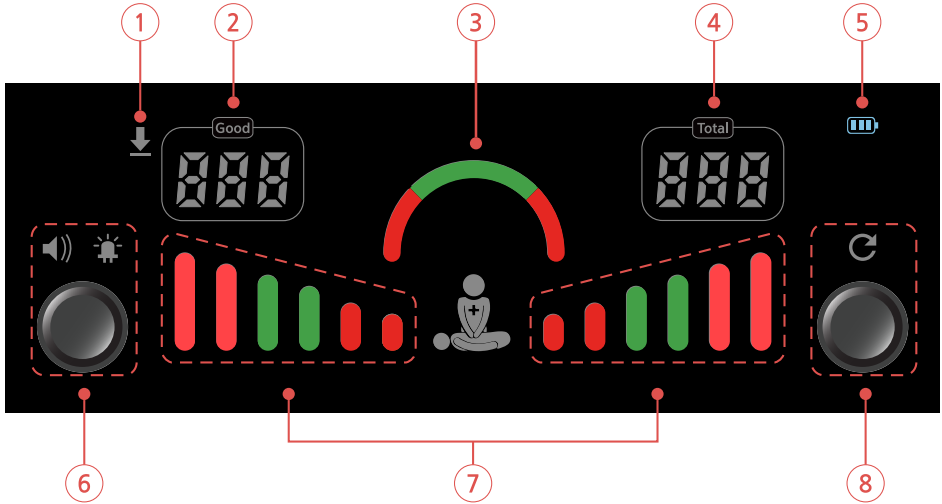
(4-8) Observable chest rising during ventilation



(4-9) Click sound for the front teeth while an excessive use of laryngoscope



(4) Layout of LED panel

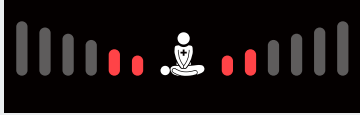


- ① LED Displaying Chest Compression ON / LED Displaying Ventilation OFF
- ② Good Chest Compression Count / Hand Placement / Compression Depth / Good Ventilation Count/ Ventilation Volume  
Hand Placement in real-time, Compression depth, Displaying good compression count after training  
Ventilation volume in real-time, Displaying good ventilation count after training  
When there is no input, the good compression count and the good ventilation count is being displayed repeatedly
- ③ Displaying Compression rate / Expiratory time during ventilation in 3 stages
- ④ Total compression count / Ventilation count
- ⑤ Battery status
- ⑥ Option button in 4 stages (repeated)




Sortation	Stage 1	Stage 2	Stage 3	Stage 4
Sound	ON	OFF	OFF	ON
LED	ON	OFF	ON	OFF

- ⑦ Compression Depth / Incomplete recoil / Volume of ventilation
- ⑧ Reset button
- Battery saver mode will be automatically turned on and the LED panel will stop displaying when chest compressions are not detected for 60 minutes. Press the Ⓜ or Ⓜ button to begin again.

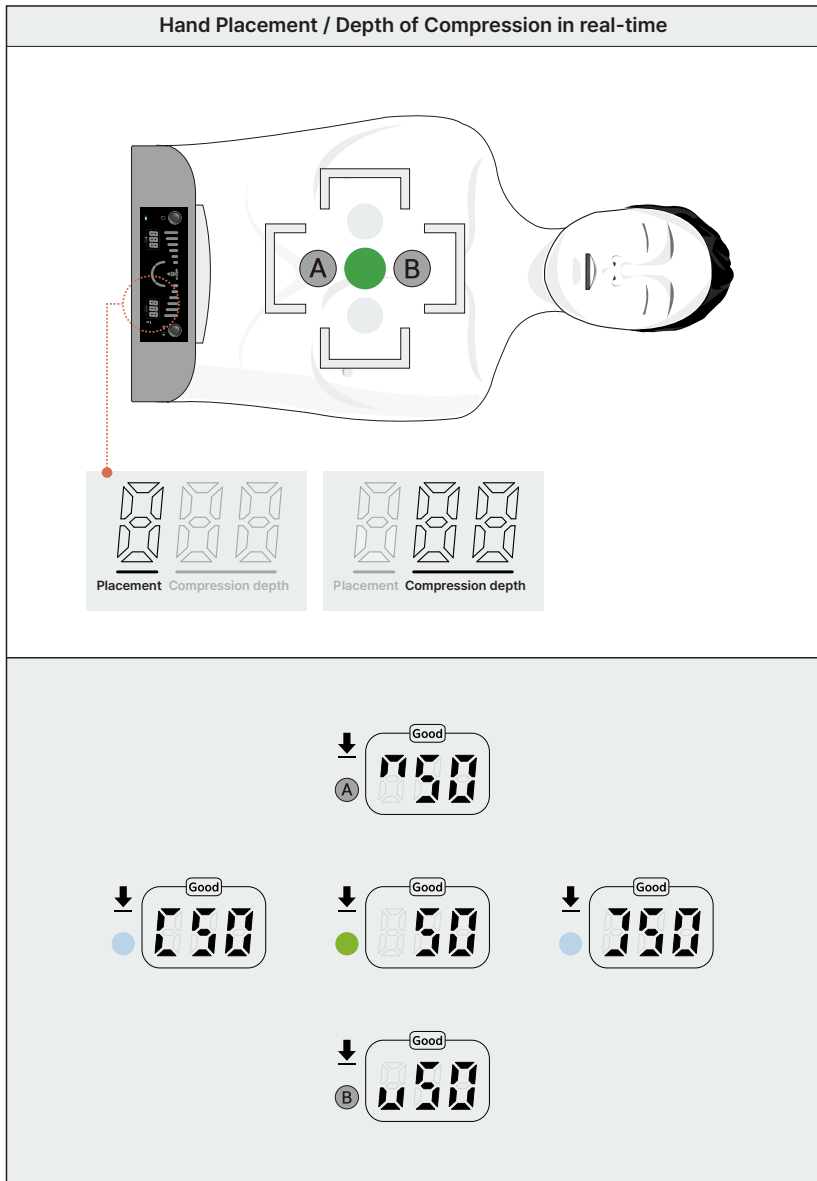
(5) Compression Depth / Ventilation Volume

LED	Compression Depth	Ventilation Volume
	Insufficient	Insufficient
	Correct	Correct
	Over-compression	Excessive

(6) Compression Rate / Ventilation Time

LED	Compression Depth	Ventilation Time
	Slow	Slow
	Correct	Correct
	Fast	Fast

## (7) Display Layout



# Cleaning and Storage

## (1) Training Model Maintenance and Cleaning

- In case of the mouth-to-mouth ventilation, it is recommended to use the BVM, pocket masks or face shield to keep the training model in a hygienic condition.
- The airway part consists of the face skin, check valve module, and lung bag.
- If there is a potential risk of infection during mouth-to-mouth ventilation training, after performing airway management, the face skin should be cleaned according to the cleaning method, and the check valve module and lung bag should be used as single-use items (recommended).
- Face Skin Cleaning: Clean with a 70%–83% ethanol solution or use mild detergent to thoroughly clean, then dry before use.
- The plastic parts where air flows back from the lung bag to the outside through the check valve module should be cleaned and disinfected with an ethanol swab or a soft cloth soaked in ethanol.
- Clean the body skin and plastic parts of the training model, excluding the airway part, according to the cleaning method.
  - ① Wipe the parts with a damp cloth to remove any stains.
  - ② If additional cleaning is needed, wipe the model clean with an ethanol swab or a soft cloth soaked in ethanol.
  - ③ Wipe with a clean, dry cloth and allow to dry.

### Recommended solvents and tools

- 70–83% Ethanol
- 70% Isopropyl Alcohol
- It is not recommended for cleaning plastic parts.

## (2) When using BVM or a pocket mask

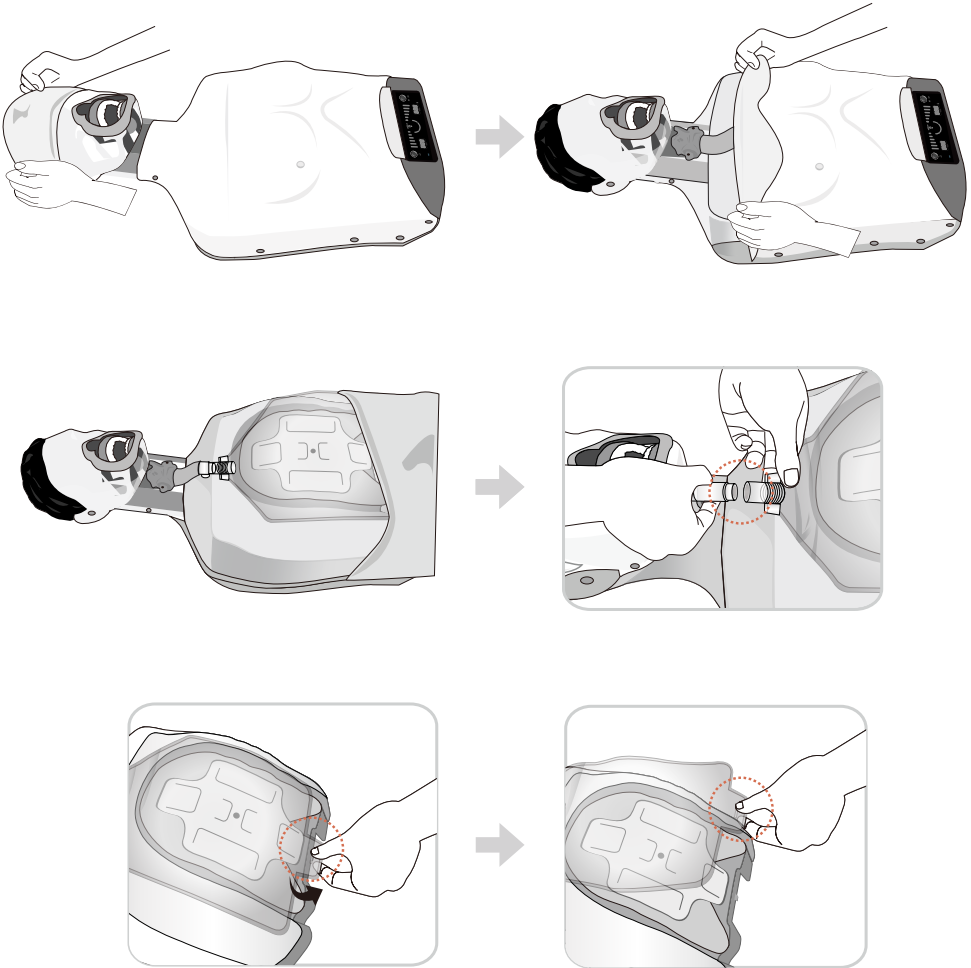
- When using the BVM, it is recommended to disinfect and replace the airway part once a month.
- When using a pocket mask with a one-way valve, it is recommended to disinfect and replace it once a week.
- Face Skin Cleaning: Clean with a 70%–83% ethanol solution or use mild detergent to thoroughly clean, then dry before use.
- Check Valve Module Cleaning : Clean with a 70%–83% ethanol solution or use a separate neutral detergent to thoroughly clean the inside, then dry before use (check the operational status after drying).
- The lung bag is single-use. Replace it based on internal moisture or storage conditions.

## (3) When using a face shield

- If there is a potential risk of infection when using a face shield, it is recommended to use the check valve module and lung bag as single-use items.
- Face Skin Cleaning: Clean with a 70%–83% ethanol solution or use mild detergent to thoroughly clean, then dry before use.
- The check valve module should be replaced with a single-use item or cleaned using the following method, thoroughly dried, and reused.
- Check Valve Module Cleaning : Clean with a 70%–83% ethanol solution or use mild detergent to thoroughly clean, then dry before use. (After drying, check the operational status.)
- The lung bag is single-use. Replace it based on internal moisture or storage conditions.

\* The disinfection and replacement cycle may vary depending on the usage environment.

#### (4) Change the lung bag

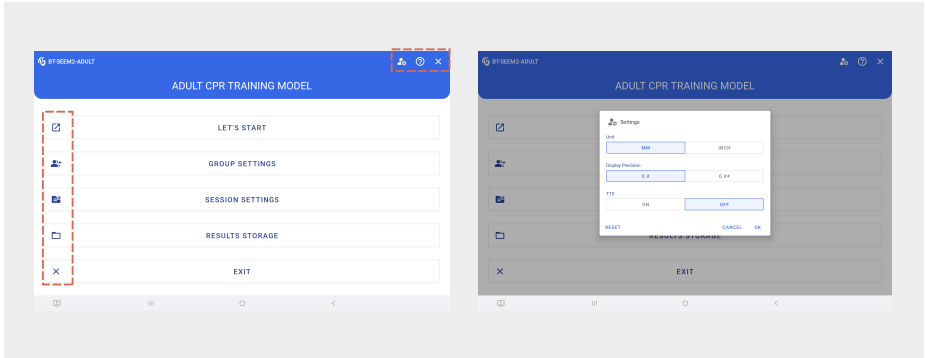


- ① Separate the facial skin from the training model.
- ② Separate the chest skin from the training model up to the abdomen.
- ③ Disconnect and remove the lung bag adapter connected to the airway connector of the training model.
- ④ Detach the lower part of the lung bag installed in the abdominal section of the training model.

- When connecting the lung bag, install it in reverse order.

# Home

## 1. Overview



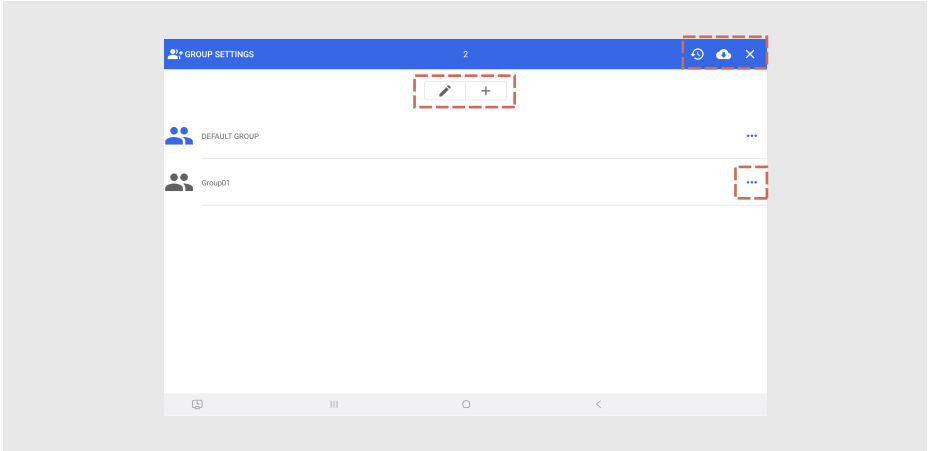
- The BT-SEEM-Air training model uses the same software as the BT-SEEM2-ADULT training model.
- The CPR & Airway Management Training Model is designed to allow users to freely and repeatedly practice cardiopulmonary resuscitation (CPR), and it provides functions for evaluating and analyzing the practice results.
- In the [Settings] menu at the top, you can adjust the unit conversion(mm / inch) and display precision, and turn the TTS (Text-to-Speech) feature on or off.
- Pressing the [Help] button will take you to the product instruction video page.

## ○ Icon

Icon	Description	Icon	Description
	Settings		Help
	Exit		LET'S START
	GROUP SETTINGS		SESSION SETTINGS
	RESULTS STORAGE		






# Group Settings Screen

## 1. Overview

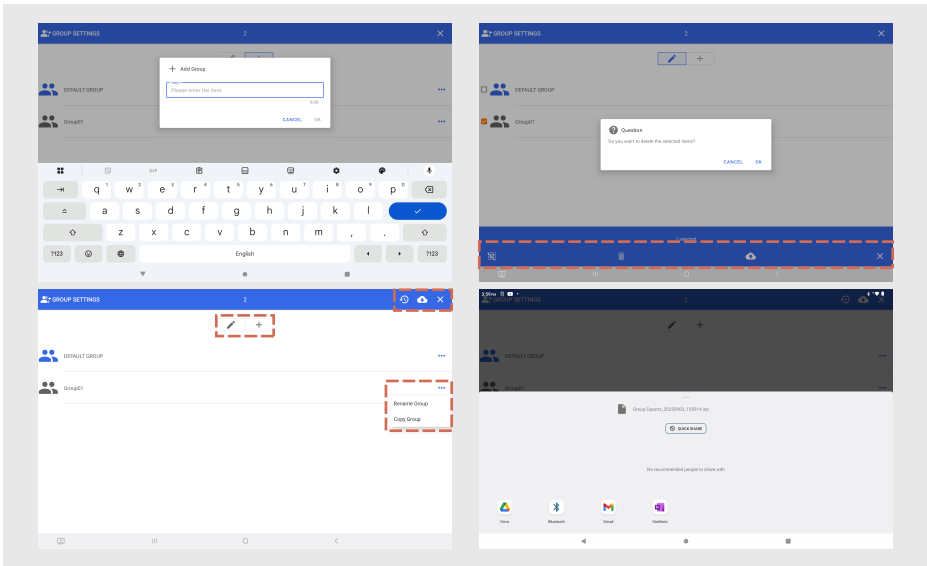


- The Group Settings Screen provides functions for managing the result data of trainees in an organized manner.
  - \* The default group is highlighted in blue to distinguish it from user-created groups.

## ○ Icon









Icon	Description	Icon	Description
	Reset		Import Group
	Edit		Add Group
	Rename Group / Copy Group		

## 2. Creating a Group

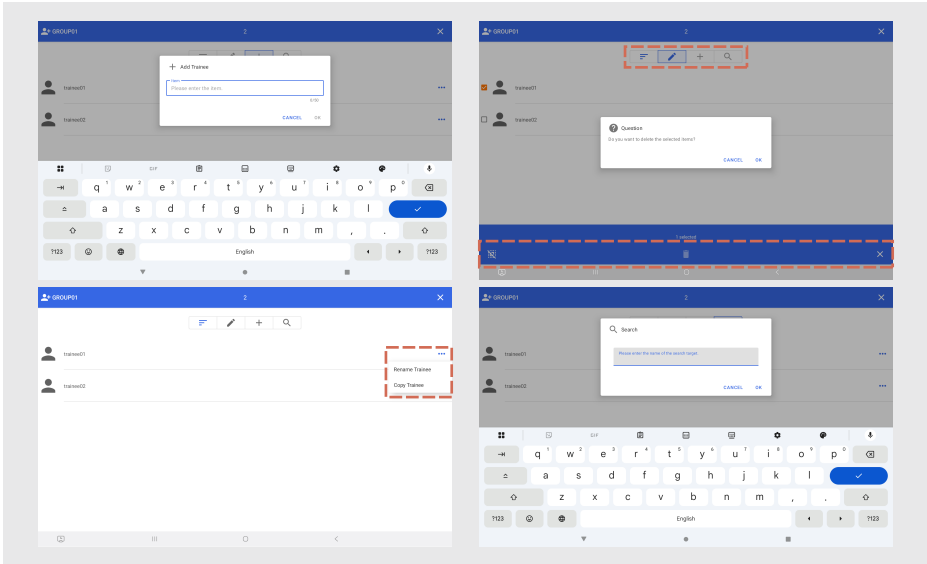


- Groups can be added or deleted.
- Groups can be renamed or copied.
- You can change the order of created groups using the drag-and-drop feature.
- Group files can be exported to or imported from external storage.
- The total number of created groups is displayed at the top center of the screen.
- When a new group is created, the screen automatically navigates to the trainee settings.

### ○ Icon

Icon	Description	Icon	Description
	Reset		Import Group
	Edit		Add Group
	Select All / Deselect		Delete Group
	Export Group		Rename Group / Copy Group

### 3. Creating Trainees



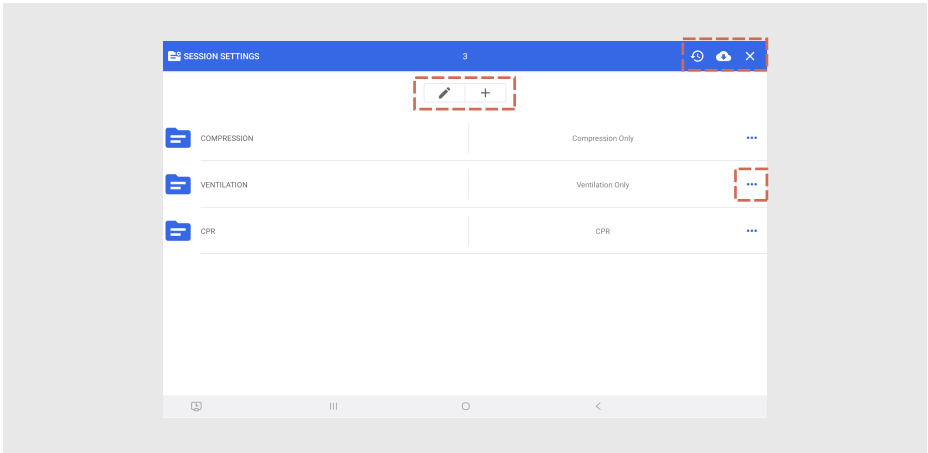
- Trainees can be added or deleted.
- Trainees can be renamed or copied.
- You can change the order of created trainees using the drag-and-drop feature.
- Trainee names can be sorted and searched.
- The current number of created trainees is displayed at the top center of the screen.

### ○ Icon

Icon	Description	Icon	Description
	Default / Ascending / Descending		Edit
	Add Trainee		Search Trainee
	Select All / Deselect		Delete Trainee
	Rename Trainee / Copy Trainee		

# Session Settings Screen

## 1. Overview

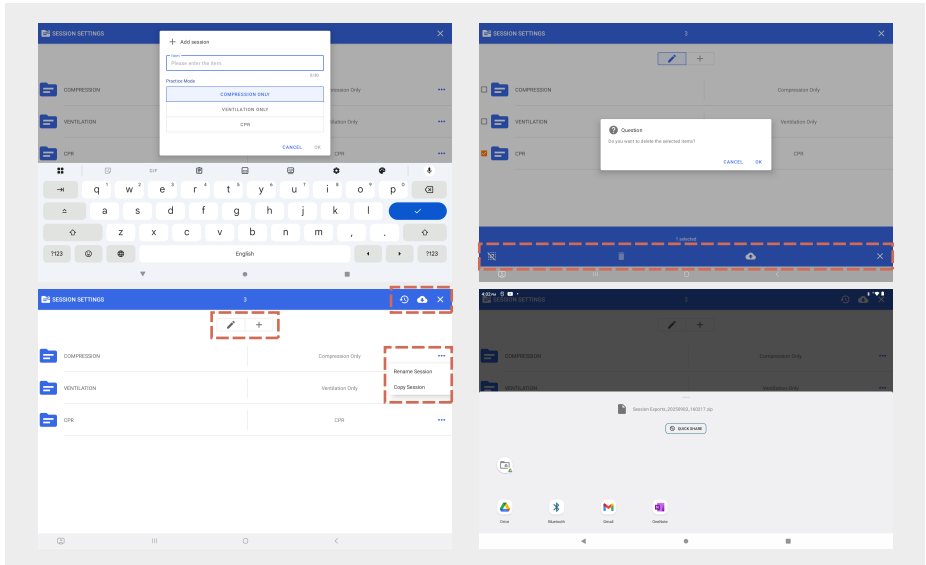


- The Session Settings Screen provides functions to flexibly configure the practice environment according to the practice purpose and educational goals.
  - \* The default sessions are highlighted in blue to distinguish them from user-created sessions.

### ○ Icon

Icon	Description	Icon	Description
	Reset		Import Session
	Edit		Add Session
	Rename Session / Copy Session		

## 2. Creating a Session

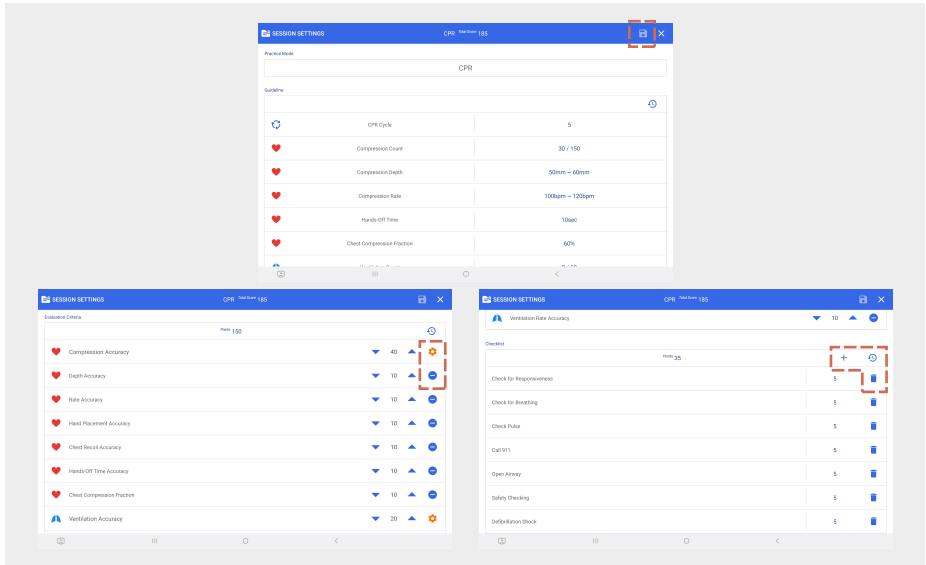


- Sessions can be added or deleted.
- Sessions can be renamed or copied.
- You can change the order of created sessions using the drag-and-drop feature.
- Session files can be exported to or imported from external storage.
- The current number of created sessions is displayed at the top center of the screen.

### ○ Icon

Icon	Description	Icon	Description
	Reset		Import Session
	Edit		Add Session
	Select All / Deselect		Delete Session
	Export Session		Rename Session / Copy Session

### 3. Configuring a Session



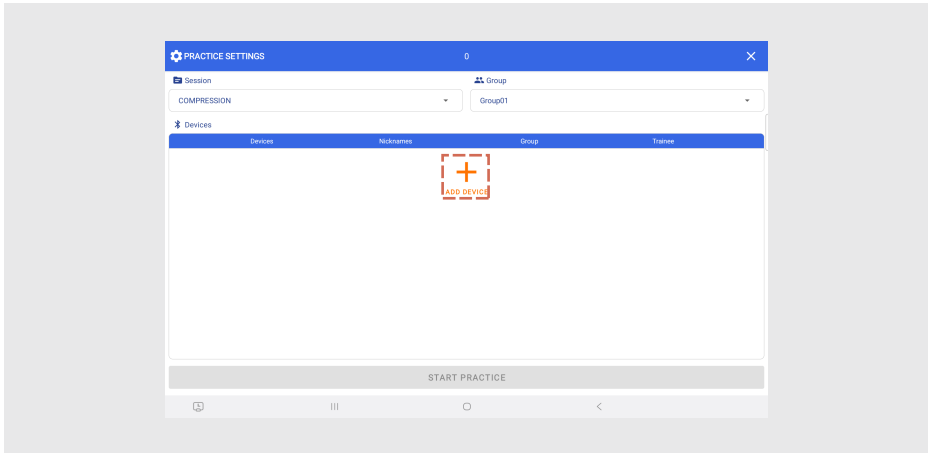
- You can select the practice mode according to the practice purpose, and based on the selected mode, you can configure detailed settings such as guidelines, evaluation criteria, and checklists.

### ○ Icon

Icon	Description	Icon	Description
	Save		Item Settings
	Exclude Item		Add Checklist
	Reset		Delete Checklist


# Practice Setup Screen

## 1. Overview

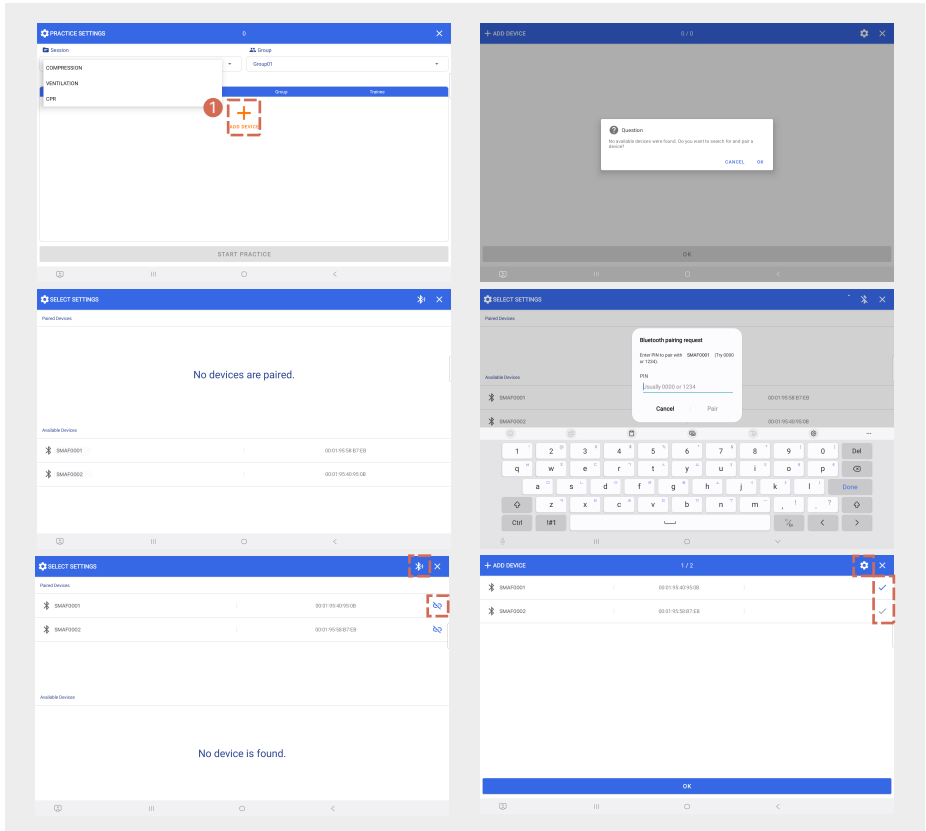


- In the Practice Setup Screen, you can select a session that matches the practice purpose and connect trainees with training models.

### ○ Icon








Icon	Description
	Add Device

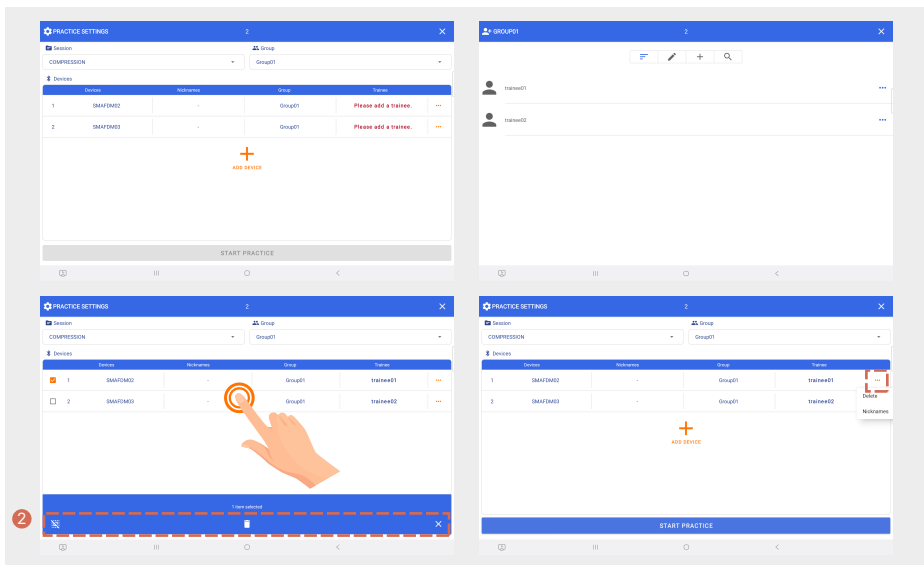
## 2. Configuring Practice



- After selecting the appropriate session, choose the group that includes the trainees.
- Press the [Add Device] button to check available training models for connection.
- If no available devices are found, a notification window will appear; press [OK] to move to the Device Settings Screen.
- You can also access the Device Settings Screen by pressing the [Device Settings] button at the top.
- If no paired devices exist, press the [Search Device] button at the top to search for available devices.
- Select the desired device from the available devices and enter the PIN code to pair it.
- Paired devices will be registered on the Add Device screen, and pressing the [Unpair] button will disconnect them.
- Select the desired devices on the Add Device screen and press [Confirm] to add them.




## ① Icon

Icon	Description	Icon	Description
	Add Device		Device Settings
 	Search Device / Cancel		Unpair
 	Select Device / Deselect Device		



- Register trainees to the added devices.
- The number of currently available practice devices is displayed at the top center of the screen.
- Press and hold a list item to enter Edit Mode, where you can select and delete a device.
- You can change the order of connected devices or assign nicknames.
- Once practice setup is complete, press the [Start practice] button to proceed to the practice screen.

## 📌 Icon

Icon	Description	Icon	Description
	Select All / Deselect		Delete Device
	Delete Device / Device Nicknames		

# Practice Screen

## 1. Screen Layout








- Up to 6 trainees can practice simultaneously. The practice screen can be used in split views of 1:1, 1:2, 1:4, 1:6, or in full-screen mode.
- If Bluetooth connection fails, you can tap the screen to attempt reconnection.

## 2. Starting the Practice



- Press the [Start / Stop] button to begin or pause the practice session.
- When the practice ends, press the [Results] button to review the practice results.

### ○ Icon




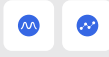



Icon	Description	Icon	Description
	Start practice		Finish practice
	Results	 	Metronome ON / OFF

### 3. Change View Mode

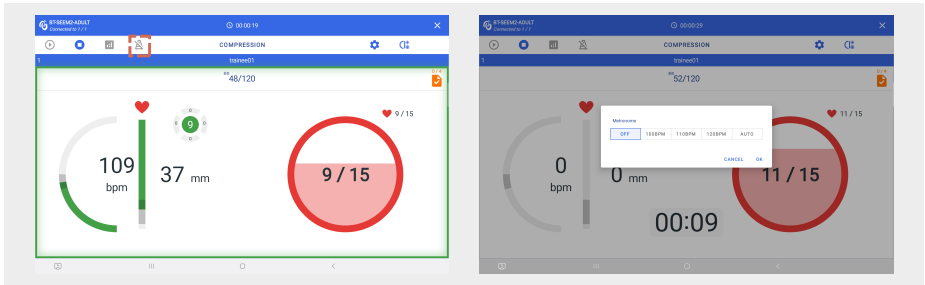


- The view modes are available in three types: Basic View, Graph View, and Detailed View.
- The Basic View provides real-time feedback and progress on the practice, offering a simple and intuitive layout to easily monitor the practice status at a glance.
- The Graph View displays compression depth and ventilation volume using line and scatter graphs, allowing users to review overall performance trends throughout the practice.
- The Detailed View offers accuracy and statistical data of the practice results, enabling a comprehensive review of the entire practice cycle performance.
- Available view modes and options may vary depending on the selected practice mode.
- The user's chosen practice view and settings are saved automatically.

## ○ Icon

Icon	Description	Icon	Description
	Settings		Basic View
	Graph View		Graph View Option (Line / Dot)
	Detailed View		Detailed View Option (Accuracy / Cycle)
	Full Screen View (Multi Mode only)		

## 4. Metronome Settings

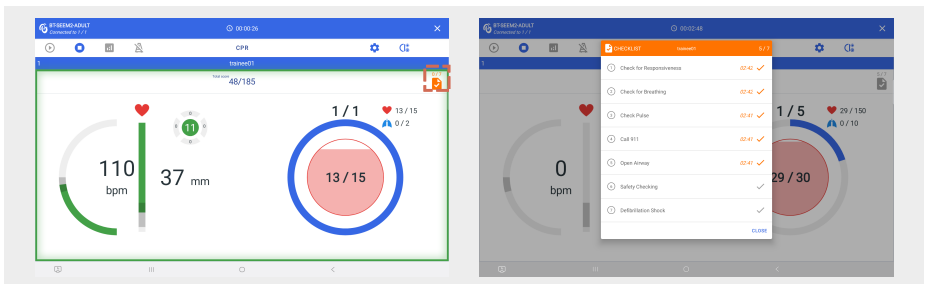


- The metronome sound can be turned ON or OFF, and you can select from 100 bpm, 110 bpm, 120 bpm, or AUTO.
- \* AUTO operates based on the midpoint of the compression rate set in the guidelines.

### ○ Icon

Icon	Description
	Metronome ON / OFF

## 5. Running the Checklist

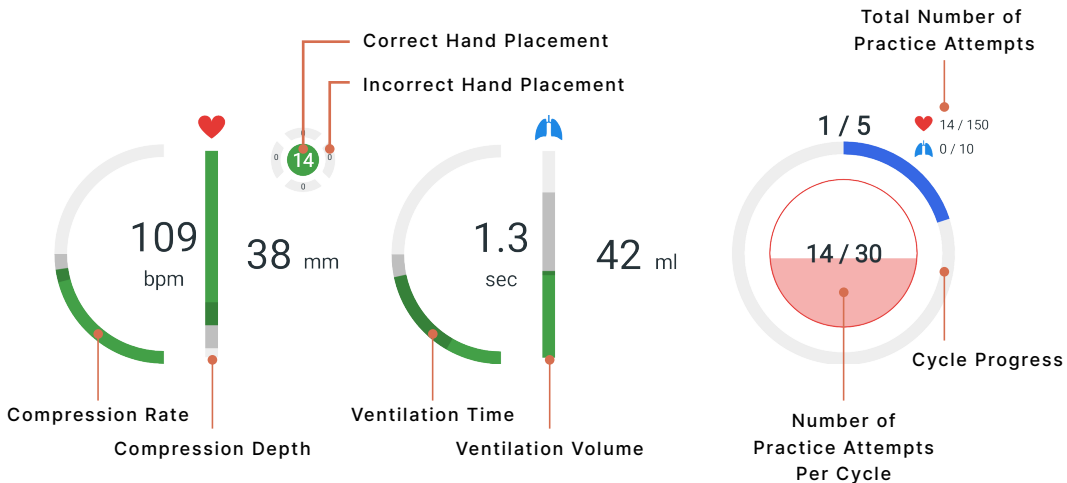


- Each item in the checklist can be checked or unchecked, allowing you to confirm the status of each item.

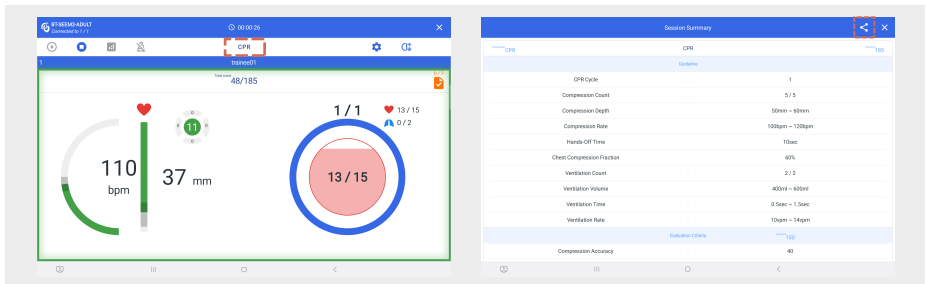
### ○ Icon

Icon	Description
	Checklist

## 6. Real-Time Feedback



## 8. Session Preview



- The session preview is displayed by tapping the [Session Name] located at the center, allowing you to check the configured training mode, guidelines, evaluation criteria, and checklist.
- Pressing the [Share] button lets you export the session as an image file.

### ○ Icon

Icon	Description	Icon	Description
	Session Preview		Session Share

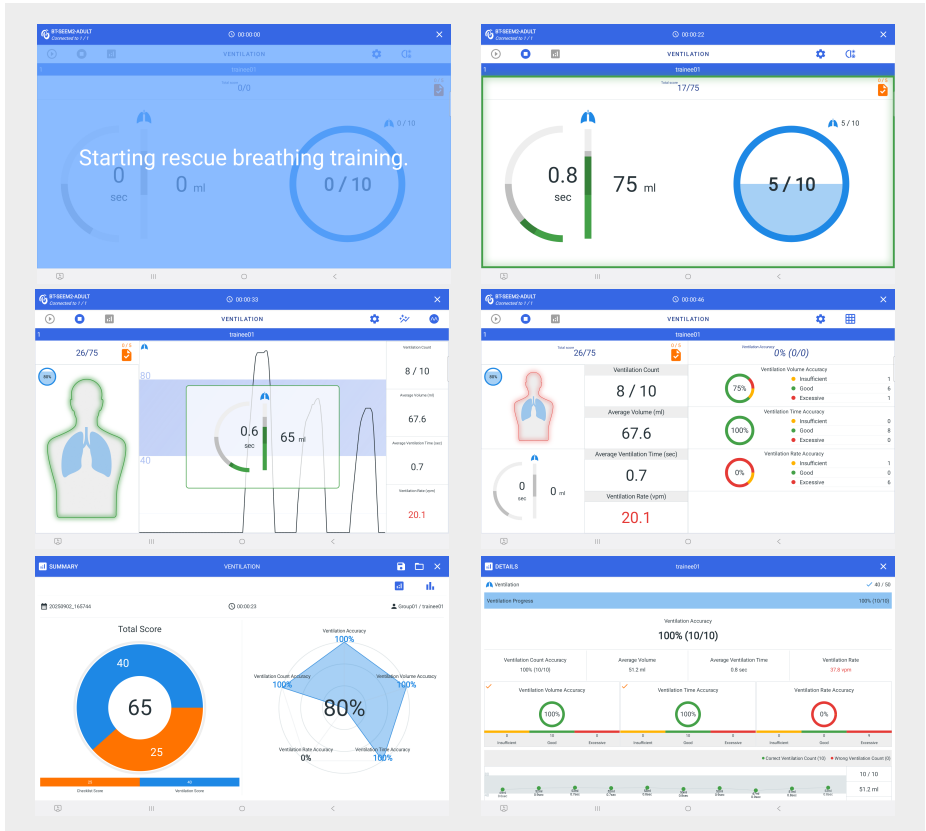
# Screen Layout by Practice Mode

## 1. Chest Compression



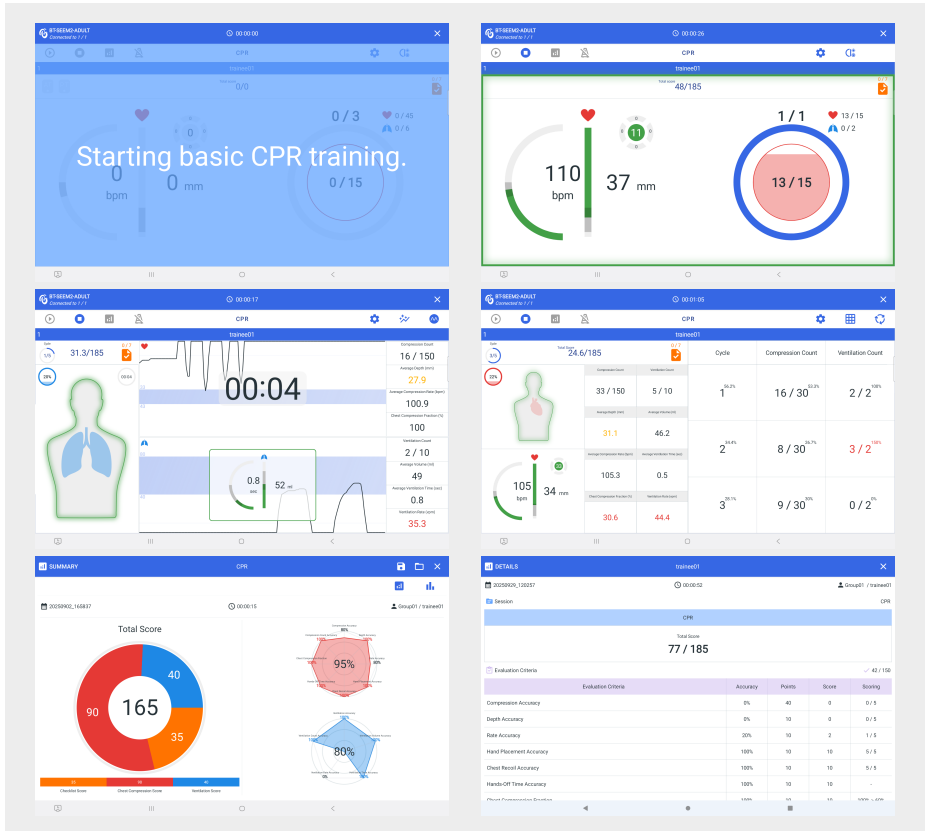
- Chest Compression practice is designed to help users learn and improve the skill of performing proper chest compressions on cardiac arrest patients.
- Instructional messages are displayed at the start of the practice, and the session begins once the guidance is complete.
- The practice screen can be viewed by selecting one of the Basic View, Graph View, or Detailed View modes.
- In the Chest Compression mode, cycle information is not displayed in the Detailed View.
- Practice results can be reviewed in two formats: summary results and detailed results.

## 2. Ventilation



- Ventilation practice is a process to learn and enhance the skill of supplying oxygen by artificially inflating air into patients who have stopped breathing or are having difficulty breathing, helping to prevent brain and organ damage.
- Instructional messages are displayed at the start of the training, and the session begins once the guidance is complete.
- The practice screen can be viewed by selecting one of the Basic View, Graph View, or Detailed View modes.
- In the Ventilation mode, cycle information and the metronome are not displayed in the Detailed View.
- Practice results can be reviewed in two formats: summary results and detailed results.

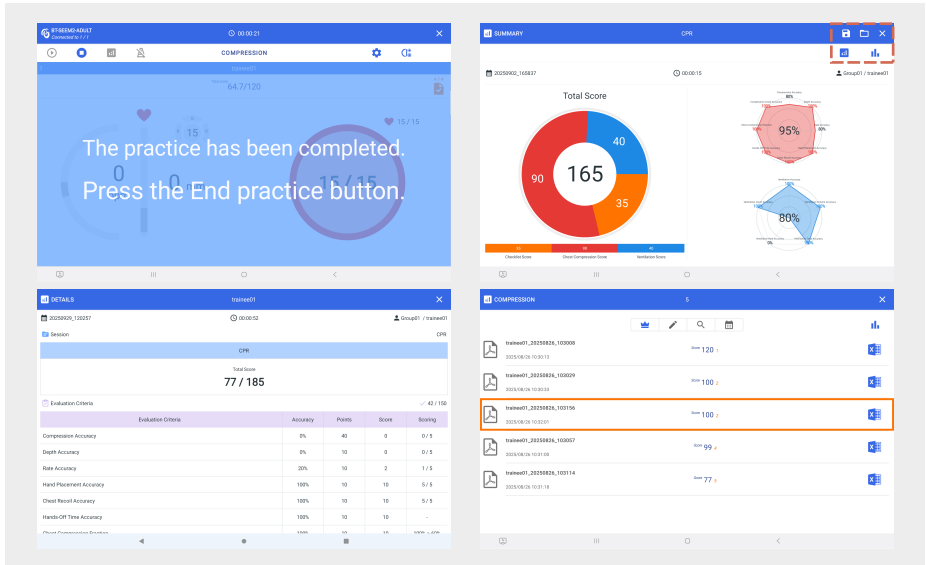
### 3. CPR



- CPR is an emergency procedure designed to quickly perform chest compressions and ventilation on cardiac arrest patients to maintain blood and oxygen supply and save lives. This practice process helps users learn and improve these skills.
- Instructional messages are displayed at the start of the training, and the session begins once the guidance is complete.
- Chest compression and ventilation practice are combined into one cycle and are repeated the set number of times.
- The practice screen can be viewed by selecting one of the Basic View, Graph View, or Detailed View modes.
- Practice results can be reviewed in two formats: summary results and detailed results.

# Practice Results Screen

## 1. Viewing and Saving practice Results



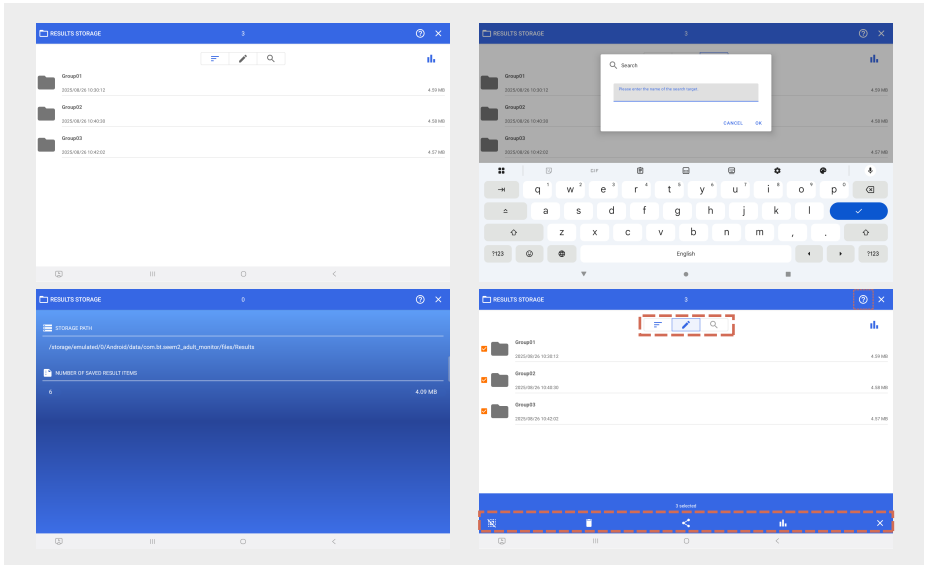
- After the practice ends, press the [Results] button to go to the results summary screen.
- Practice results consist of Summary Results, Detailed Results, and Integrated Results.
- Press the [Save] button to save the training results, and press the [Results Storage] button to view saved results.

### ○ Icon

Icon	Description	Icon	Description
	Save		Results Storage
	Detailed Results		Integrated Results

# Results Storage

## 1. Group Results Storage

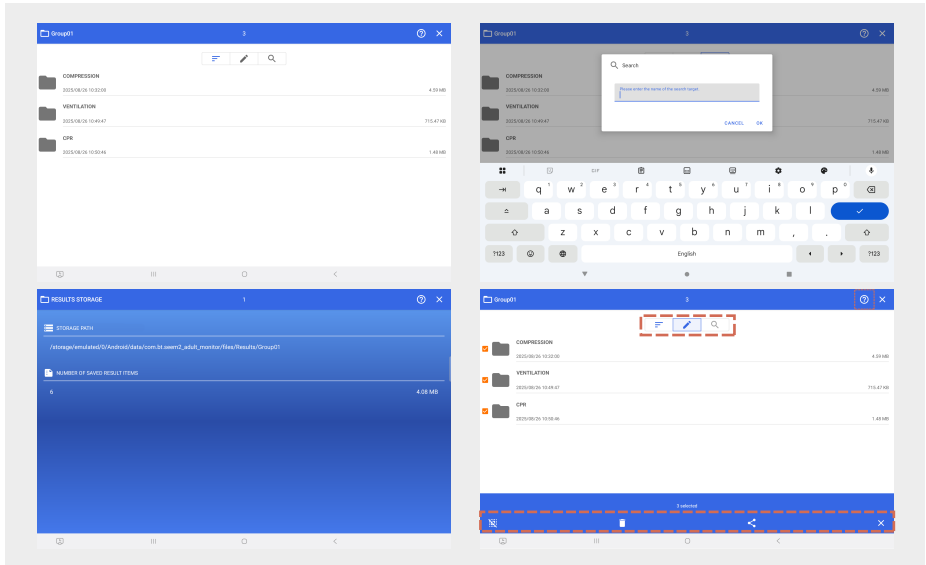


- Training results are organized and saved by group.
- You can search or sort to find the desired group folder.
- Pressing the [Help] button shows the storage path and the number of results saved in that path.
- Pressing the [Edit] button allows you to delete group folders or export saved results to external storage.
- The number of saved groups is displayed at the top center of the screen.

### ○ Icon

Icon	Description	Icon	Description
	Help		Default Sort / Descending / Ascending
	Edit		Search by Name
	Select All / Deselect		Delete Group Folder
	Share Group Folder		Integrated Results

## 2. Session Results Storage

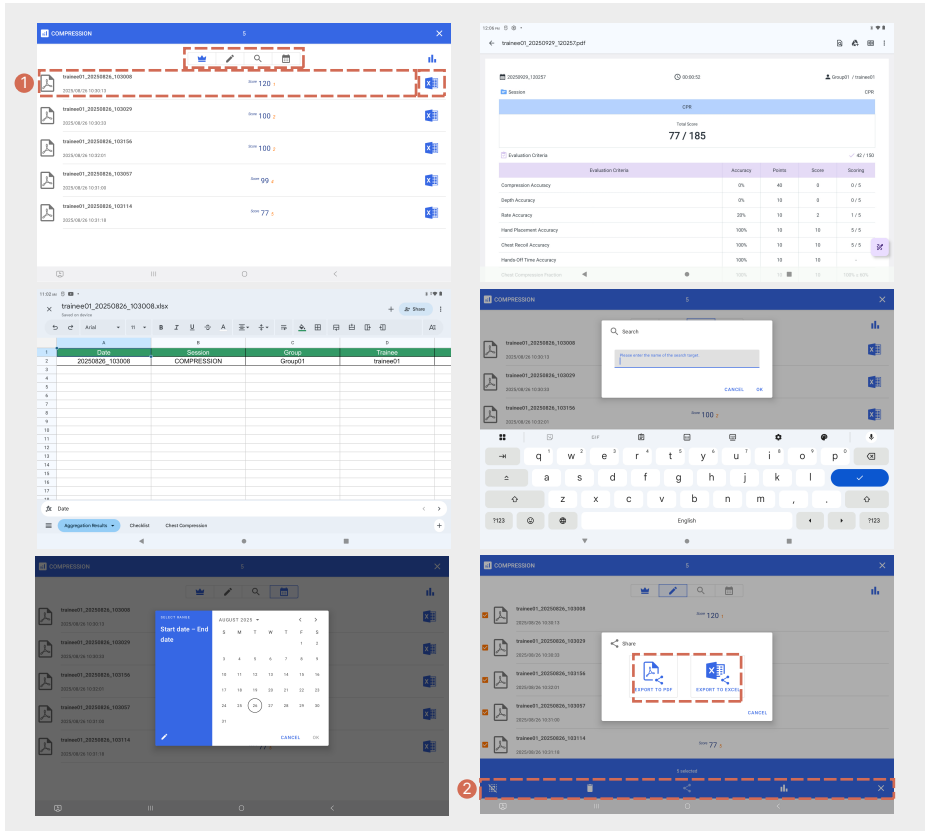


- When you select a group folder, the Session Results Storage screen appears.
- You can search or sort to find the desired session folder.
- Pressing the [Help] button shows the storage path and the number of results saved in that path.
- Pressing the [Edit] button allows you to delete session folders or export saved results to external storage.

## ○ Icon









Icon	Description	Icon	Description
	Help		Default Sort / Descending / Ascending
	Edit		Search by Name
	Select All / Deselect		Delete Session Folder
	Share Session Folder		

### 3. Trainee Results Storage










- When you select a session folder, the Trainee Results Storage screen appears.
- Practice result files are provided in PDF and Excel formats, allowing users to open and analyze results in their preferred format.
- Results are automatically sorted by score and can be viewed in descending or ascending order.
- Press the [Search by Name] button to easily find desired results.
- Press the [Search by Date] button to find results based on saved dates.
- Pressing the [Edit] button allows you to delete trainee result files or export results in PDF and Excel formats to external storage.

## ① Icon

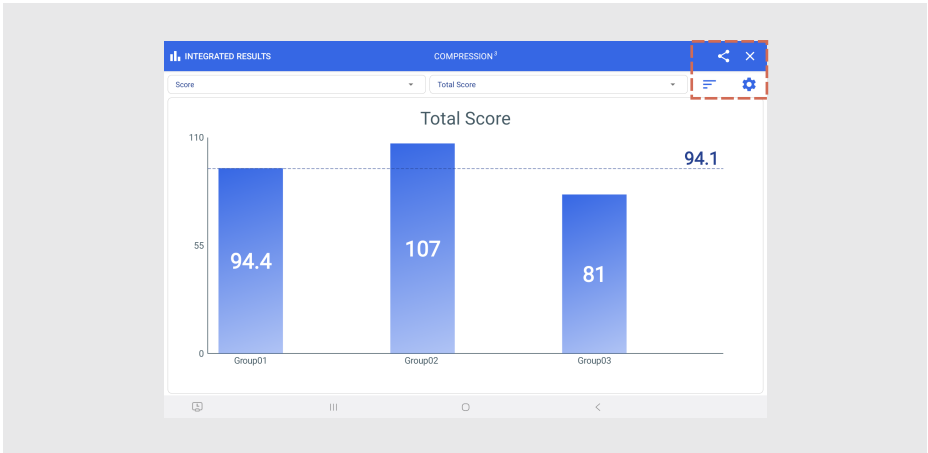
Icon	Description	Icon	Description
  	Rank Sort / Descending / Ascending		Edit
	Search by Name		Search by Date
	View as PDF		View as Excel

## ② Icon

Icon	Description	Icon	Description
 	Select All / Deselect		Delete Result
	Share Result		Export as PDF
	Export as Excel		Integrated Results




# Comparing Practice Results

## 1. Overview

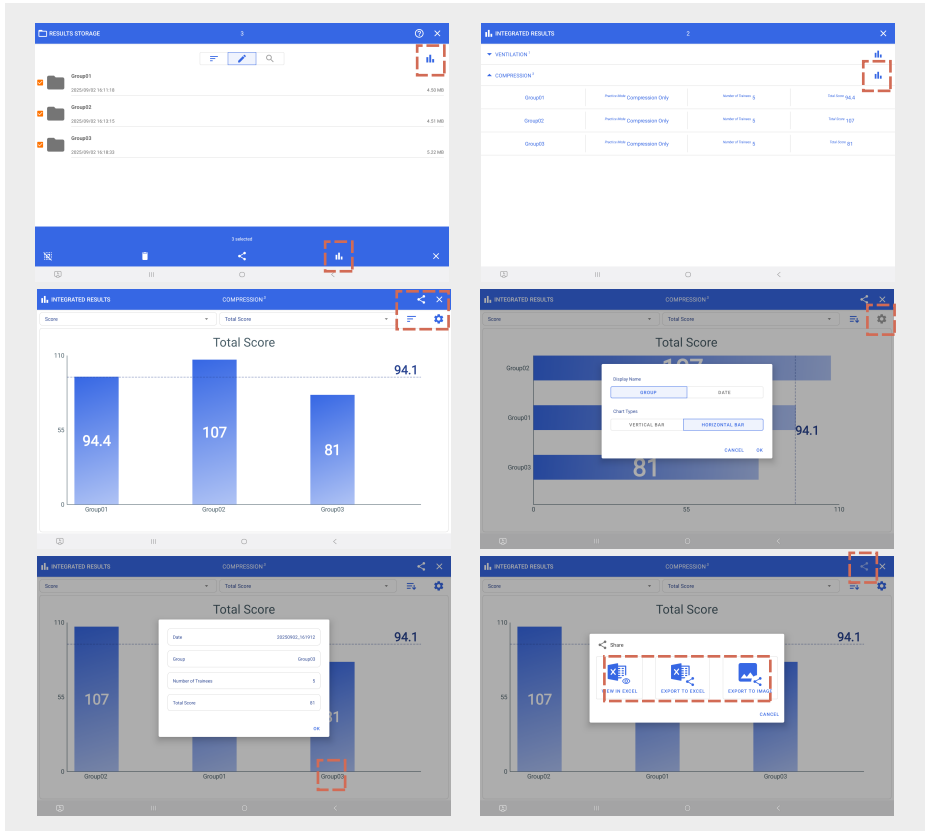


- The practice result comparison feature enables comparison between trainees' results to easily identify performance levels and areas needing improvement.
- The comparison feature includes Group Comparison and Trainee Comparison.

## ○ Icon











Icon	Description	Icon	Description
	Share Integrated Results		Default Sort / Descending / Ascending
	Settings		

## 2. Group Comparison

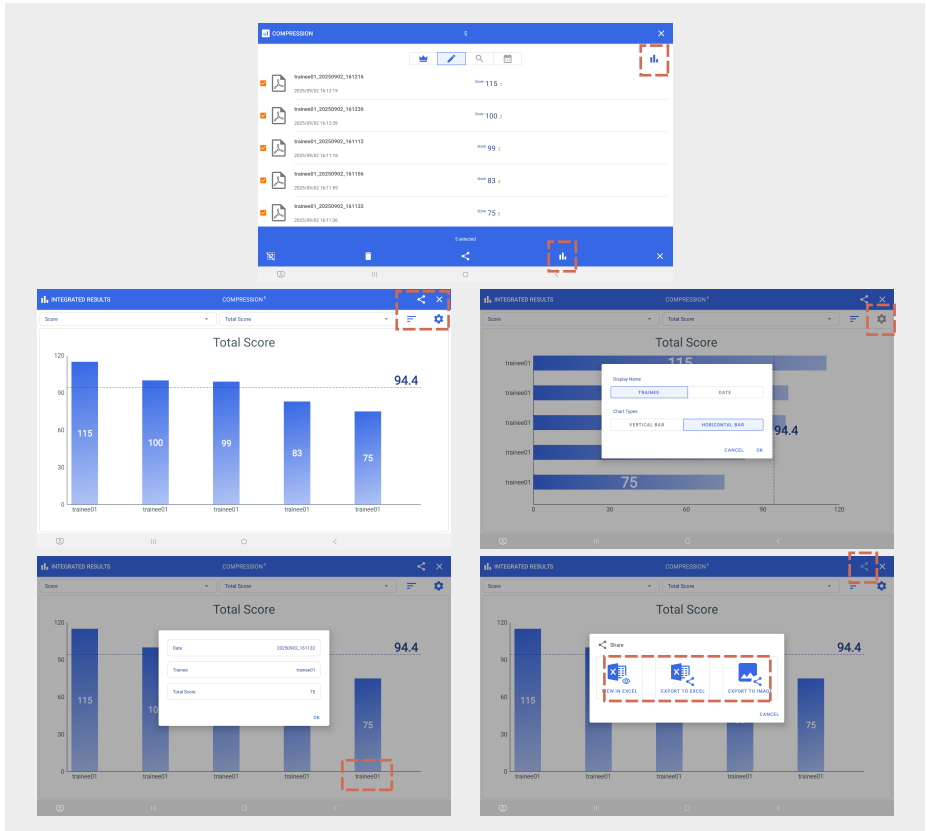


- To compare groups, select the desired group in the Group Results Storage and press the [Integrated Results] button to view comparison results.

## ○ Icon











Icon	Description	Icon	Description
 	Integrated Results	  	Default Sort / Descending / Ascending
	Settings		Share Integrated Results
	View as Excel		Export as Excel
	Export as Image		

### 3. Trainee Comparison



- To compare trainees, select the desired trainee results in the Trainee Results Storage and press the [Integrated Results] button to view comparison results.

### ○ Icon

Icon	Description	Icon	Description
 	Integrated Results	  	Default Sort / Descending / Ascending
	Settings		Share Integrated Results
	View as Excel		Export as Excel
	Export as Image		

SEEM-Air

# CPR & Airway Management Training Model

A-313, Samsung Techno-valley, 140, Tongil-ro,  
Deogyang-gu, Goyang-si, Gyeonggi-do, 10594, Republic of Korea

Homepage: [www.btinc.co.kr](http://www.btinc.co.kr) / E-mail: [bt@btinc.co.kr](mailto:bt@btinc.co.kr)  
Tel: +82-2-2038-2903, +82-51-903-1144 / Fax: +82 303-3130-0607

Copyright(c) BT Inc. All rights reserved.