

## Chapter 9 Maintenance

### 9.1 Main Unit

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 **CAUTION**

- Clean the ECG machine as well as the accessories periodically and cover it from dust.
  - Store the unit in a dry and cool environment and avoid excessive shocking and vibration.
  - Do not soak this ECG machine into the detergent when cleaning it. Please cut off the power supply first when cleaning the outer shell of the instrument. And please clean the ECG machine with the neutral detergent instead of using the detergent containing alcohol or using the sterilizer.
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### 9.2 Patient Cable

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 **CAUTION**

- The lead wires must be checked periodically for good connection. Damage may cause abnormal ECG waveforms at some or all leads.
  - Avoid twisting the patient cable, or the life time will be shortened.
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### 9.3 Cleaning and Disinfection

The process to clean and disinfect the cables, lead wires and reusable electrodes are as follows:

- 1) Use a clean soft cloth absorbing 70% ethanol to wipe the surface carefully and avoid touching connectors of the ECG machine and accessories.
- 2) When necessary, wipe the superfluous cleanser or disinfectant with dry cloth.
- 3) Place in the ventilated and cool environment to dry the ECG machine and accessories.

Disinfections may cause damage to the ECG machine or accessories to a certain degree. It is suggested that only when necessary, disinfect the ECG machine and accessories.

Recommended disinfectants are as follows: 75% ethanol, 70% isopropyl alcohol, Schülke perform ® sterile concentrate OXY (C/D grade).

Sterilization operation for this ECG machine and accessories is not recommended, unless the manual of the accessories has requirement.

## 9.4 Battery

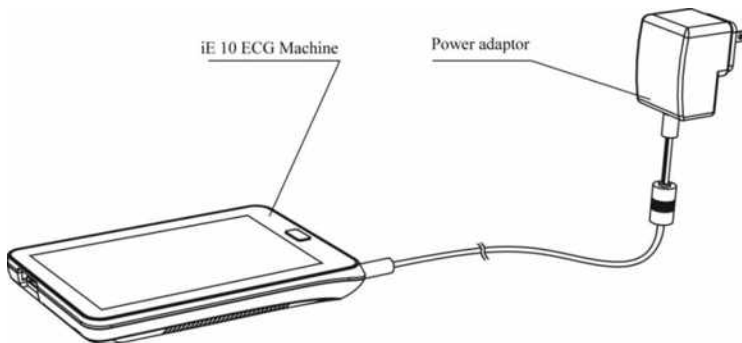
The ECG machine is equipped with a built-in rechargeable battery (3.7V/5800mAh) to assure continuous operation when AC power is unavailable. The battery supports continuous operation for 4 hours after fully charged.

### ◆ Charging

Connect AC power outlet and the ECG machine by supplied power cable to charge the battery. The charging indicator turns on orange during charging, and turns on solid green when fully charged.






If the ECG machine is to be stored or without use for a long time, to prolong the battery life, fully discharge the battery once every three months; and then fully charge the battery for use.

To ensure safety, please turn off the ECG machine when charging.



◆ **Battery Capacity**

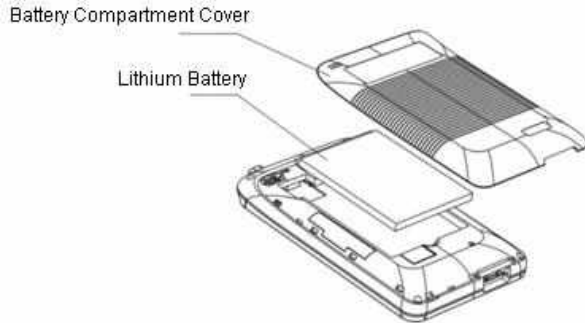
When the device is powered on, remaining battery capacity will be displayed on the top right screen. The following symbols indicate the battery operating time left:

<b>Symbols</b>	<b>Operating time left</b>
	4 hours or more
	2 hours or more
	1 hours or more
	10 minutes or more
	Run out battery, recharge the battery immediately.

◆ **Battery replacement**

The battery should be replaced by the professionals according to the following procedures.

1. Power off the ECG machine and disconnect the AC power cable.
2. Flip over the ECG machine and disassemble the battery back cover based on the instruction on the back cover.
3. Disconnect the battery buckle and take out the battery.
4. Replace the existing battery with a new one. Pay attention to polarity and connection.
5. Install the back cover.



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**EXPLANATION**

Refer to *Chapter 1.3 About Lithium Battery* for other warning information of battery.

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## 9.5 Regular Replacement

For good performance of the device, the following components or accessories must be replaced regularly by professionals.

### 1) Built-in lithium battery

The battery provides power supply for the ECG machine's normal operation. When it is low battery, the ECG machine's operating time will be short. When it is fully charged, but its operating time is less than 40 minutes, change the lithium battery immediately.

### 2) Patient cable

As the patient cable is being used, it will be aged and its performance degrades, thus affecting signals' stability. If the patient cable has been used for 1,500 hours, change it.

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