

Modular EEG Cap

OPEN DESIGN

Problems



当前导电膏涂抹的步骤繁琐、用量不定，可能会导致电极定位不准确、用户体验不佳

At present, the steps of applying conductive paste are cumbersome and the amount is uncertain, which may cause inaccurate electrode positioning and poor user experience



不同的检查需要不同位置的电极监测

Different inspections require electrode monitoring at different locations



目前使用的脑电帽导线繁多，没有规则的排布，会影响到患者的使用体验

The EEG caps currently in use have a large number of wires, and there is no regular arrangement, which will affect the patient's experience



坚硬的电极部分容易影响患者睡眠

The hard electrode part easily affects the patient's sleep



OPPORTUNITIES

// HMW

导电膏如何更方便的添加到电极上？

How can conductive paste be added to the electrode more conveniently?

1. 固体导电膏默认附在电极上，随取随用

2. 蘸取导电膏后将电极安装在目标位置

3. 在电极安装完成后，脑电技师依次涂抹导电膏

1. The solid conductive paste is attached to the electrode by default, and can be used at any time

2. Dip the conductive paste and install the electrode at the target position

3. After the electrodes are installed, the EEG technicians apply conductive paste one by one

// HMW

如何让电极可以适用于不同的监测部位要求？

How to make the electrode suitable for different monitoring parts?

1. 电极位置可移动

2. 电极可以作为模块化组件按需安装

3. 可在屏幕上显示电极的运行状态

1. The electrode position can be moved

2. Electrodes can be installed on demand as a modular component

3. The operating status of the electrode can be displayed on the screen

// HMW

如何让患者睡觉时更加舒适？

How to make the patient sleep more comfortable?

1. 将导线有序排列

2. 将电线集成到帽子中，以取代现有的杂乱电线

1. Arrange the wires in an orderly manner

2. Integrate wires into the cap to replace the existing messy wires

RESEARCH

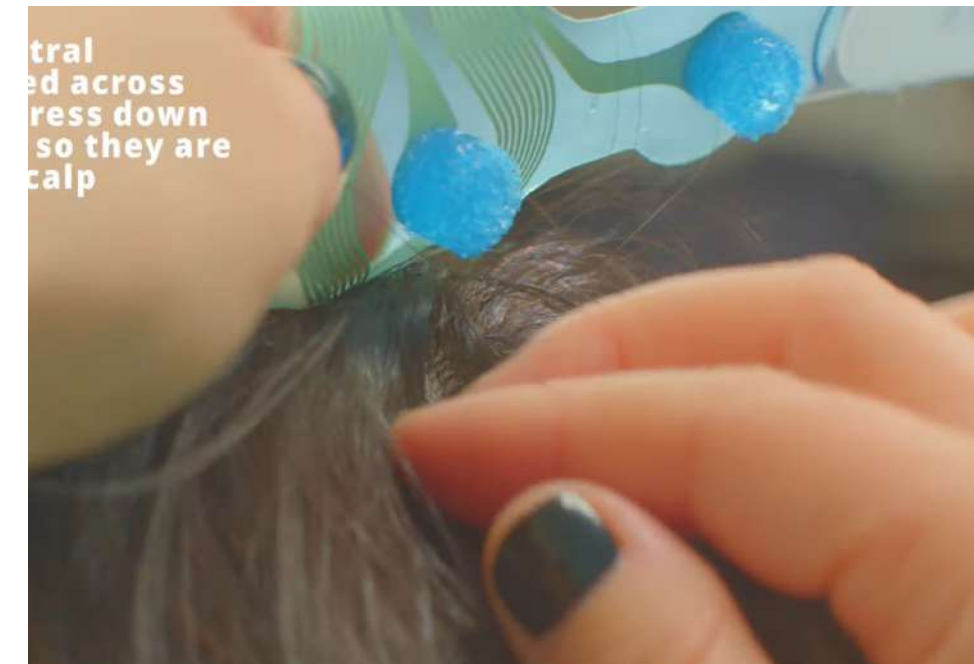
导电膏 *Jell*

How to use

针管注射

Needle injection

注射过程重复繁琐，且每次需要注入大量的导电膏
The injection process is repetitive and cumbersome, and a large amount of conductive paste needs to be injected each time.



形态

固体
solid

or

拨开电极涂抹导电膏

Remove the electrode and apply conductive paste

涂抹导电膏非常繁琐，并且过程中容易误动电极的位置。

It is very cumbersome to apply conductive paste, and it is easy to mistake the position of the electrode during the process.



膏体
cream

RESEARCH

EEG CAP

How to use

交织的电极线

Interleaved electrode wire

安装电极时线交织缠绕在一起，技师需要避开电极线之间的交缠

When installing the electrode, the wires are intertwined, and the technician needs to avoid the intertwining between the electrode wires



不适的睡眠

Uncomfortable sleep

患者在睡眠时，会将线捋在一起放在床旁

When the patient sleeps, he puts the threads together and puts them beside the bed



Modular EEG CAP

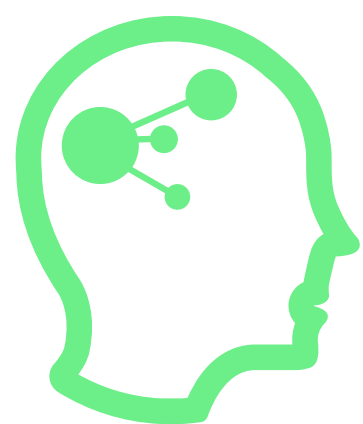
我们的模块化脑电帽使用**内置导电胶的模块化电极**、**导线集成帽**和**夜间模块软垫**，帮助 EEG 测试的患者在测试全程拥有**高效舒适的佩戴体验**

Our **Modular EEG CAP** helps patients who seek for a **more efficient wearing experience** and get their EEG test **comfortably** within the whole checking process by using **modular electrodes with embedded jell, wire-integrated cap and night-modular cushion.**



SOLUTION

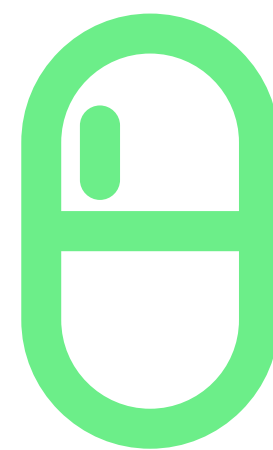
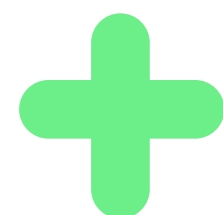
ELECTRODE / 电极



模块化电极

Modular electrode

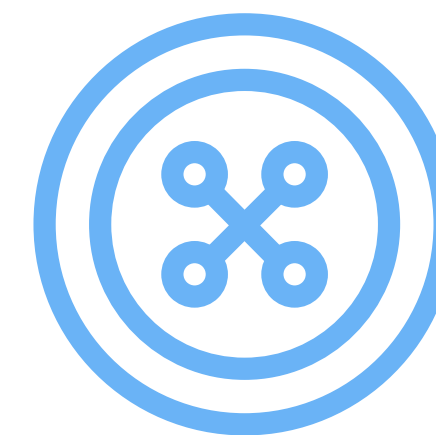
电极可以作为模块化组件按需安装
Electrodes can be installed on demand as modular components



导电胶囊

Conductive capsule

导电膏可以设计成一次性胶囊，按压后起效
The conductive paste can be designed as a disposable capsule, which will take effect after pressing



模块化电极

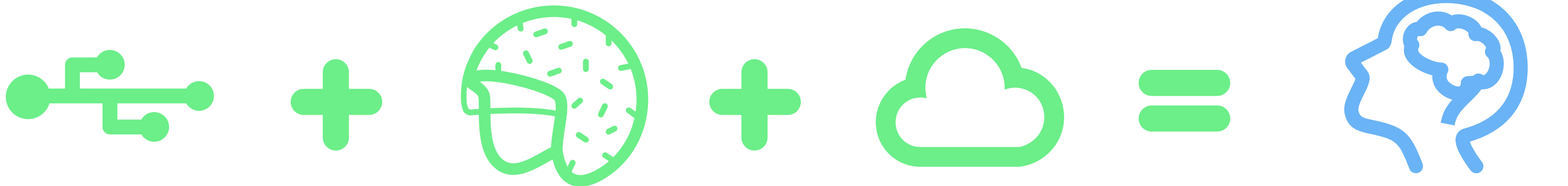
Modular electrode

包含导电膏的纽扣式电极，可以按需安装到目标检测仪位置

Button electrode containing conductive paste, which can be installed to the target detector position as required

SOLUTION

EEG CAP / 脑电帽



裸露的导线
Bare wire

去除导线外层的绝缘胶，保留金属导线
Remove the insulating glue on the outer layer of the wire and keep the metal wire

不同定位点的帽子
Hats with different anchor points

帽盖上有不同的电极孔，用于不同位置的电极安装
There are different electrode holes on the cap for electrode installation in different positions

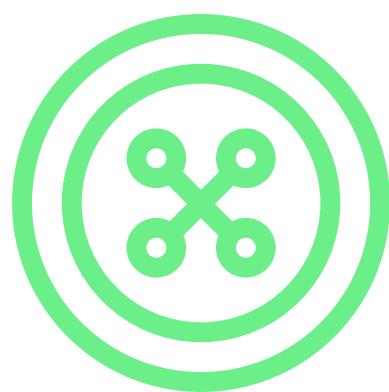
舒适的材料
Comfortable material

电极帽采用更加舒适亲肤的材料
Electrode cap adopts more comfortable and skin-friendly material

一体化脑电帽
Integrated EEG cap

无裸露的导线
穿戴方便且舒适
No exposed wires
Convenient and comfortable to wear

DESIGN-electrode



模块化电极

Electrode capsule

电极

Electrodes

独立可拆卸

Independent and detachable

按需安装在不同部位

Install in different places as needed

可重复利用

Reusable

模块装置

Device

导电胶胶囊的容器

Conductive paste container

电极帽和电极连接的媒介

Electrode cap and electrode connection medium

可回收利用

Recyclable

导电胶胶囊

Conductive paste capsule

外部包裹明胶层保护

Externally wrapped gelatin layer protection

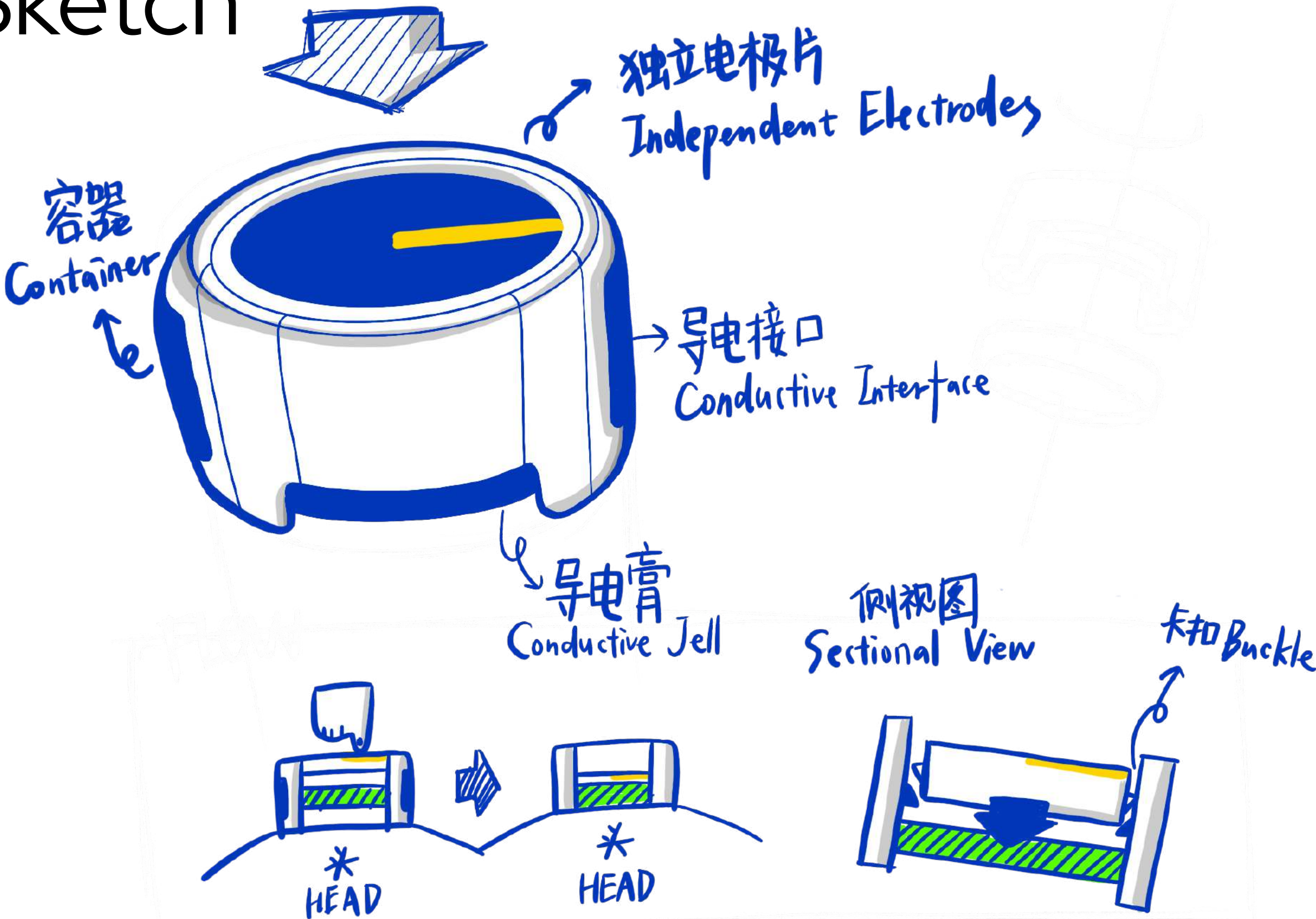
明胶层遇头皮温度融化

The gelatin layer melts when it meets the temperature of the scalp

溶于水

Dissolved in water

Sketch



Other Possibilities

适用于现有情况的.....

Applicable to the current situation...

如果没有独立的电极

If there is no independent electrode

- 带电极卡扣槽的电极胶囊，可以用于现有带有导线的电极

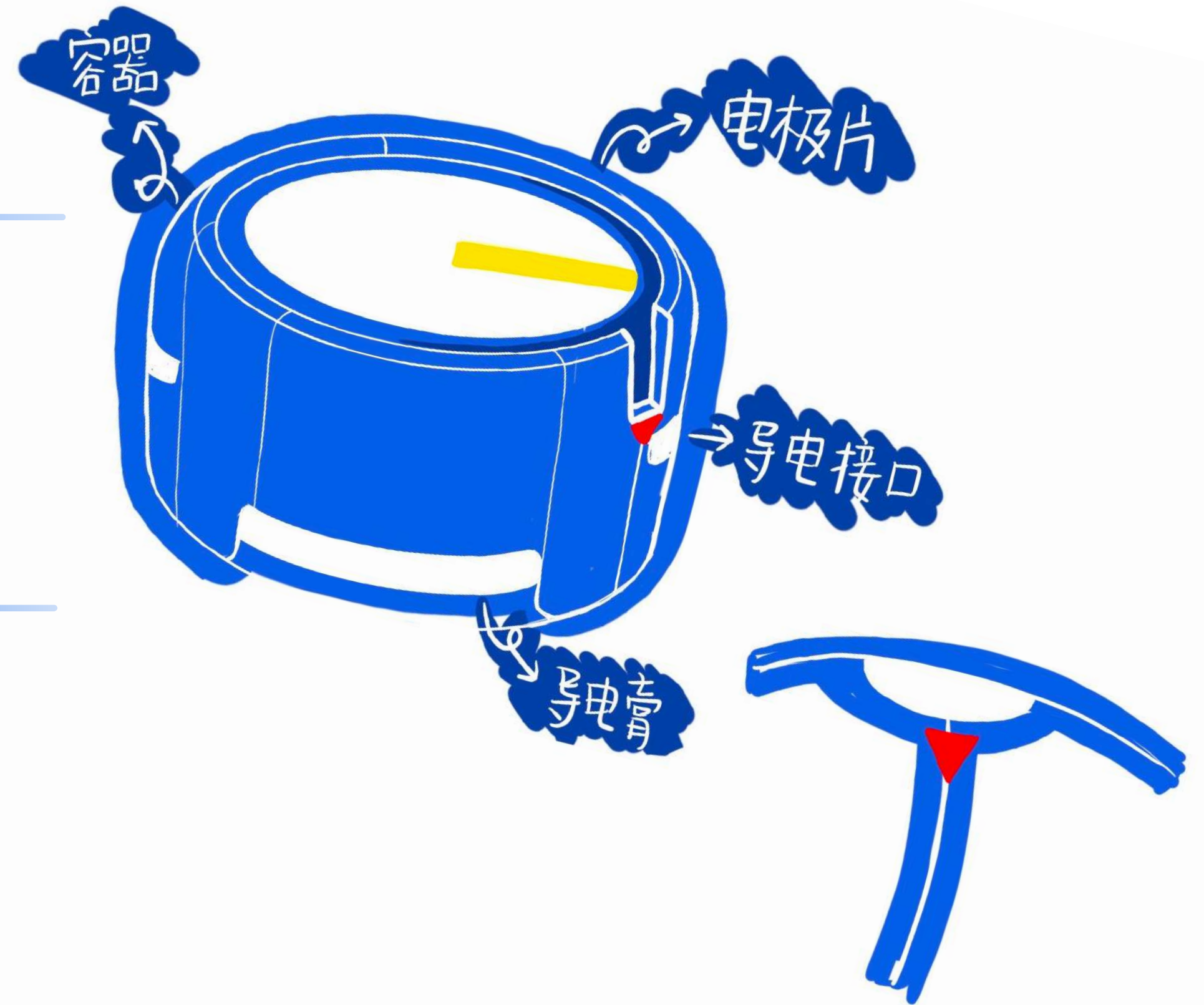
Electrode capsule with electrode buckle groove, which can be used for existing electrodes with wires

如果没有导线一体的电极帽

If there is no electrode cap with integrated lead

- 现有电极帽上印上电线排布引导标识，对齐标识，使电线排布更加规则有序

The wire arrangement guide mark is printed on the existing electrode cap to align the mark to make the wire arrangement more regular and orderly



DESIGN-EEG cap



一体化脑电帽

Integrated EEG cap

脑电帽

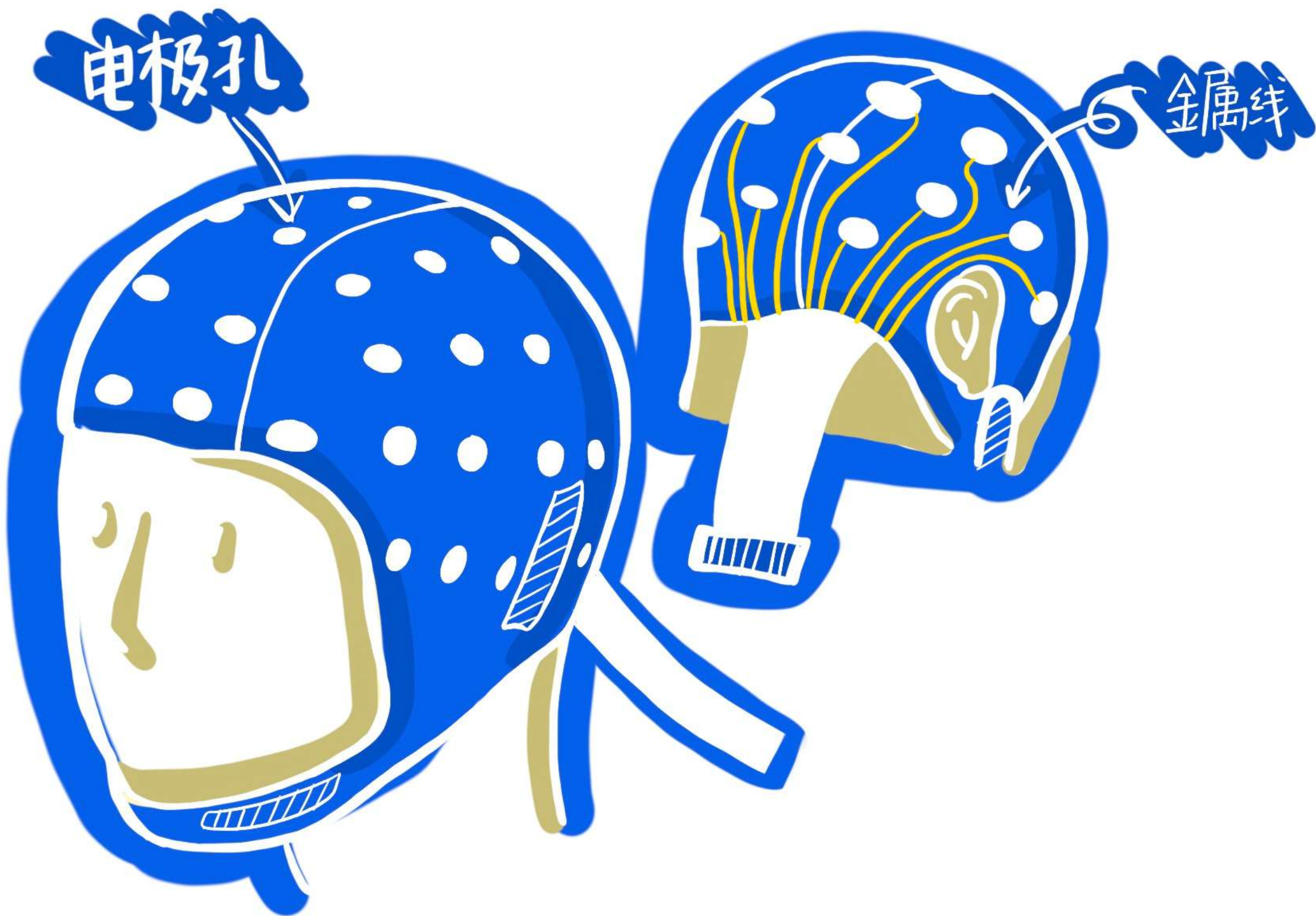
EEG-CAP

- 一体化
integration
- 金属导线和帽子一体结合
Integrated metal wire and cap
- 隐藏排线帮助睡眠更加舒适
Hidden cable helps sleep more comfortably

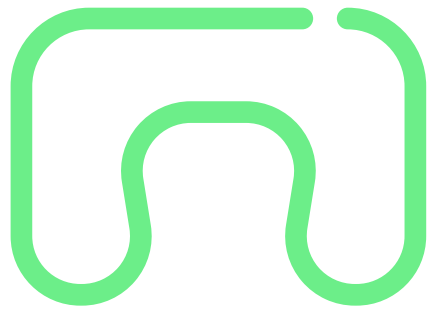
电极孔

Electrode
hole

- 和胶囊连接通电的接口
Connect to the power-on interface of the capsule
- 适用于各种监测部位
Suitable for various monitoring parts



DESIGN-EEG cution



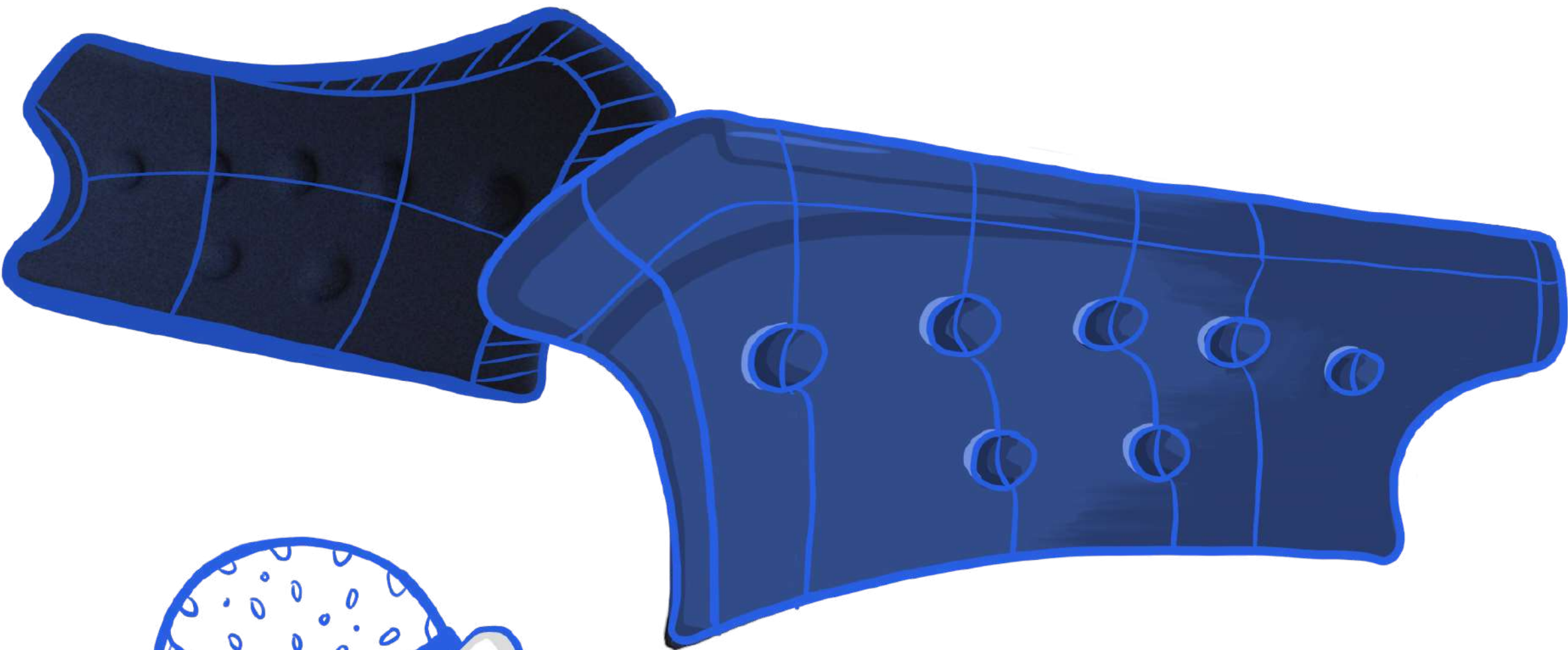
睡眠软垫

sleep cushion

模块软垫

Module cushion

- 模块化
Modular
- 舒适的材料
Comfortable material
- 婴儿衫魔术贴
Sticker for babies



USE FLOW

配戴EEG检测设备

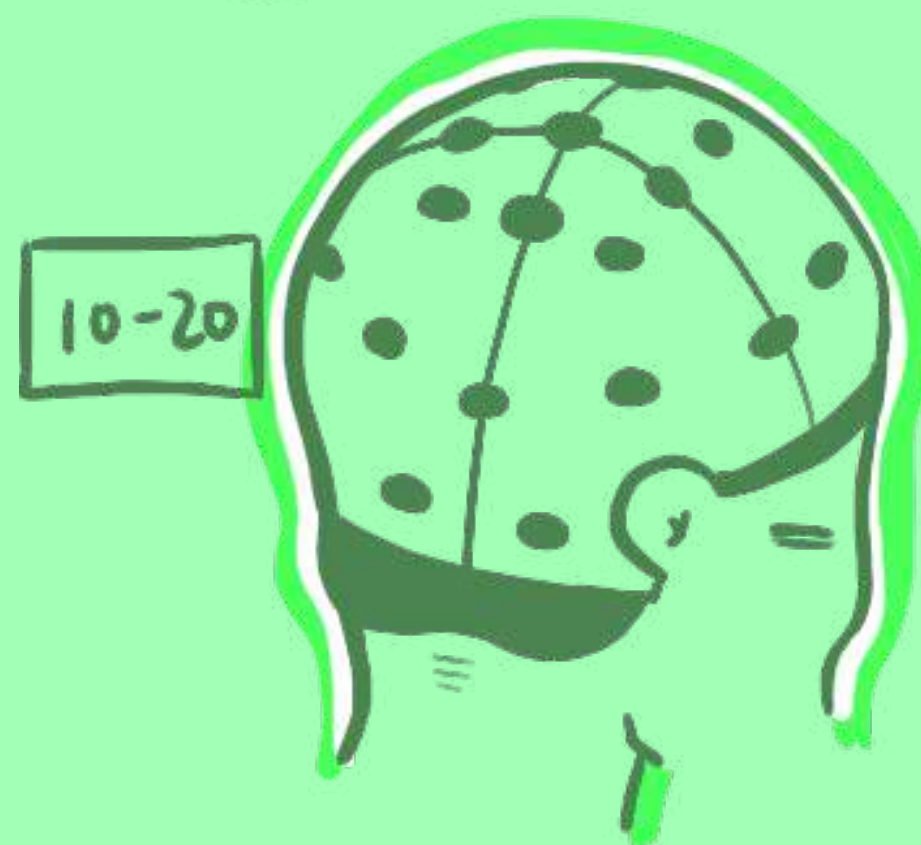
Wear EEG monitoring equipment



患者在医生的指导下配戴好一体化脑电帽

The patient wears an integrated EEG cap with the doctor's guidance

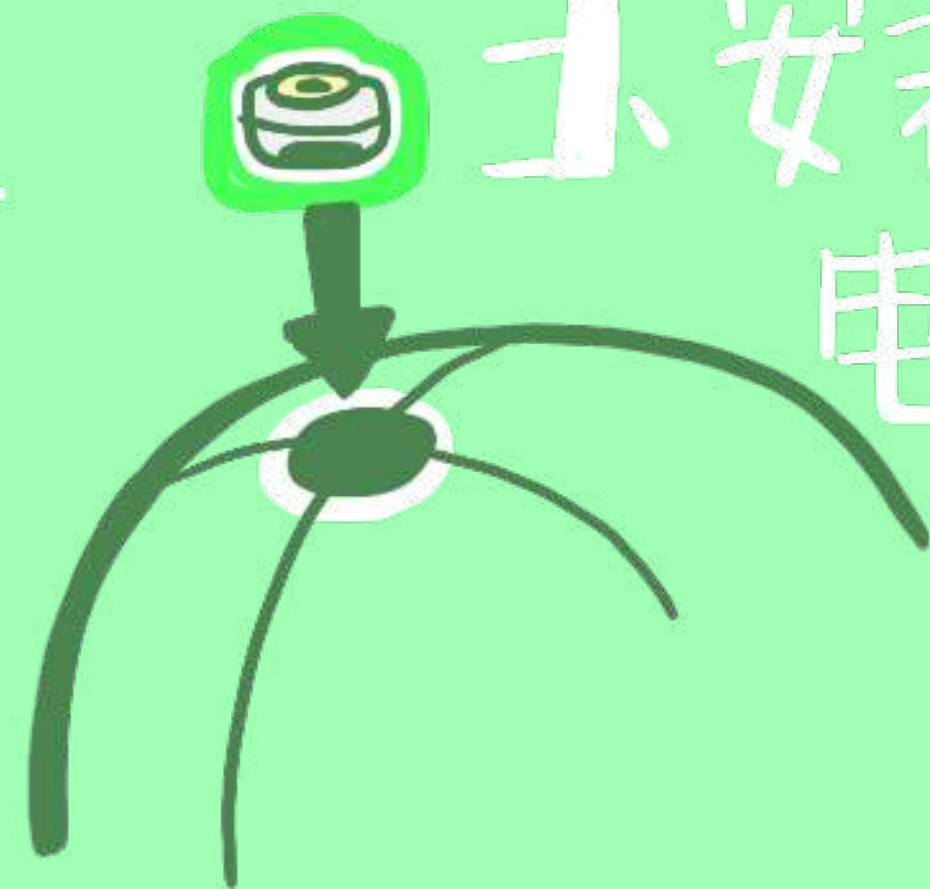
2. 确定检测位置



医生根据患者的病情确定如何使用电极（个数、位置）

The doctor determines how to use the electrodes (number, position) according to the patient's condition

3. 安装电极



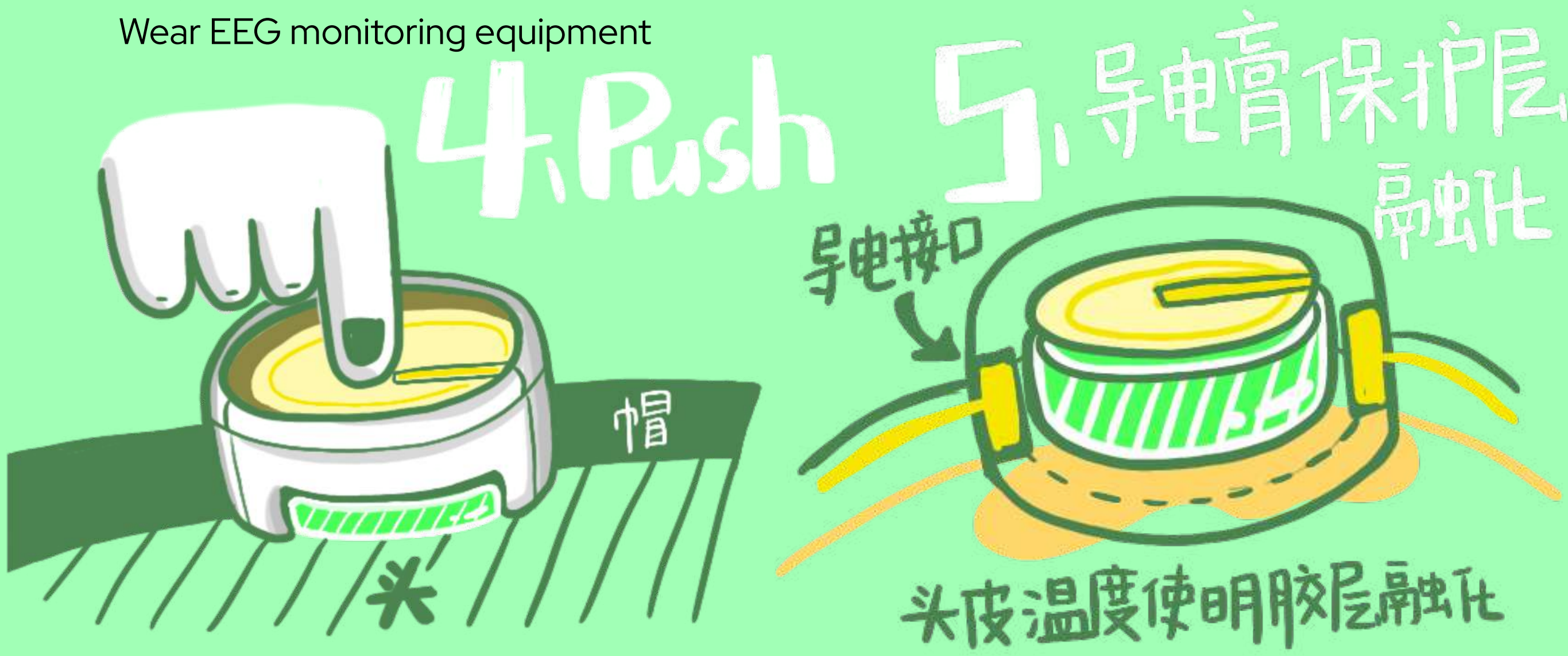
将电极安装进胶囊装置，并将电极胶囊置入脑电帽

Install the electrode into the capsule device and put the electrode capsule into the EEG cap

USE FLOW

配戴EEG检测设备

Wear EEG monitoring equipment



医生按下模块中的电极部分，让明胶容器接触头皮
The doctor presses the electrode part in the module to let the gelatin container touch the scalp

头皮温度使明胶层融化，导电胶流出，电极导通
The temperature of the scalp melts the gelatin layer, the conductive glue flows out, and the electrodes are turned on

夜间配戴模块软垫

Wear modular cushions at night



患者回家，睡前配戴模块软垫，获得舒适的睡眠体验
The patient goes home and wears a modular cushion before going to bed to get a comfortable sleeping experience

USE FLOW

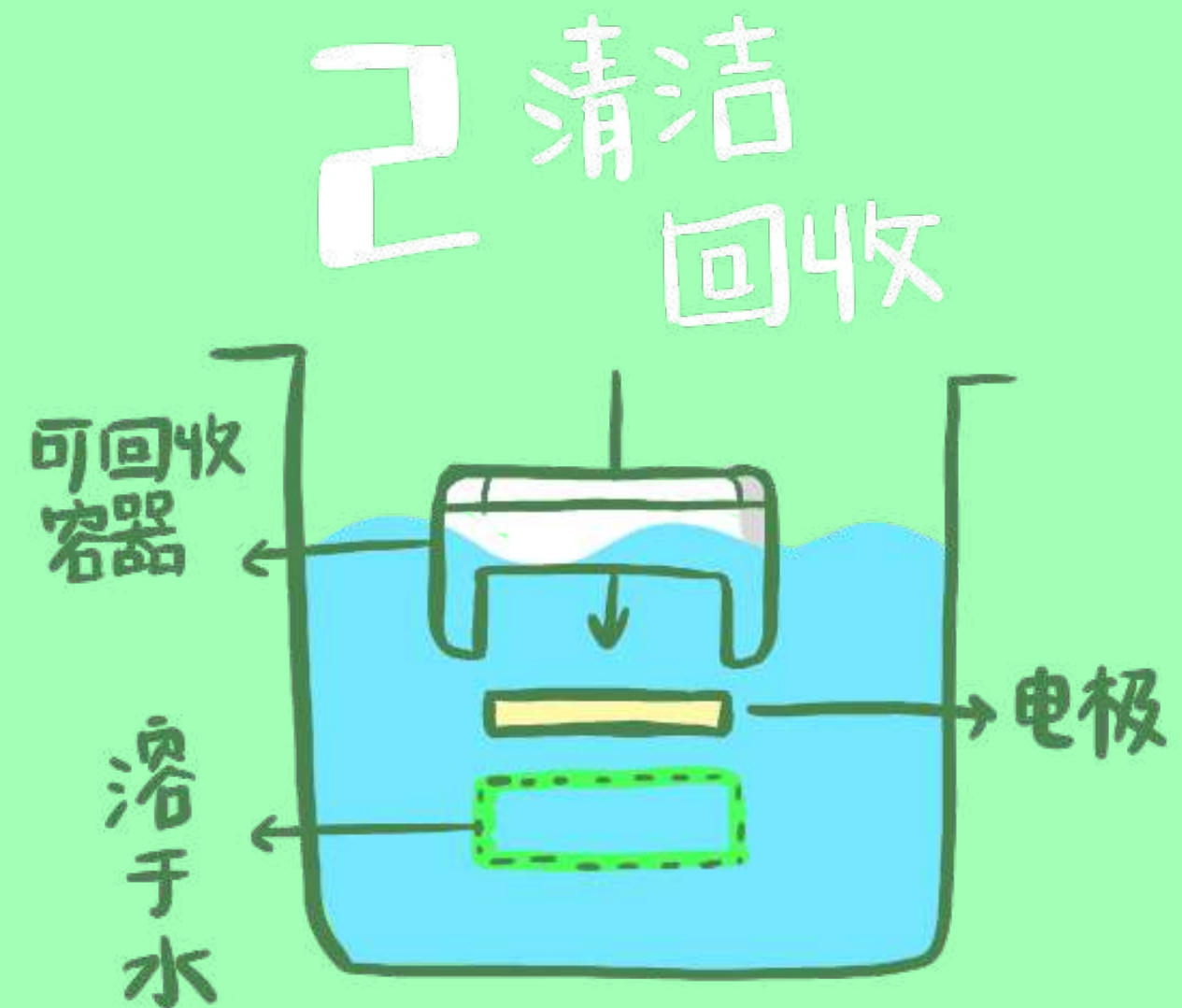
脱卸EEG检测设备

Wear EEG monitoring equipment



完成检测后，患者将帽子整体脱卸；将模块化电极从帽中取出

After completing the test, the patient takes off the cap as a whole; and then remove the modular electrode from the cap



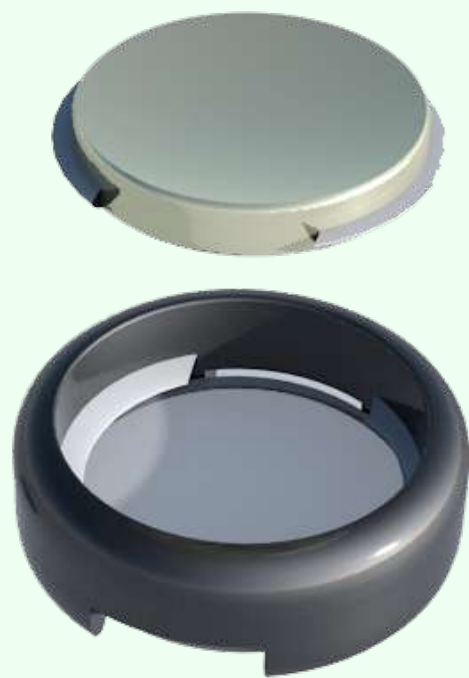
将电极推出装置，全部模块置入清洁水中，回收再利用

Push the electrodes out of the device, put them all in clean water, and recycle them

HARDWARE



模块化电极
Modular
Electrode



分装
Subpackage

电极
Electrode
可回收利用
Recyclable

模块装置
Device
可回收利用
Recyclable



导电胶胶囊
Jell Capsule
一次性使用
Disposable

HARDWARE



模块化软垫块

Modular cushion