



Capsule thermometer implanted in rats

Instructions

Experimental purpose: To learn about anesthesia and laparotomy in rats, capsule activation and implantation, and to use the TempView App

Transfer data.

Experimental principle: The temperature measuring capsule is powered by a built-in battery and implanted in the rat's abdominal cavity to measure the rat's core temperature in real time.

Upload data to TempViewAPP, and export thermometer record data by connecting to your phone

Experimental materials: small animal anesthesia operating table, temperature measurement capsule, 14 rats, TempViewApp, thermometer

Experimental steps:

1. Activation capsule

Place the capsule in 55-65°C hot water and let it stand for 10 minutes, keeping the water temperature 46°C, then quickly

Put it in the refrigerator for 10 minutes, the temperature of the refrigerator is 2°C - 6°C, scan the device with the mobile phone APP

Activation completed.

2. Anesthetized rats

Turn on the operating table and place the rat in the anesthesia box. Adjust the anesthesia setting to level 5 until the rat falls into a coma.

Lie on the operating table in supine position, place your mouth and nose in the anesthesia gas port and adjust the setting to "2" to "3" to maintain anesthesia

3. Rat Laparotomy

Use forceps to grab the epidermis and cut a 1cm incision. Grasp the muscle and lift it up, and cut a 1cm incision vertically.

4. Implantation Capsules

The mobile phone connects to the activated capsule to ensure that the number is correct before implanting the capsule into the rat's abdominal cavity

5. Suturing the wound

Use interrupted sutures to close the wound

VI. Numbering of rats

Staining method number rat

7. Organize the countertop

After the experiment, turn off the anesthesia machine and confirm the rat's physical signs.

Experimental results:



Summarize:

During surgery, the incision should be small rather than large. A small incision can utilize muscle tension to implant the capsule and is conducive to suturing and healing.

If the opening is too large, bleeding will blur the vision. In addition, the opening size should be kept consistent to reduce errors.

The surface of the second muscle layer is smooth and difficult to clamp, so it is better to clamp downwards

3. Staining method to number rats for easy follow-up operations