

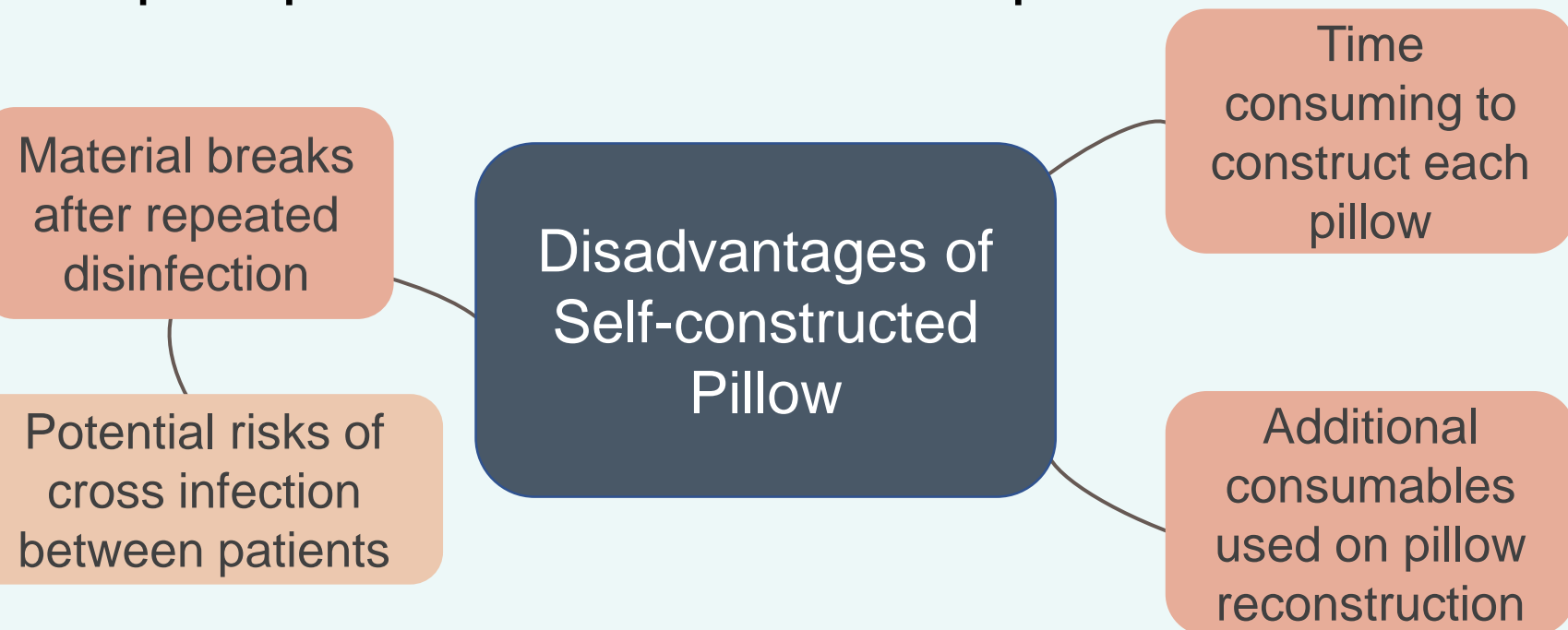
Comparative Analysis of Efficiency in Preparation Time for Electroencephalography (EEG) Test

Carrie Wan S.Y., Ang Y. H.
carrie.wan.s.y@skh.com.sg



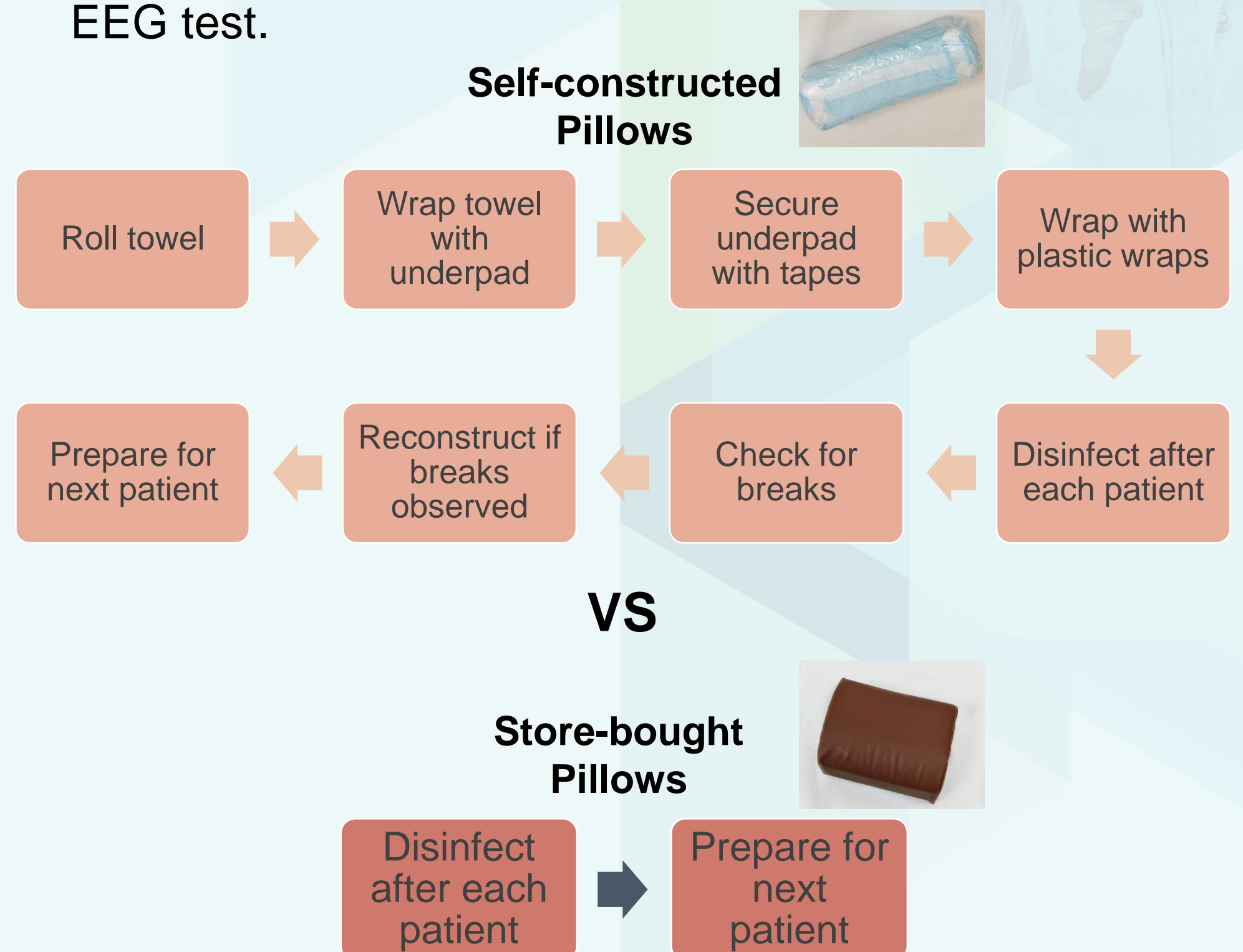
Problem Statement

The accuracy of Electroencephalography (EEG) tests relies heavily on meticulous preparation for electrode placement on the scalp and forehead, especially challenging areas like the occiput. A special type of neck pillow is self-constructed by the Neuro Technologists as the standard hospital pillows obscure the occiput area.



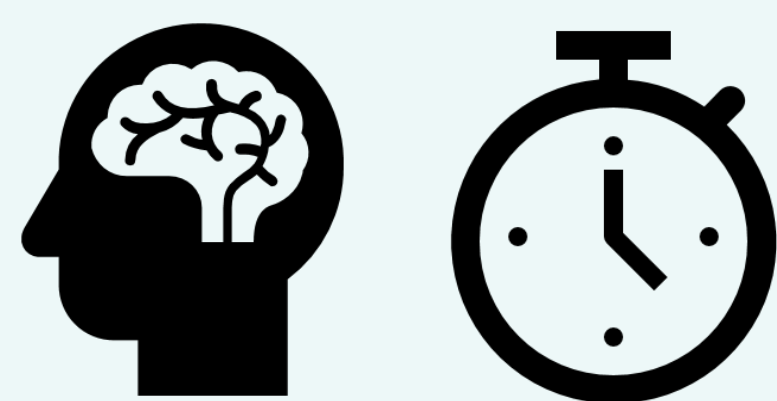
Potential Solutions

The team trialed a store-bought pillow in the form of a knee cushion (dimensions: 20x15x10cm), and compared the preparatory steps taken before each EEG test.



Project Aim

To improve staff efficiency by reducing the time spent on the pillow preparation for every EEG test.



Lessons Learnt

Following the trial period, the team concluded that the store-bought knee pillow effectively reduced the time spent on pillow preparation. However, certain challenges arose:

- The preparation methods used for wrapping self-constructed pillows for use before patient contact, could not be directly applied to store-bought pillows due to the difference in shapes.



The team devised an alternative approach, utilizing disposable pillowcases for wrapping store-bought pillows before their use on patients.

Outcomes & Impacts

The team compared both pillows over a six-month period with 574 patients, and below are the results collected:

Self-constructed Pillow (n=287 for 3 months)	Store-bought Pillow (n=287 for 3 months)
Average time taken for disinfection of pillow before each patient: 3 minutes	Average time taken for disinfection of pillow before each patient: 1.5 minutes
Average time taken for pillow reconstruction: 30 minutes	
Number of reconstructions in 3 months: 2 times	

Total time spent on disinfecting and reconstruction of self-constructed pillow in 3 months

Compared with

Total time spent on disinfecting store-bought pillow in 3 months

There was a **decrease of 50% preparation time** for store-bought pillow when compared to self-constructed pillow. Through comparative calculations spanning the respective three months, an approximate total of **8 hours** in time savings was observed when utilizing the store-bought pillow. This time savings allowed Neuro technologists to spend more time on clinical duties