Advanced Care & cure for risk holder of sleep disorder

Sleep Apnea Syndrome (SAS solution):
  self-check device
+ home medical solution (compact CPAP)
+ Health communication platform

https://bresotec.com/
http://www.biosilver.co.jp/product/
1st phase (2017-2020)

- Portable medical unit
  - Sleep Apnea Syndrome solution
- Health communication platform (IOT, Cloud services, sensor, robotics, etc)
  - Tele-medicine
  - Cure
  - Tele-surgery
  - Operation room devices
  - Genome analysis
  - GP
- Home
  - Vital sensor: monitoring risk holder
  - Medical diet
  - Rehabilitation Devices
  - Training Devices
  - Rest & Relaxation Device
- Hospital
  - Meeting Medical Needs Outside the Hospital
SAS self-check device: BresoDx

- The accuracy of BresoDx® has been validated in several clinical trials, showing 95% correlation of AHI to the PSG standard
- BresoDx® requires minimal user instruction due to its cordless and simple design
- BresoDx® is a single-user device allowing many to be tested at the same time with their own device. BresoDx® provides a ready-to-use clinical summary.

https://bresotec.com
JPAP (Metran)

Automatic CPAP System with Integrated Hummax Humidification
Providing a good night’s sleep any time, any place
At home or on the road, no need to miss a single good night’s sleep anymore.
With its small size, JPAP provides the same quality treatment everywhere.

Bed sensor: aams

aams (anzen anshin mimamori system in Japanese) means Safety and relief monitoring System in English, especially for patient or elder who has health problem and to be monitored.
Basic services flow (Home Sleep disorder solution) (draft)

1. Consultation from specialist MD (Tele-conference)

2. Self-check with BresoDx
   - YES
   - NO

3. Consultation from specialist MD (Tele-conference)

4. Start to use JPAP for cure and aamm for monitoring and share the results with specialist MD and the related.
1st phase in Singapore & Japan:
Sleep Apnea Syndrome (SAS) solution

Combined services with Digital devices and IOT platform for High-end hospital (IHH) patients with high risk of SAS

Healthcare services provider (IHH)

LEASING (Z)

Project team MD Distributor (M)

ICT company

Commercial Demo site (X)
Evaluation site (Y)

Health communication platform services (IOT)

BresoDx (Canada)

JPAP

Check device: aamm

Digital devices

Project team (MD Distributor)

Demo site Evaluation site (KOL)

ICT company

http://www.ihhhealthcare.com/
Appendix
BresoDx: Summary

• an innovative device using proprietary acoustic and movement recording technology as an aid in the diagnosis of sleep apnea.

• a cordless, battery operated device that patients can use at home, in their own bed.

• Accurate: validated in several clinical trials, showing 95% correlation of AHI to the PSG standard

• Easy-to-use: minimal user instruction due to its cordless and simple design

• Easy-to-manage: a single-user device allowing many to be tested at the same time with their own device that provides a ready-to-use clinical summary.
BresoDx: how to use

• The cordless, user-friendly design of BresoDx® requires minimal instruction effort. Our video will guide you through the instructions in a few simple steps:

• Step 1: Remove the pull tab and press on start button

• Step 2: Fit device to your head and go to sleep

• Step 3: Remove the microSD card and send it back to us
Reference(1)

Comparison of in-laboratory and home diagnosis of sleep apnea using a cordless portable acoustic device

The correlation between AHI-a and simultaneous AHI-p was 95.2% and diagnostic accuracy of BresoDx ranged between 88.9% and 93.3% around AHI cutoffs of 5–15. In the home, AHI-h did not differ significantly from AHI-p (p = 0.60). Using an AHI-p cutoff ≥ 10 BresoDx's accuracy was 81%. Of the 100 subjects, 81 (81%) had low inter-night variability measured by a difference between home AHI-h and PSG AHI-p < 10 event/h, while 19% had higher inter-night variability.

Validation of an automated algorithm for detecting apneas and hypopneas by acoustic analysis of breath


There was no significant difference between AHI-p scores according to TV50 and AASM criteria. AHI-a was strongly correlated with AHI-p according to both TV50 (R=94%) and AASM criteria (R=93%). Bland-Altman plot analysis revealed that 98% and 92% of AHI-a fell within the limits of agreement for AHI-p according to TV50 and AASM criteria, respectively. Based on a diagnostic cutoff of AHI-p≥10 for SDB, overall accuracy of AHI-a reached 88% and negative predictive value reached 100%.