

# Innovative and Newer Gadgets in Anesthesia & Medical Practice

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# **DISCLAIMER**

**This PowerPoint presentation is for medical information and knowledge. It specifies that it helps in medical practice and the use of these innovative gadgets information are subject to individual preference. Further, users are advised to seek professional medical assistance if they want to use**

# What is Innovation ?

**A new method, idea or product according to time-space -situation**

**Better solutions that meet new requirements, unarticulated needs, or existing market needs**

**Something original and more effective and, as a consequence of any invention or its by product**

# Innovation Moves Faster than Invention & Regulation....

## Innovative Medical Gadgets are classified as :

**Class I – Exempted from Premarket Notification**

**Class II – Requires Premarket Notification**

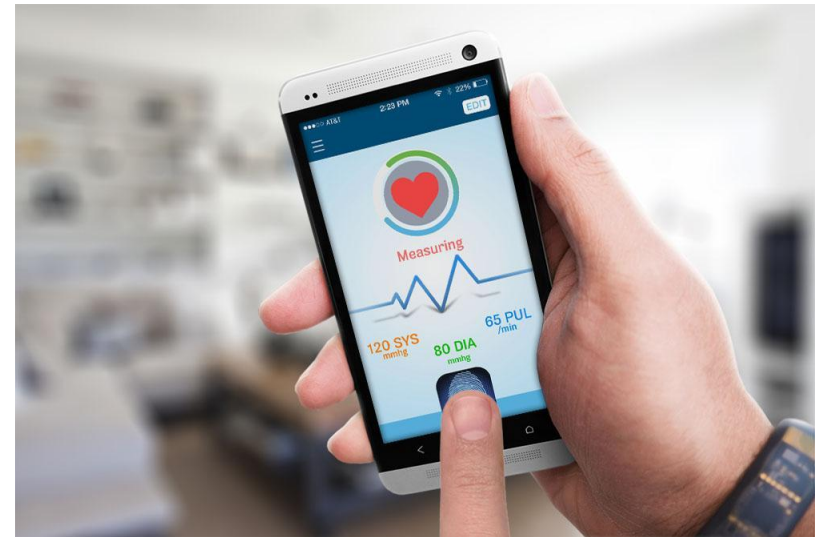
**Class III – Requires Premarket Approval**



# **Classification**

- **Para Operative Monitors or Gadgets**
- **Anesthesia Related Gadgets**
- **Operation Theatre Related Gadgets**
- **Post Operative Gadgets**
- **Medical Gadgets**

# Blood Pressure



# Finger Blood Pressure Monitor



**Wrist Blood Pressure  
or  
Watch type blood pressure**

# Cuff less Blood Pressure

# FreeScan™

CUFFLESS BLOOD PRESSURE  
MONITORING

Maisense. Inc.

Taiwan

<https://www.youtube.com/watch?v=M6LoEh95SKo>



# Wireless Blood Pressure Monitor

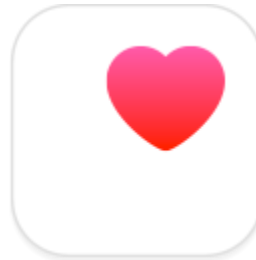
# iHealth<sup>®</sup>



**MyVitals**



**Apple Health Kit**



**Samsung S Health**







# Thermometer





**Medisana ThermoDock  
infrared thermometer**

## **Multi-functional Smartphone Infrared Thermometer**

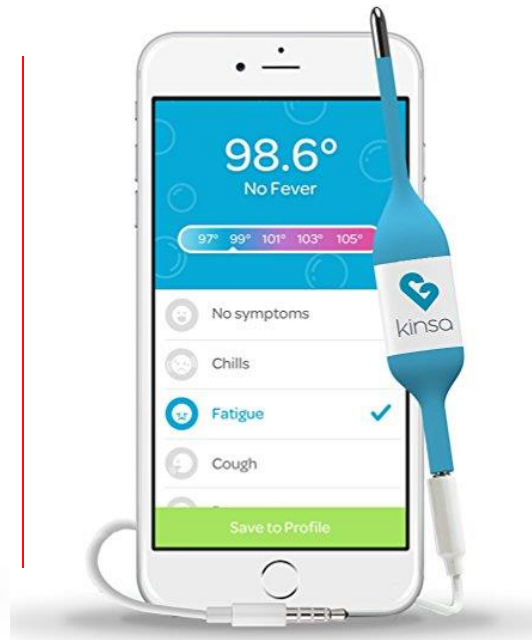


**support human body, water, food and  
environment temperature testing**

## Sesame Smart Ear



## Smart Thermometer



## Smart Ear Thermometer



***Tells your temperature***

***Offers real-time guidance on what to do next***

***Tracks fever, symptoms, medications and diagnoses for you***

***Sends your health details straight to your doctor***

***Lets you know if fever is cause for concern***

# Weighing Scale

# iHealth<sup>®</sup>



**WIFI**  
**Core Smart Scale**  
Measure and track nine aspects of your body composition with medical-grade scale for a complete understanding of your overall weight

**Rs. 7000**

Weight	Lean Mass
Body Water	Bone Mass
Muscle Mass	BMI
Body Fat	Visceral Fat Rating
Daily Calorie Intake	

# Pulse Oxymeter



# Ring Pulse Oxymeter



Rs 990/-



**Oxitone**



**NL 50F**



**Rs.6,900**

**CMS-50F**



**Wrist pulse oximeter  
with or without fingertip probe**

**Provides SpO2 and pulse rate readings from wrist**

**Effective in poor perfusion states**

**Lightweight and ergonomic design**

**Rechargeable lithium long life battery**

**Easy to read OLED display**





## **FL-500 / CMS-50K Neonatal Disposable Pulse Oxygen Probe Sensor**

This Neonatal Disposable Pulse Oxygen Probe Sensor designed for the FL-500 / CMS-50K is created by Contec Medical Systems.

This probe sensor is recommended for use with patients weighing less than 6.6lbs or (<3kg)



## **FL-500 / CMS-50K**

## **Neonatal wrist Pulse Oxymeter**



# iHealth<sup>®</sup>

Accurately measure  
blood oxygen level,  
pulse rate, and perfusion  
index with wireless pulse  
oximeter. Clinically  
tested, HIPAA compliant,  
FDA approved



**Wireless Pulse Oximeter**  
Through Bluetooth

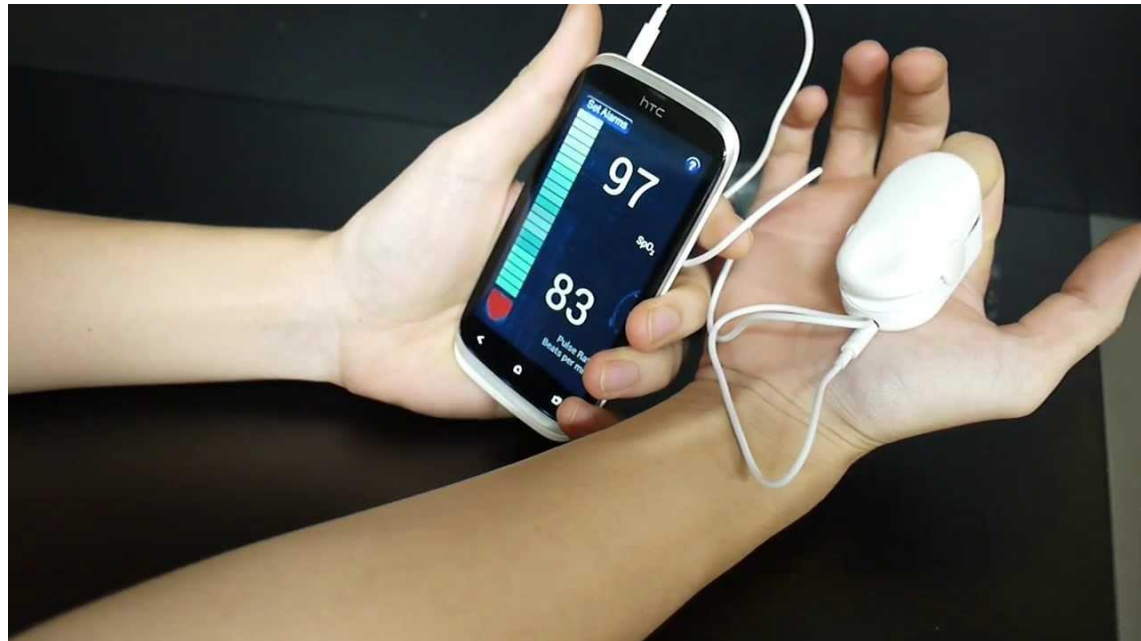
iLINCARE

# Bluetooth Oximeter



## Pulse Oximeter from Safeheart

**Pulse Oximeter probe directly  
attached with  
smartphone**



# **Pulse Oximeter design using Dynamic NFC/RFID**

**NFC – Near Field Communication**

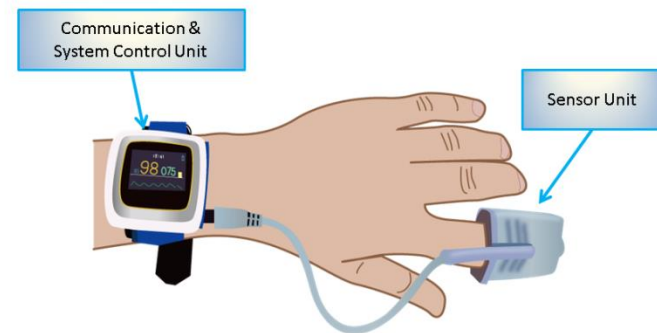
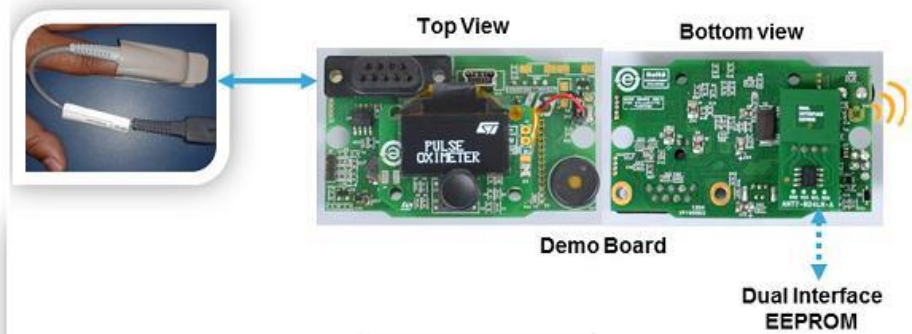
**RFID - Radio Frequency Identification**

**Pulse Oximeter with NFC is an application with following features :**

1) To Read, Record , Monitor and Analyze Patient/User SpO2 and Pulse Rate from ST Pulse Oximeter device through NFC interface. ST Pulse Oximeter is integrated with M24LRxxE (Dynamic NFC /RFID Tag) to record SpO2 and Pulse Rate with date time stamp in its memory

**NFC based android phone can be used to read M24LRxxE and then to show the following**

2) Application can be used to read Spo2 and Pulse Rate readings from M24LRxxE using NFC interface



# Forehead Pulse Oxymeter Probe



Disposable SpO<sub>2</sub> forehead sensor has four layers of adhesive

It is used for up to two days



# **Handheld Oximeter with Blood Pressure Monitor**

**PM50 Ambulatory Blood Pressure  
Monitor ABPM with Spo2/NIBP**



**Contec-08A Digital  
Blood Pressure  
Monitor with SpO2**



# **Hand-held pulse oximeter with capnograph**





**Burtons Handheld Pulse Oximeter / Capnograph**

**smiths medical**  
bringing technology to life

**Hand-held pulse oximeter / with capnograph / with separate sensor Capnocheck® II**



# Smart Stethoscopes

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▼ **ViScope MD** The first “visual” stethoscope displays a simultaneous phonocardiogram on a color screen.



**Smartphone-Enabled Stethoscope Approved By FDA**

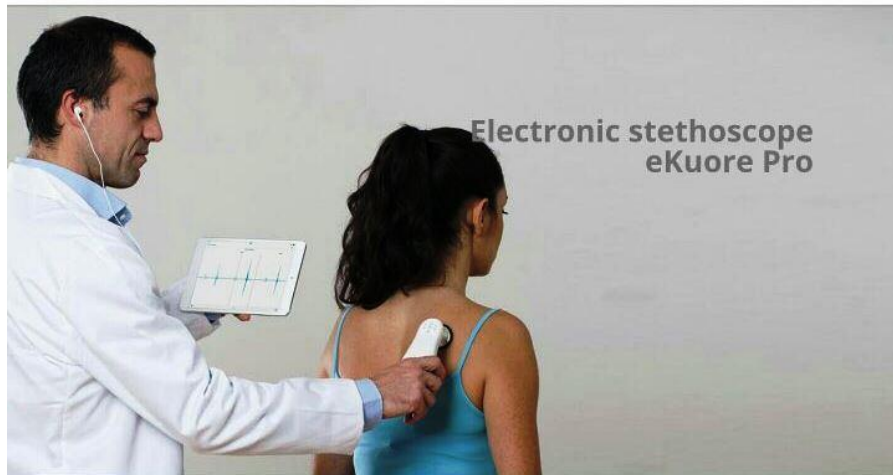
**Stethocloud \$ 20**



**Littmann Electronic stethoscope**



# ekuore



## The first smart electronic stethoscope

It allows a joint listening, recording the auscultation for the diagnosis follow-up or sharing it easily with other professionals





Thinklink

Just Plug In &  
Practice

The smallest, most  
powerful  
stethoscope in the  
world

- Fits in the palm of  
your hand
- Amplifies over  
100X
- Uses audio  
headphones







<http://www.cambridgemedical.co.in>

**Ekoscope™ –  
Integrated Electronic Stethoscope  
& Electrocardiogram (ECG)**

**FDA approved**

# Smartphone ECG Machine



**Kardia Mobile EKG Rs. 7000/-**



**AliveCore smartphone  
FDA approved**



CardioDefender is the world's first ECG system which **delivers hospital based quality ECG and arrhythmia analysis** by integrating unique software, algorithms and data compression capabilities which enable a smartphone to perform as a mobile ECG

**CardioDefender Smartphone-based ECG, a 21st Century Holter Monitor**

**mobmon 12.0**



**SMARTPHONE-BASED 12-LEAD ECG & PULSE OXIMETER**  
**Rs.74,750**

# Smartphone Defibrillator

# INDIEGOGO

## CELLAED : The World's First Phone AED

Easy to use & affordable phone case defibrillator for everyone, everywhere

Adhesive pads with long cords



AED pads hidden in back of case



App instantly activates and guides you

The brains are inside behind the Rapid Response Revival logo

The CELLAED will go into AED mode as soon as the two pads are pulled out from the back of the phone case – immediately then the relevant country emergency service is subsequently dialed.

As the pads are placed on the victim, the emergency operator is obtaining location details (although they may have this information from the location APP already). The CELLAED then advises both on the screen and in loud audio to either keep hands free as a shock is administered, or it advises to commence CPR and can advise how to do this.

The AED assistance is found to be calming and provides for a heuristic response, thereby alleviating some of the responder trauma anxiety. The CELLAED will enhance these characteristics through superior audio and visual cues.





# HeartStart® FR3



Bluetooth 2.0 Class II Wireless Transceiver Module

Size 6.9 cm x 13.5 cm x 22.1 cm

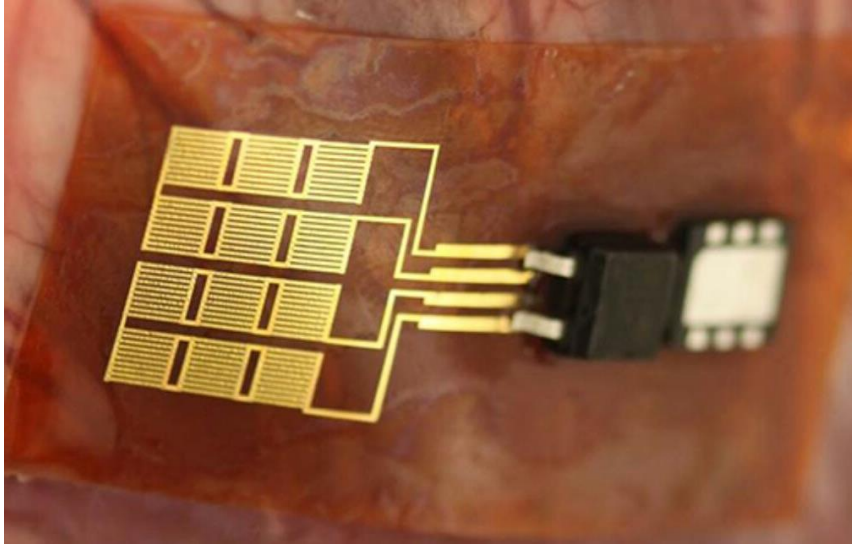
Weight

1.6 kg with FR3 standard battery installed

SMART CPR

Evaluates key characteristics of the presenting VF and determines the initial therapy: shock first, or CPR first quickly followed by a shock

# IMPLANTABLE DEFIBRILLATORS



**A GOLD GADGET THAT  
WOULD LET YOU STOP  
HEART ATTACKS WITH A  
SMARTPHONE**

These implants could eventually power themselves by transforming heartbeats into electricity with piezoelectric technology. *Photo: University of Illinois at Urbana-Champaign*

# Smartphone Glucometer



# iHealth<sup>®</sup>

glucose monitoring  
system that works  
wirelessly with  
smartphone



**Smart  
Gluco-Monitoring System**



**GlucoDock from Medisana**

**Rs. 2000**

# Mobile Blood Glucose Meter



**Blood Glucose  
Monitor**

[sifsof.trustpass.alibaba.com](http://sifsof.trustpass.alibaba.com)



**Smart Phone  
Glucometer,  
iOS and Android  
APP  
Mobile Blood  
Glucose Monitor  
SIFGLUCO-1.2**

**Rs. 2000**

# Dario Glucometer



Developed in Israel and assembled in the US

Dario is a warm-colored gadget which includes much more than a regular glucometer

A “lancing device” to provoking a small blood flow (normally a tiny pin) and a dispensing cartridge which holds up to 25 test strips

Thin papers which read the glucose concentration in blood by an enzyme they carry on them

Connects to your smartphone via the audio jack and, once you introduce the test strip into it, the phone displays your results

# **Non-invasive Blood Glucose Monitor**



## Technology enables the blood glucose concentration to be measured at the capillary level

GlucoWise™ utilised two unique technologies to achieve unprecedented accuracy in non-invasive glucose measurements. First, utilise high-frequency radio waves around the 65 GHz range. These waves are large enough to allow penetration through the tissue, yet simultaneously small enough to provide sufficient resolution of the blood regions inside the tissue. Second, sensors have integrated nano-composite films which temporarily make the skin transparent to the radio waves when a measurement is initiated

The glucose levels are extracted by a non-invasive technique which transmits low-power radio waves through a section of the human body, such as the area between the thumb and forefinger or the earlobe

This ensures consistent readings across all people independent of age, or skin type and colour



# SugarBEAT®

manage glucose through pain-free,  
non-invasive continuous monitoring

Using a small disposable patch painlessly stuck  
onto a user's arm, leg or abdomen, sugarBEAT®  
measures the body's glucose levels via the skin



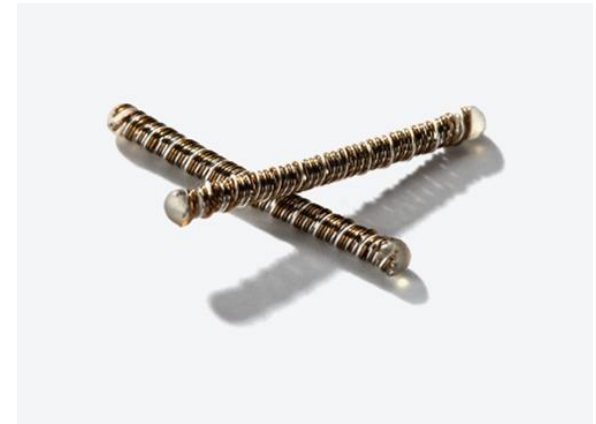
Connected to a small electronic  
sensor, the sugarBEAT® patch can  
take a sensor measurement every  
five minutes from the body's  
interstitial fluid, drawn from the  
skin

Market launch due 2017 in  
selected countries in Europe,  
Asia and Middle East





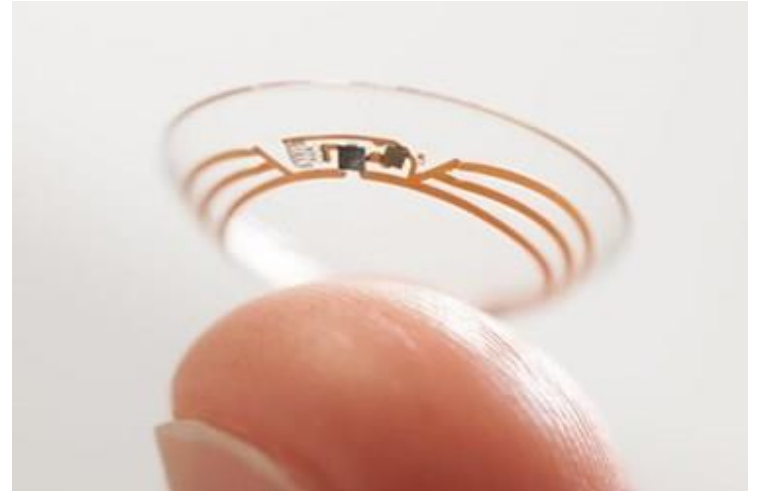
**Flexible Ocular Insert for Glucose Measurement**



NovioSense is a small and flexible spring like device measuring less than 2 cm in length and 1.5mm in diameter. The whole device is coated with a soft hydrogel layer. The flexible form factor allows the device to bend to conform to the surface of the lower eye lid where the sensor is placed. Utilising state of the art low-power and highly sensitive ASIC technology developed by Fraunhofer IMS together with NovioSense the device can measure minute changes in glucose levels in the tears that are representative of blood glucose levels.

**NovioSense is a revolution in non-invasive glucose monitoring utilising wireless data and power to continually monitor glucose levels in tear fluid.**

# Noninvasive Continuous Glucose Monitoring



**A smart contact lens being developed by Google and Novartis to measure continuous glucose level in tears by Nanotechnology**



# Smart Insulin Pen



## KiCoPen

International acclaim for  
smart insulin pen concept  
from Cambridge Consultants



# Smartphone Spirometer



# Air Smart Spirometer

Pond Healthcare Innovation A..

3+



INSTALL

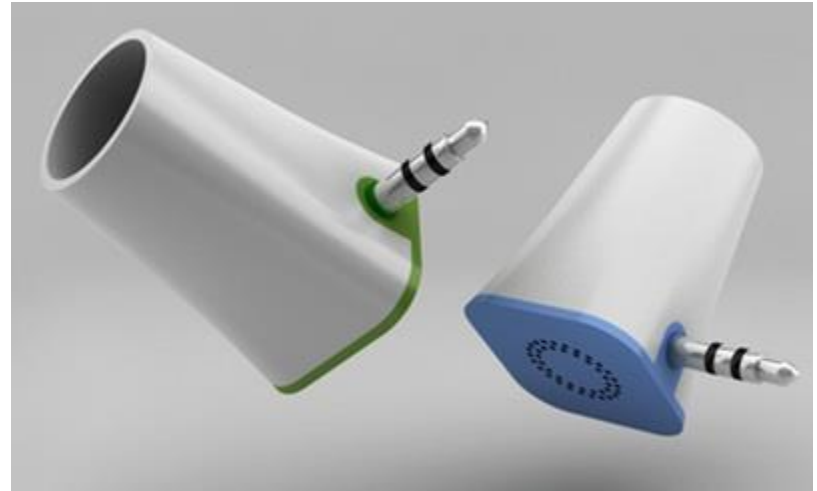


## Smart Spirometer

Flawlessly connects to  
your smartphone so  
that you can easily see  
and share the results of  
the test

From  
Sweden





# Noninvasive Blood Analytes Monitor



## Blood Haemoglobin Pulse Oxymeter Pulse Rate

Occlusion spectroscopy as a new paradigm for noninvasive blood measurements

The NBM 200 is a non-invasive blood analytes monitor. It measures and displays blood hemoglobin (Hb), oxygen saturation level\* and pulse rate (PR) values.

It is composed of a reusable ring-shaped sensor probe that fits on the subject's finger, and a portable desktop monitor that calculates and displays the measurement result. The monitor features an easy-to-read LCD display that presents the patient's hemoglobin (Hb) and pulse rate (PR) values.

The system is intended for noninvasive spot checking of Hb and PR. It may be used in clinical and non-clinical, fixed and mobile environments.

# Pronto<sup>®</sup> Pulse CO-Oximeter<sup>®</sup>

Featuring Masimo SET<sup>®</sup> Pulse Oximetry with rainbow<sup>®</sup> Technology for Noninvasive Spot-Checking of Total Hemoglobin

## Measurements

- SpO<sub>2</sub> Oxygen Saturation
- PR Pulse Rate
- PI Perfusion Index
- SpHb Total Hemoglobin





# Rad-57™

Handheld Pulse CO-Oximeter® Featuring Masimo SET®  
Measure-through Motion and Low Perfusion™ Pulse Oximetry  
with Upgradeable rainbow SET™ Technology

## Masimo SET® Measurements

SpO<sub>2</sub> Oxygen Saturation

PR Pulse Rate

PI Perfusion Index

PVI<sup>†</sup> Pleth Variability Index

## Upgradeable rainbow SET™ Measurements

SpHb<sup>†</sup> Total Hemoglobin

SpMet<sup>†</sup> Methemoglobin

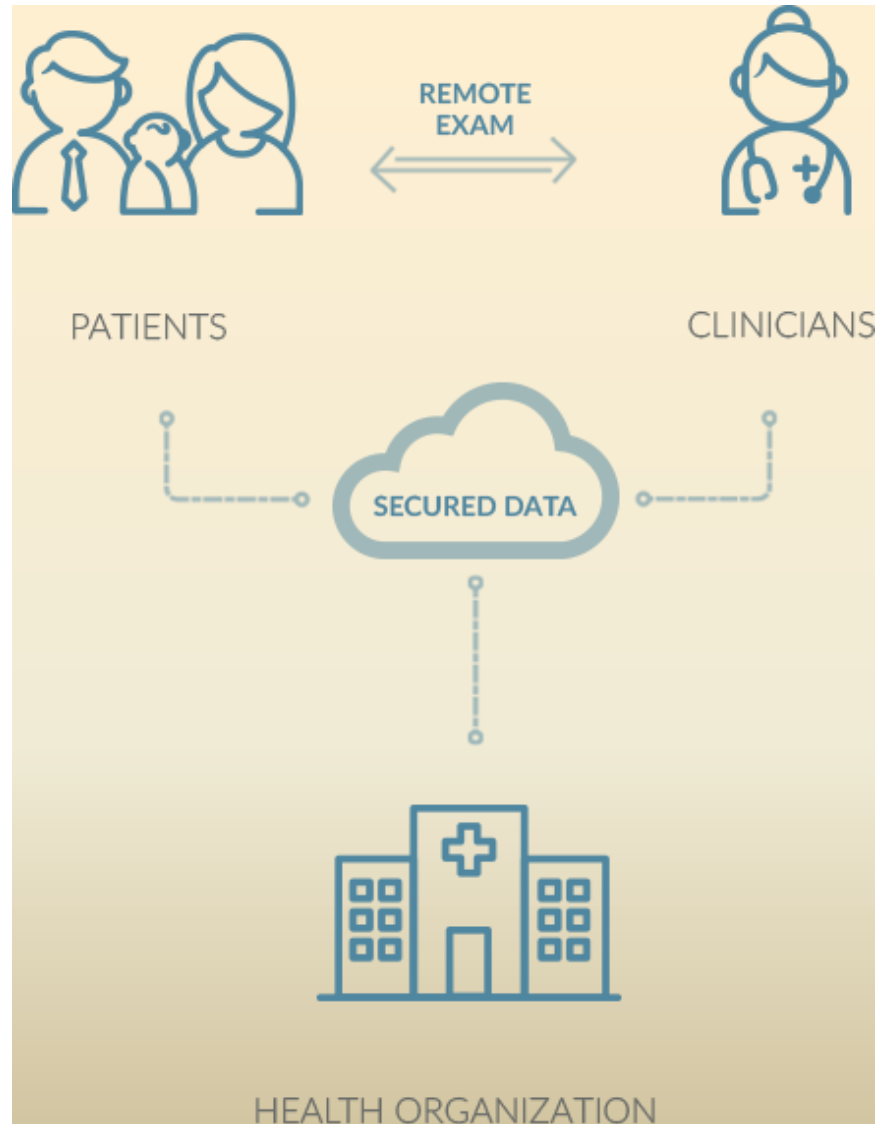
SpCO<sup>†</sup> Carboxyhemoglobin

SpOC<sup>†</sup> Total Arterial Oxygen Content



# Complete Telehealth Solution

**Heart**  
**Heart Rate**  
**Lungs**  
**Ears**  
**Skin**  
**Throat**  
**Temp**  
**Abdomen**







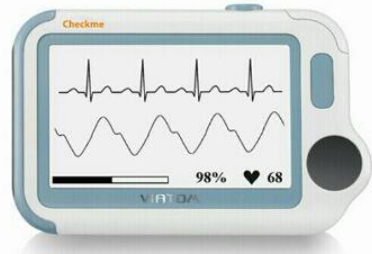
**TytoCare, a Netanya-based company, has introduced a new portable telemedicine system. The device helps anyone conduct a comprehensive physical exam anywhere and anytime. The exam results are then transferred to the patient's chosen doctor. FDA approved.**

**This device includes conducting auscultations just like with a regular stethoscope, measuring temperature with the thermometer and looking into the ears with an otoscope. The device looks under the tongue with a built-in camera coupled with a tongue depressor.**

**From Israel**

# Checkme Pro Health Monitor

Convenient, Professional, Versatile



All in one Design



[Read more](#)

[Shop Now >>](#)



<https://www.youtube.com/watch?v=Q3uW4Ha7n0o>

# Checkme Lite Health Monitor



- ECG Recorder
- Pulse Oximeter
- Cuff-less blood pressure track
- Daily Check

[Read more](#)

[Shop Now >>](#)



# Checkme O2 Sleep Monitor

Professional medical aid for snorers  
Whole night SpO2, HR and Motion monitoring  
Detect oxygen drops caused by sleep apnea  
Smart vibration to help overcome oxygen shortage



[Read more](#)

[Pre - Order >>](#)





## VitalPatch: A Band-Aid-Like Disposable Vital Signs Monitor

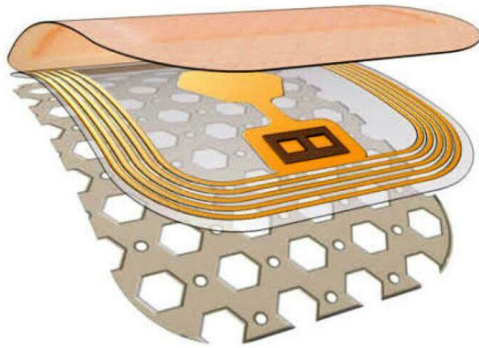
### Features

The VitalPatch® biosensor includes a **single use, disposable** patch.

- Single-Lead ECG
- Heart Rate
- RR Interval
- Respiratory Rate
- Skin Temperature
- Body Posture
- Fall Detection
- Activity including Steps



# Sweat Detectors Tiny Sensors Use Perspiration to Track Health



## Sweat Sensors

This wearable lab contains "microfluidics" designed to route fluids inside themselves in much the same way that microelectronics do with electrons. Specifically, the sensor directs sweat down a number of microscopic channels that are about 0.02 inches (0.5 millimeters) wide into compartments about 0.16 inches (4 mm) in diameter. Each of these chambers measures specific biomarkers, such as pH, lactate, chloride and **glucose levels**.

**FLUKE**

Biomedical



## **ProSim 8 vital signs simulator**

**8-in-1 multifunction simulator tests ECG (including fetal ECG and arrhythmias), respiration, temperature, IBP, cardiac output, NIBP, SpO2, and Rainbow multi-wavelength waveforms**

# Smart Vein Finder





**US \$2-4 / Piece**



# Vein Finder

## Product Features

- Small in size, light in weight, easy to carry
- Adjustable light, wide application range
- Sensitive switch, safe and power saving
- Fit human body engineering, more comfortable grip
- Rechargeable lithium battery

## Method of Operation

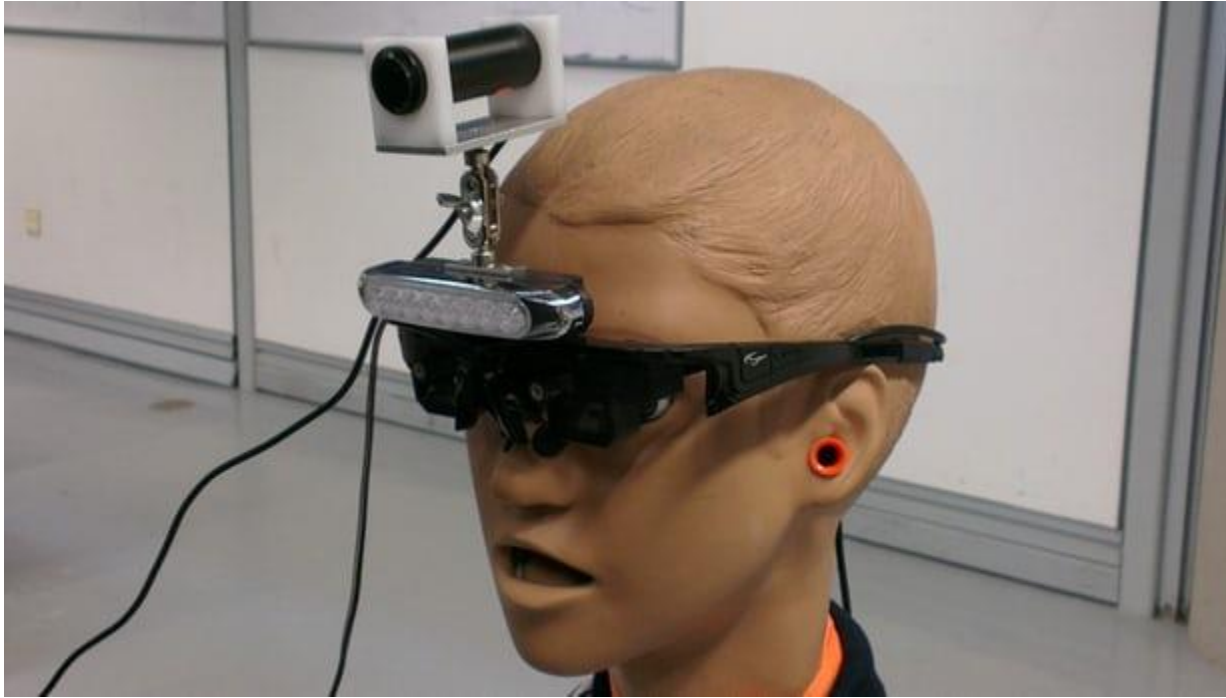
- Turn on the rotary switch.
- Hold the light bulb with palm. Now the vein finder is sending light.
- Rotate the rotary switch, adjust the strength of light, the veins are visible (more dark than other tissues).
- After vein puncture, turn off the rotary switch.

szbestman.en.alibaba.com US \$2-4 / Piece

[https://www.alibaba.com/product-detail/new-product-BVF-260-vein-finder\\_60435356908.html?spm=a2700.7724838.0.0.UZTMuh](https://www.alibaba.com/product-detail/new-product-BVF-260-vein-finder_60435356908.html?spm=a2700.7724838.0.0.UZTMuh)



# Wearable smart veins locator



The smart vein locator can spot veins regardless of the patient's skin color



## MAHURKAR<sup>®</sup> Smart Syringe™

The Mahurkar **Smart Syringe** represents the latest advances in safety syringe design and construction.

In addition to better satisfying the NIOSH and FDA guidelines regarding needle stick prevention, it vastly improves on the limitations that exist with current safety syringes.

The key feature is an automatically retracting needle that **retracts** back into the plunger only when the complete injection of the medicine has occurred.

**100% REDUCTION**  
IN NEEDLE STICK INJURIES



- Looks and operates like a conventional syringe that can be operated with a single hand
- Requires no activation or secondary operations by the user
- Minimizes fluid waste
- Avoids hydraulic displacement problems present in existing syringes
- Prevents inadvertent retraction
- Eliminates reactive aerosolization
- Spill proof
- Effective in over the needle catheter insertion applications
- Reliable and safe
- Safety features cannot be deactivated and remain protective through disposal
- Reduces dependence on sharp object containers

# Smart Syringe

**Fail safe.**

**Single hand-operated.**

**Passive spring-aided retraction of needle, by back-end activation.**

**Action is under voluntary control with option of full automatic retraction.**

**Retracted needle and needle holder is securely locked inside the central channel of plunger.**

**The needle holder is locked to the plunger as well as to the barrel.**

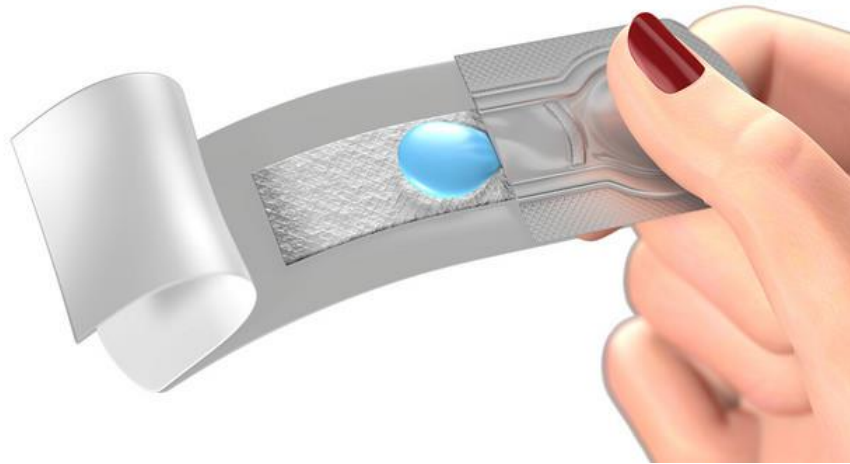
**After use the entire syringe is interlocked, immobile and inoperable.**

**It is not possible to re-use and must be disposed of in recyclable waste.**

**Not disabled by aberrations of hydraulic pressure.**

# Smart Adhesive Bandage

## Aid-Tec



This smart adhesive bandage, recently approved by the US Food and Drug Administration (FDA), has a patented breakable capsule that releases a multi-compound therapeutic substance onto the sterile pad. The line of waterproof bandages offers varieties that come with an anticoagulant, an antibiotic, an antifungal, a wart remover or a corn remover. The company, based in Ramat Gan and in New Jersey, manufactures and sells the bandages in the United States



**Prone Positioning and Eye Protection made easy  
with the ProneView® Protective Helmet System  
With Opti-Gard**



## Chin-UP Airway Support Device

★★★★★

Be the first to review this product



### Lift Up Chins and Keep Airways Open, Anywhere

- Ideal product for mobile anesthesiology
- Flexible, reusable arm attaches to cushions on both ends to provide comfortable, customizable positioning
- Disposable cushions reduce risk of cross-contamination
- Keeps airways open during MAC and TIVA sedation processes



Chin-UP® Airway Support Device  
Replacement Cushions • 10pr

#PP-D29400

20 / PK

**\$80.30**

[More Info](#)

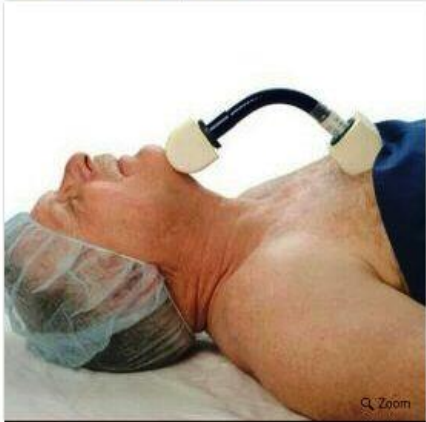
STATUS

Estimated ship date of 07/15/2016

QTY

1

[+ Add to Cart](#)



OVERVIEW

REVIEWS

When two hands aren't enough, the Chin-UP® Patient Airway support device lifts a patient's chin and holds it in position that will keep the airway open during monitored anesthesia care and total intra-venous anesthesia sedation procedures. Perfect for mobile anesthesiologists.



**Chin-UP® Patient Airway Support device is used to lift up the patients chin and hold it in position to keep the airway open during MAC (Monitored Anesthesia Care) and TIVA (Total Intra-Venous Anesthesia) sedation procedures.**





**Anti Snore  
Chin  
Support  
Strap Belt**



# Snore-Free Nose Clip

Gently opens nostrils to increase airflow

Built-in magnets provide magnetic therapy

Drug-free, inexpensive, and non-invasive

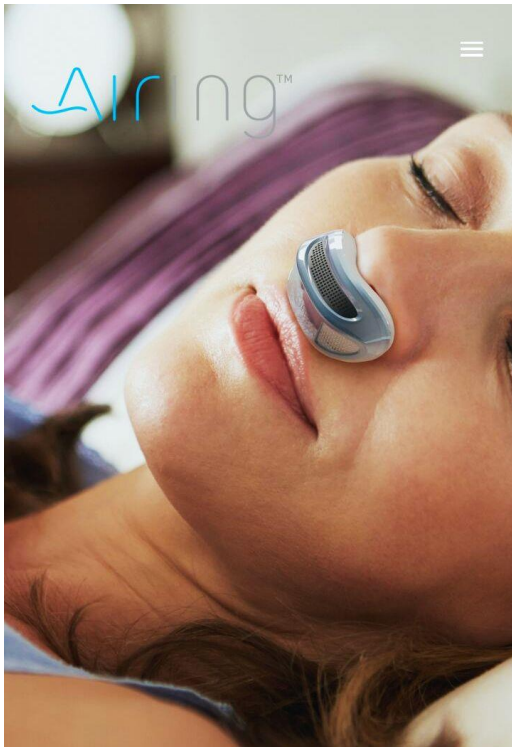
Inconspicuous design, with travel case

**Silicon**





Smallest CPAP in the World



## Airing Revolutionary Micro-CPAP Airing

### NOSE BUDS

Soft, comfortable silicone engineered to stay firmly in the nostril, forming a perfect seal without the need for straps.

### INHALATION VENT

As the patient inhales, air enters through vents and is filtered and drawn into hundreds of micro-blowers that create the precise airway pressure needed.

### HOUSING

Injection molded shell holds all electronic components as well as the battery. Total weight of the device is less than one ounce.

### EXHALATION VENTS

As the patient exhales, unencumbered airflow exits through micro-screens.



# Naso-Flo



**Naso-Flo<sup>®</sup> nasopharyngeal airway device allows for direct oxygen delivery, while humidification vents positioned towards the distal tip facilitate heat and moisture transfer. It can also be supplied with an optional respiratory indicator with or without hydrophobic filter**

**From Mercury Medical**

Mcintosh Laryngoscope NT-903



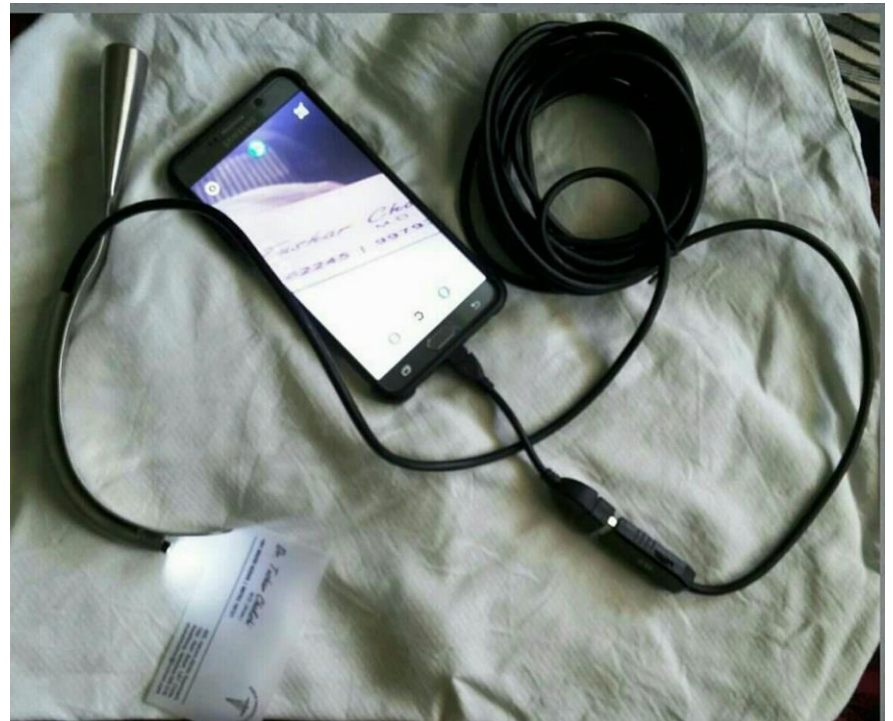
S.S

[www.ebay.com](http://www.ebay.com)



**McIntosh Laryngoscope  
Switch Style Ent Surgical**

# Android Borescope (Industrial Endoscope)



**As Video Laryngoscope**





Scent from flavored lip balm smeared inside anesthesia or oxygen masks can improve patient tolerance and reduce children's pre-surgery anxiety without risk of fire hazard

Fruit flavored chapstick is used by Child Life to flavor the anesthesia induction mask and ease children's anxiety before surgery

## Scented Anesthesia Mask for Pediatric Patients



**RODINIA**  
**Tylke Magills Forceps**  
**for**  
**easier and safer**  
**Nasotracheal intubation**



## **HALYARD\* MICROCUFF\* Subglottic Suctioning Adult Endotracheal Tube**

**HALYARD\* MICROCUFF\* Subglottic Suctioning Adult Endotracheal Tubes are available in adult sizes with a Murphy Eye. They include a separate lumen with a dorsal opening above the cuff to provide access to the subglottic space. The subglottic space is reached via a normally open suction valve which includes a one-way port for rinsing the subglottic space with sterile saline (0.95% Sodium Chloride solution) or administering an air bolus to assist in maintaining suction lumen patency**







## **The Rapid Positioning intubation Stylet (RPIs)**

**Dynamic intubating stylet with a controllable tip which can flex and retro-flex**

**from  
AIRWAY MANAGEMENT ENTERPRISES,LLC**

# Smartphone USG

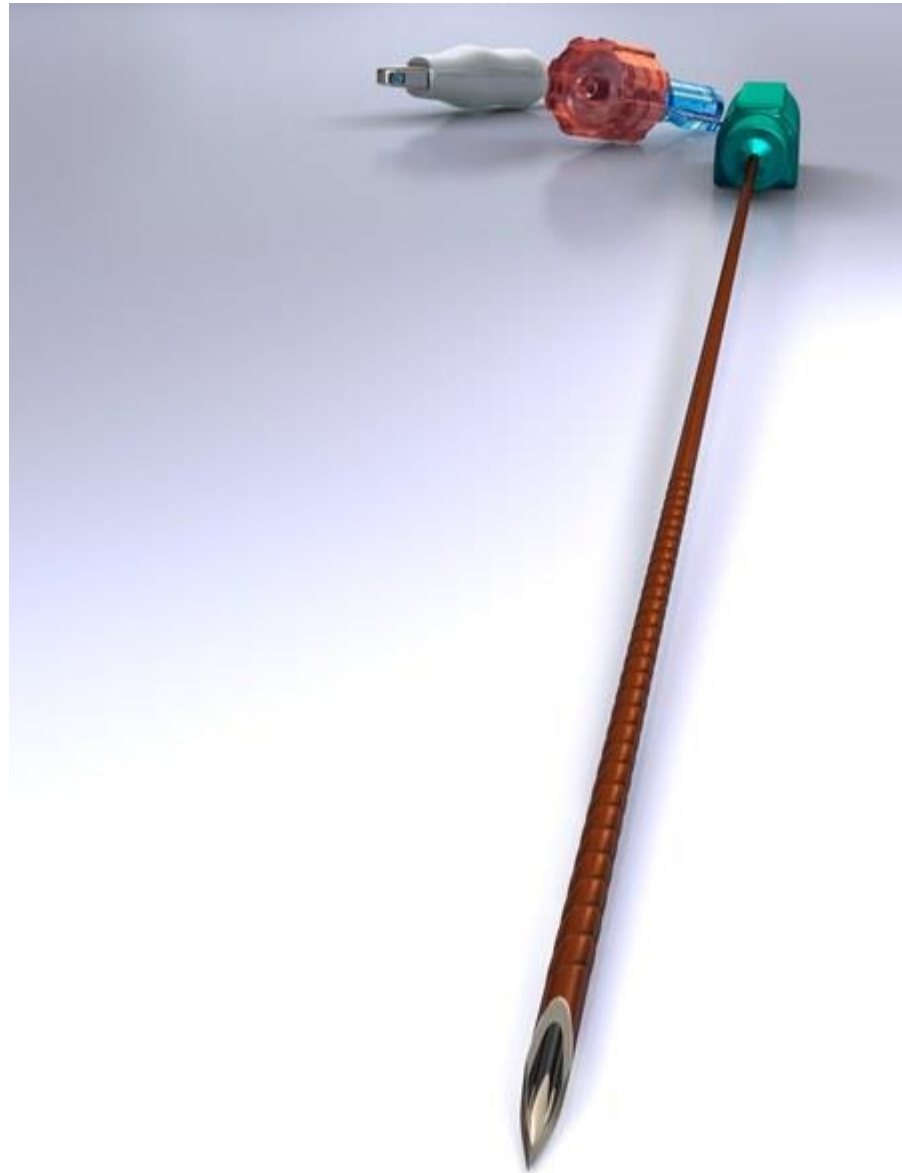


**The MobiUS scanner plugs into smartphones and tablets to provide an instant scan image on the mobile device's screen**



**Cek USG Bisa Lewat Android SmartPhone , Philips Hebat**

# USG Needles



## NEUPOLE SU, ECHOGENIC NEEDLE

plexus needles, with the latest ultrasound reflection technology.

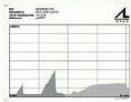
The **echogenic Neuropole SU Needle**, specifically designed for ultrasound guided regional anesthesia procedures, provides an unequalled visibility



# **Epidural Space Locator**



Registration and documentation of the epidural puncture



Herman Wijffels Innovation Award

The Herman Wijffels Award was instituted as a means for promoting innovative and sustainable enterprise in the Netherlands. In competition with over 250 participants, APAD was evaluated the best innovative product of 2007 and won this most prestigious award.

Technical Data and Specifications

<b>Size and weight</b>		<b>Pressure Measurement</b>	
- Height	226 mm	- Input	0-133 kPa
- Width	236 mm	- Tolerance	5 %
- Depth	96 mm	<b>Data Transfer and Storage</b>	
- Weight	2 kg	- Serial Port Optical Galvanic Isolation	
<b>Display</b>		- Secure Digital Card (SD) max. 1GB	
- Colour TFT with 320 backlight		<b>Net Adapter</b>	
- 320x240 Pixel Resolution		- Voltage In	100-240 Vac/50-60 Hz
- Touch Screen		- Voltage/Current Out	15 V/1.6 A
- Vertical Scale 0-100 kPa		<b>Battery Pack</b> NiMH 7.2 V/1500 mAh	
- Vertical Resolution 50,6 kPa		<b>Battery Charger</b> Internal, 2 stage	
<b>Audio</b>			
- Frequency	140 Hz-4 kHz		
- Resolution	50,4 Hz		

**Conformity Mark**  
APAD is in compliance with the requirements as set out in the Medical Devices Directive (MDD 93/42/EEC). Classification: For Europe: Class III - Manufacturer: Apad B.V.



APAD is an invention of T.J.M. Lechner, MD, Anesthesiologist and has been patented by APAD Octrooi BV.



Equip Medics BV | Laboratory 161 | 2009 PB Clouds | The Netherlands | T +31 (0)20 372 290 | F +31 (0)20 37 364  
 Postbus 2010 | www.equip.nl | CE 0360 2006 02 04 03 03 09 | BSN 1410 1410 00 00 00 00 00 | BIC 0001 0001 0001 0001  
 KVK 34030000 | VBT 041000000000



New approach to the epidural space



SAFE, SOUND AND SIMPLE



New approach to the epidural space



SAFE, SOUND AND SIMPLE



Start of the procedure      Two hands needle control      APAD confirms finding of the epidural space      Control of the catheter placement      Registration of the puncture      A perfect procedure

Revolutionary acoustic system to locate the epidural space featuring the following unique advantages:

- Registration and documentation of the epidural puncture
- Guaranteed finding of the epidural space
- Penetration of the epidural space is indicated by a clear variation of the acoustic signal
- Acoustic monitoring is superior to the sense of touch
- Two handed technique for absolute needle control
- An outstanding educational tool
- Monitoring of the different layers guarantees a safe procedure

APAD (Acoustic Puncture Assist Device)

APAD is a revolutionary device to localise the epidural space by means of an acoustic signal. This device is measuring the pressure in an extension tube between the epidural needle and the syringe placed in a pump. The generated pressure is translated into a corresponding acoustic and visible signal.

The device enables the anesthesiologist to handle the epidural needle with both hands and to detect the epidural space by means of the acoustic signal. The method has been proven to be reliable, safe, and simple in several studies (publications 1, 2, 3, 4).

The benefits of this new epidural puncture technique include: registration and documentation of the epidural puncture, better needle control, certitude that the epidural space has been reached, the free space can be checked and APAD is an outstanding educational tool.

List of Publications

Several studies have proven the APAD-procedure to be reliable, safe, and simple. The clinical results have been published in various leading Journals. Please inquire for the following articles, for further reference:

1. Lechner, T.J.M., van Wijk M.G.F., Maas A.J.J. Clinical results with a new acoustic device to identify the epidural space. *Anaesthesia*, 2002;57:768-772
2. Lechner T.M.J., van Wijk M.G.F., Maas A.J.J. et al. Clinical Results with the Acoustic Puncture Assist Device, a New Device to Identify the Epidural Space. *Anesthesia & Analgesia*, 2003;96:1183-1187
3. Lechner T.M.J., van Wijk M.G.F., Maas A.J.J. et al. Thoracic epidural puncture guided by an acoustic signal: clinical results. *European Journal of Anaesthesiology* 2004;21:694-699
4. Lechner T.M.J., van Wijk M.G.F., Maas A.J.J. De akoestisch-geleide epidurale punctie. *Nederlands Tijdschrift voor Anesthesiologie* 2004;17:1003-1007
5. Lechner T.M.J., van Wijk M.G.F., Maas A.J.J. et al. The use of a sound-enabled device to measure pressure during insertion of an epidural catheter in women in labour. *Anaesthesia*, 2011;66:568-573

eEquip

Netherlands



# Accuro™

Intentionally Simple. No strings, cords—or Sonographer—attached.

The world's first ultrasound-based system designed specifically to help you apply spinal and epidural anesthesia with automated identification of epidural location and depth.



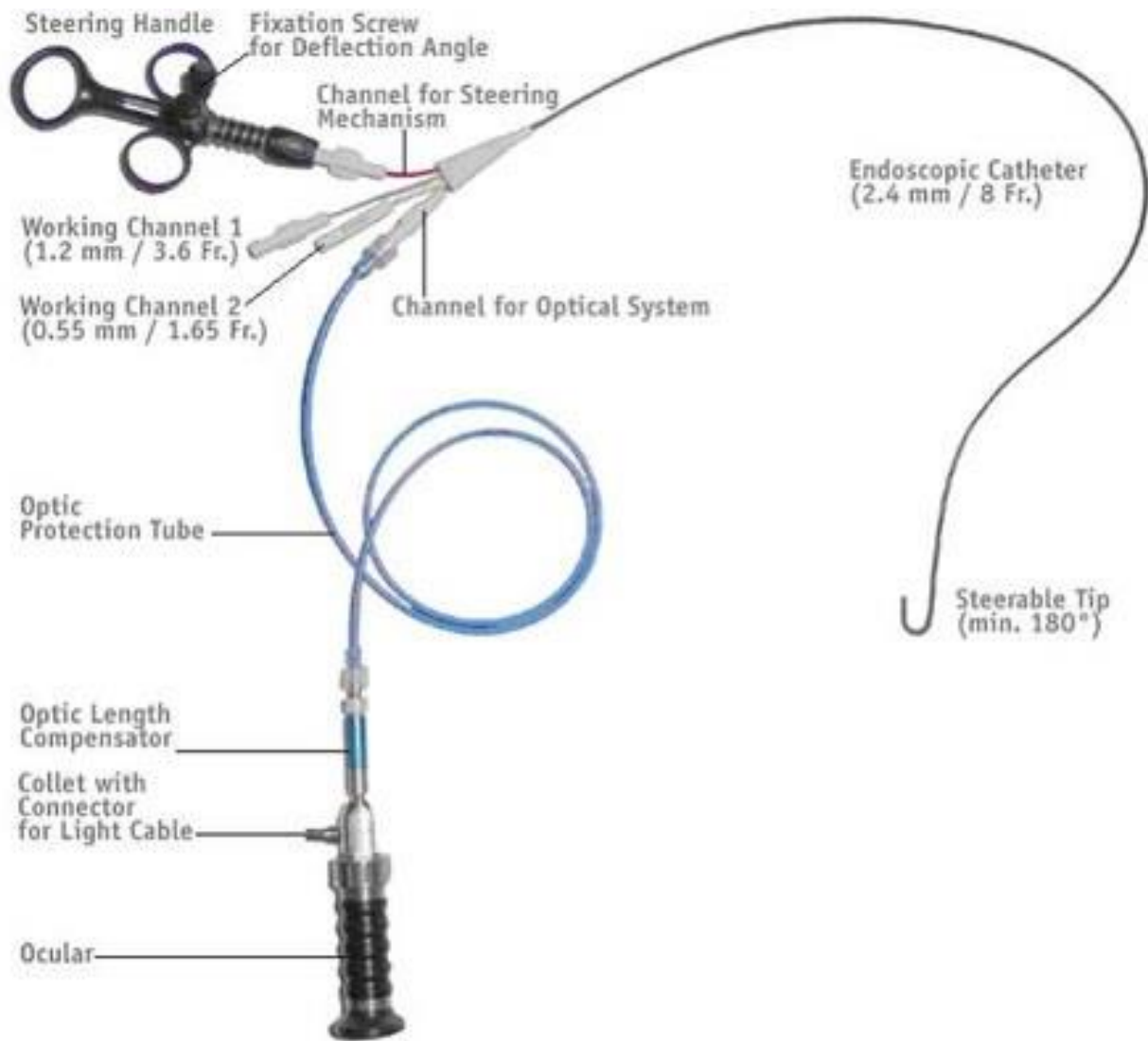
**The world's first ultrasound-based system designed specifically to help you apply spinal and epidural anesthesia with automated identification of epidural location and depth**

**RIVANNA™**  
Guiding Advancements In Ultrasound

## Accuro™

Pocket-sized ultrasound device for spinal anesthesia guidance.





**Epi-C<sup>®</sup> from Polydiagnost is the first disposable epiduroscope with 120° viewing angle**

## The "Free Oxygen" Anesthesia Machine



**The Pureline® M6000** extracts medical-grade oxygen from the air and delivers it on demand. With the savings in oxygen tank refills or tank management, the M6000 pays for itself in as little as one year. No larger than standard anesthesia equipment, it comes complete and ready to operate. The M6000 is quiet, elegantly simple to operate, and requires almost no maintenance. While similar machines have been in use in Europe for years, Supera has perfected the technology, added important safety features, and is making this money-saving equipment available to you.



# Pureline<sup>®</sup> OC6200 Anesthesia Oxygen Concentrator

**SUPERA** | ANESTHESIA  
INNOVATIONS



# GLOSTAVENT HELIX



- Complete anaesthesia system with a pneumatic ventilator
- Functions as either a drawover or continuous flow machine
- Will function without oxygen or without electrical power
- Does not require compressed gases. Supplied with and driven by an oxygen concentrator delivering both oxygen and air
- Suitable for adults and paediatrics
- Can be used in the operating theatre for anaesthesia or in intensive care as a ventilator or as a source of pre and post operative oxygen
- Very low running costs
- Minimal maintenance
- Meets the WFSA

# Anesthesia Depth Monitor





qCON 2000 Stand Alone  
Bringing new value to patient monitoring

qCON

**QUANTUM MEDICAL**

Air Ernest Lluçh 32, Torre 2 Tècno Campus, Planta 1, Oficina 1.5  
08302 Mataró (Barcelona), Spain  
www.quantiummedical.com - info@quantiummedical.com  
Tel.: +34 937 021 950  
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# qCON

## Anesthesia Depth Monitor



**qCON**

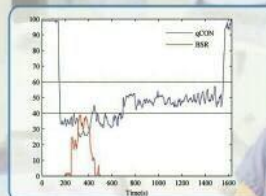
- qCON index of depth anaesthesia is based on proprietary technology developed by Quantum Medical. This technology allows the anaesthesiologist to individually tailor the dosing of the anaesthetics, providing improved patients outcome and reduced costs for the institution.
- The qCON Index is based on an easy readable 0-99 scale, resulting from the processing of electroencephalogram (EEG) readings. A qCON index of 40-60 indicates an adequate anaesthesia level, while 0 corresponds to an isoelectric EEG.
- qCON can be also connected to a tablet or medical grade PC via Bluetooth.

**Specifications**

Index and display update	qCON 0-99, 1 s display update
Total index update delay	10 s
EEG	± 475 µV, 16 bit resolution
Burst Suppression Rate (BSR)	0-100 %
EMG	0-100 unit less
qNOX	0-99
Signal Quality Index (SQI)	0-100 %
Lead off detection	15 s interval
Electrode impedance measurement	0-10 kOhm, (+/-1 kOhm)
Data logging	Yes
EEG sampling frequency	1024 Hz
CARR	>100 dB
Power supply	DC 5 V
Data transfer	Bluetooth

**qCON clinical states**

80-99	Awake
75	Sedation
40 - 60	Adequate general anaesthesia
20	Very deep anaesthesia
0	Isoelectric / Suppressed EEG



**Methodology**

- Linear and non-linear technology provides a unique combination of the features extracted from the EEG.
- The final index, qCON, includes the Burst Suppression Rate (BSR) to detect deep anaesthesia. Excellent artifact rejection is achieved using advanced digital signal processing.
- qCON 2000 includes the qNOX index, which is a correlate to the probability of response to noxious stimulation



**QUANTUM MEDICAL**  
**Spain**



# ReVel<sup>®</sup> ventilator



**Size**

**28.7 cm x 18.0 cm x 8.4 cm**

**Weight**

**(4.3 kg)**



**The ReVel ventilator empowers to quickly initiate ventilation from the street, to the stretcher, in the air and across the continuum of care in OT**

**Supports invasive, noninvasive and transport ventilation**

**Integrated Pulse Oximeter**

**Supports continuous alternate power options from an optional DC automobile adapter, dual desktop battery charger or additional lithium-ion batteries**

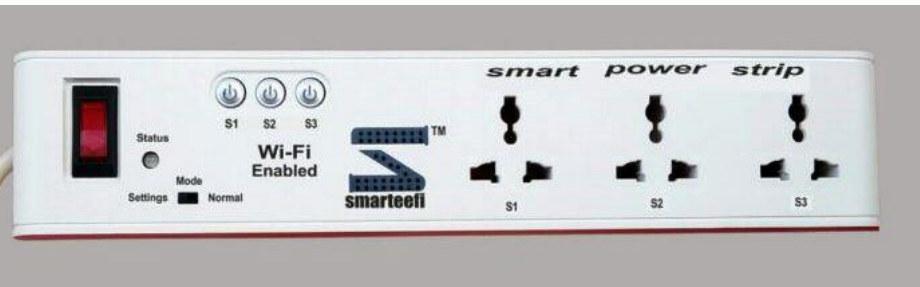


# Smart WiFi Switch and Plugs for OT Gadgets

Smart plug WiFi Smartphone Remote control socket power supply electrical Wireless Switch for Android And iPhone App

Remote Switch

Use the Professional App to turn ON/OFF your light, water heater, air conditioner... as long as there is 3G or wifi network



Smarteefi Smart Switch and Smart Power Strip is a Wi-Fi enabled replacement to conventional switches and Power Strip giving you convenience to control your lightings and home appliances anytime from anywhere

# Hospital Light bulbs that Disinfect and Kill Bacteria

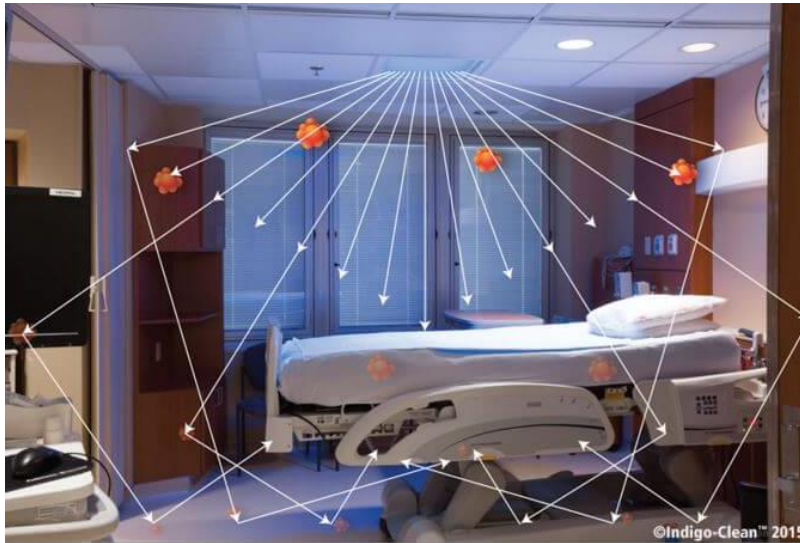
## How it works

The 405nm emitted from Indigo-Clean reflects off of walls and surfaces, penetrating harmful micro-organisms

The light targets naturally occurring molecules called porphyrins that exist inside bacteria. The light is absorbed and the excited molecules produce Reactive Oxygen Species (ROS) inside the cell

405nm creates a chemical reaction inside the cell, similar to the effects of bleach

The Reactive Oxygen Species inactivates the bacteria, preventing it from re-populating the space



United Hospital Kenosha Medical Center Campus, Kenosha, WI

# Digital Plaster

- A device meant to be embedded in ordinary plaster that includes sensors for monitoring health-related metadata such as blood pressure, temperature and glucose levels.
- The “digital plaster” contains a Sensium silicon chip, powered by a small battery, which sends data via a smartphone or PDA to a central computer database.
- If the results show any worrisome signs, patients and doctors alike would be notified of the change in the data patterns. They also plan to add a motion sensor to the device so it could additionally serve in the role of “granny monitor” by detecting things like falls or complete inactivity.





## VETIGEL™ Hemostatic Gel Kit

**Gel that stops bleeding in seconds**



When directly applied to the source of bleeding, VETIGEL™ rapidly adheres to the wound-site and stops the flow of bleeding by creating a mechanical barrier. This allows the body to build a strong, natural clot without the need for applied pressure. A removal wipe may be applied after use, which disengages the excess hemostatic gel from the newly formed clot for easy removal



## Bio-Weld 1



Unique device to seal surgical incisions using cold plasma gas. Ionized particles in plasma have been shown to weld human tissue in a way that causes little or no scarring, controls bleeding, enhances tissue repair, disinfects and even kills cancer cells. The product is close to market and will likely be marketed first as an alternative for Cesarean section incisions



## **World's first robot that can lift up a human in its arms**

**RIKEN-TRI Collaboration Center for Human-Interactive Robot Research(RTC), established as a joint collaboration project by RIKEN and Tokai Rubber Industries, Ltd. (TRI), has developed a nursing-care assistant robot named RIBA (Robot for Interactive Body Assistance). RIBA is the first robot that can lift up or set down a real human from or to a bed or wheelchair.**



# Electronic Underwear Preventing Bed Sores



Developed by Canadian researcher Sean Dukelow of [Project SMART](#), the electric underpants—deliver a small electrical charge every ten minutes. The effect is the same as if the patient was moving on their own—it activates muscles and increases circulation in that area, and effectively eliminates bed sores, thereby saving lives

# Smartphone Breathalyzer



# **Alcohoot**

## **The World's First Smartphone Breathalyzer**



**Using Bluetooth to monitor your BAC**

**The Alcohoot attachment connects to users' smartphones using Bluetooth technology. Once connected, the attachment opens the application, and is ready to process BAC levels. The Alcohoot device registers gender, weight, age, and height in advance to give each person an individualized BAC reading. "After blowing into the device for five seconds, your BAC is calculated and shows up directly on your screen**



## Breathometer

The device plugs into Smartphone and measures blood alcohol concentration when once breathe into it



# Non-Invasive Vitamin Tracker

vita•stiq



**Wireless version of the world's first personal vitamin tracker that indicates your nutrient trend.**

**Vitastiq has better compatibility with smartphones and tablets. This device is convenient, efficient and allows even higher precision. It is made of titanium, a more durable and lighter material.**

# Smartphone X-ray and MRI

## Walabot: X-Ray Vision For People With Smartphones (VIDEO)



People might soon be able to look through walls without the need for extensive machinery.

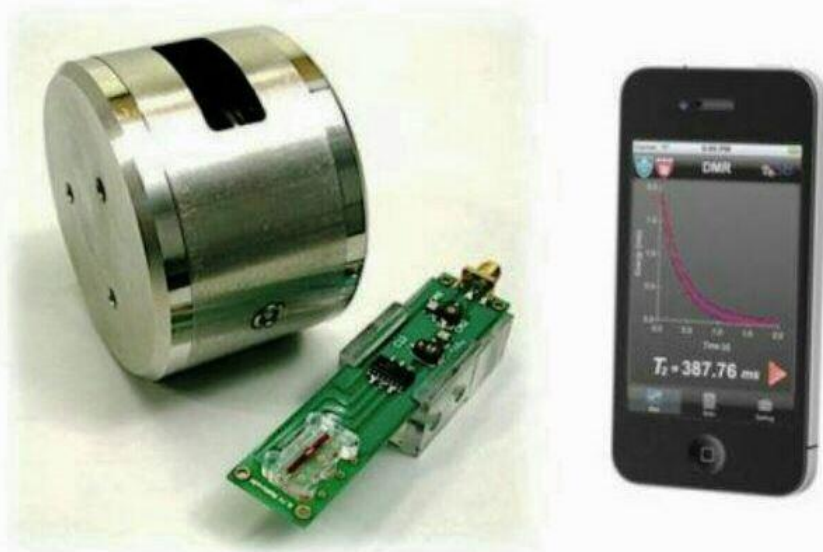
The Walabot is a new and exciting device that gives everyone, from ordinary people to engineers, the ability to have x-ray vision,

"Walabot instantly turns a smartphone into a powerful 3D-imaging system at your fingertips," said Vayyar Imaging co-founder Raviv Melamed. "Our advanced technology lets people see all kinds of things hidden in the world around them, adding yet another dimension to the way people use smart devices today."



**WALABOT**

## Cancer diagnosis in the palm of your hand: MRI smartphone



At Massachusetts General Hospital, researchers analyzed small portions of biopsies from 50 patients who had a variety of cancers. After scanning tissue for the presence of nine key proteins – ones that can predict the likelihood that a cancer will grow and spread to other tissues in the body – the gadget identified 44 patients harboring malignant tumors, and each diagnosis was verified by standard techniques.





## iBE™ Quick Facts

- Bilateral breast exam within 5 minutes (with results at the point-of-care)
- Accuracy to detect clinically relevant breast lesions higher than 85%
- Usable by any health-worker or doctor. No pain, No radiation.

\*iBE™ is developed by the makers of [NoTouch BreastScan™](#).

Introducing an innovative **breast health check for all women.**

iBreastExam™ (or iBE) is a game-changing technological breakthrough **for countries and regions with rising incidence of breast cancer, most cases presenting at late stages and limited to no access to early detection for most women.**

# **3D and 4D Printing in Medicine**



## 3d printing in medicine



"**Medical Applications of 3D Printing.** 3D printers are used to manufacture a variety of **medical** devices, including those with complex geometry or features that match a patient's unique anatomy. ... Other devices, called patient-matched or patient-specific devices, are created from a specific patient's imaging data."

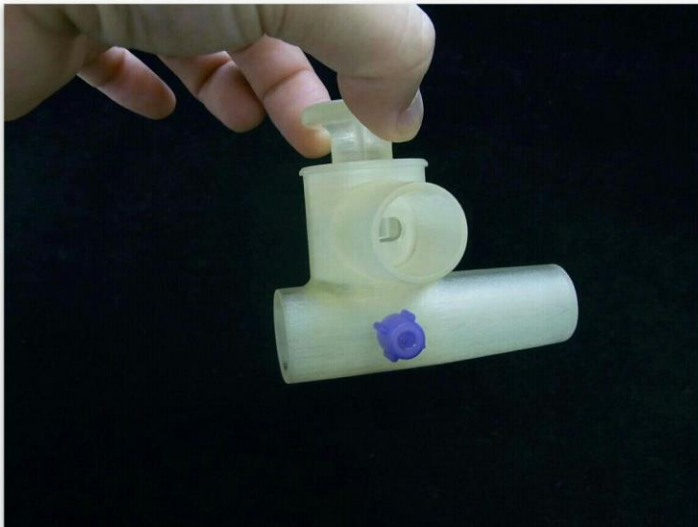
## How 4D printing is now saving lives

In the future, 4D printing will be used for all types of implants and reconstructive surgery



*Jake and Natalie Peterson with their son Garrett, who had a 4D printed biomedical stint implanted in this trachea to hold it open while he grew. The operation allowed him to be removed from a ventilator he'd been on since birth. Credit: Lucas Mearian*

Mini Anesthesia system made by 3D Printer. It's very reasonable for Ambulance, Field, Disaster, Deep-sea & Aerospace Mission.



*The before and after. On top are images of three babies on ventilators who received 4D printed stints to open their airways. Below are photos of those babies after they were taken off the ventilators and went home.*



Other wearable sensor tools now being developed include necklaces that can monitor your heart function and check the amount of fluid in your lungs, contact lenses that can track your glucose levels or your eye pressure (to help manage glaucoma), and head bands that can capture your brain waves. Someday, socks and shoes might analyze the human gait to, for instance, tell a Parkinson's patient whether his or her medications are working or tell a caregiver whether an elderly family member is unsteady and at risk of falling.

# **Future Medicine**

**The world's ageing population and prevalence of chronic diseases have lead to high demand for tele-home healthcare, in which vital-signs monitoring, state-of-art wearable technologies with or without smartphone for remote patient-monitoring and new generation techno-gadgets will be essential in future medical practice**



THANK  
YOU