Dynocardia

A novel non-invasive method and technology for continuously and accurately measuring blood pressure

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The 3DEXPERIENCE® Company

3DEXPERIENCE® Lab

Cambridge, MA
June 2021

Origins of ViTrack™ technology

- MIT/Tufts founding team developed **ViTrack™**
  - **New method** for measuring Blood Pressure
  - First standalone continuous non-invasive blood pressure (**cNIBP**) technology

Massachusetts Institute of Technology

Tufts University School of Medicine

Dynocardia

Experienced and diverse management team

Scientific founders and seasoned commercialization experts

Mohan Thanikachalam, MD
Co-Founder, CEO
Faculty, Tufts University School of Medicine; Cardiothoracic Surgeon; Principal Investigator NIH grant

Abhijit Biswas, PhD
Co-Founder, CTO
Lead the development of the ViTrack as a Post Doc at MIT

Robert Swain, PhD
Head, Regulatory and Clinical Trials
Previously lead clinical trails at Medtronic

Edward Adelson, PhD
Co-Founder
Professor of Vision Science, MIT; Lead the development of the optical sensor

Mark Kotfila , MSECE Product Development Lead
Lead the development of patient monitoring solutions at Philips Healthcare.

Carly Chase, BA
Head, Finance and Strategic Partnership Initiatives
Formerly at Goldman Sachs; Managing Director, MIT NYC Startup Studio.; Lecturer MIT's Sloan School of Management.

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A 100-year challenge: the need for accurate + continuous BP

1910

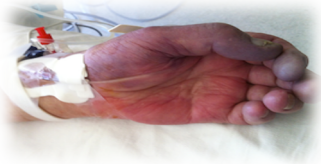
Cuff-based BP devices

Inaccurate and single time-point

- **Monitoring gaps** ~300,000 unexpected cardiac arrests in US hospitals per year
- **30% misdiagnosis** of hypertension
- Difficulty in obtaining **nighttime BP**

Since 1970s

Intra-arterial pressure (IAP)



Invasive, but only reliable continuous BP monitoring option, which is labor-intensive, associated with complications, and only used for critically ill hospitalized patients.

Indirect approaches to cNIBP

Multiple attempts at cNIBP have failed because of **indirect model-based methods**

2015

National Institutes of Health (NIH)

Called for fundamentally new methods and selected Dynocardia founding team to develop **ViTrack™**

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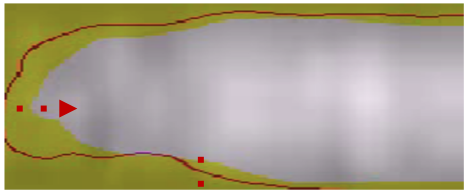
ViTrack™: first technology to measure BP accurately and continuously

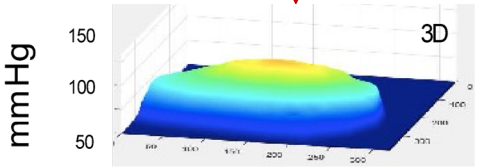
New method: Tactile Force Kymograph

Optomechanical Sensor

Video Image of the spatiotemporal force distribution on the skin



Reconstructs intra-arterial BP wave and based on the proprietary method continuously measures systolic and diastolic BP directly



- **Non-occlusive**: First-of-its-kind cuff-less technology
- **Ambulatory**: wrist wearable
- **Predictive:** Real-world, big data
- **Versatile**: **Measures other vital signs and hemodynamic parameters**

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ViTrack™ : a platform technology with application across healthcare markets

Monitoring in hospitals

- Alternate to invasive arterial lines
- Alternate to cuff devices – address 300,000 unexpected cardiac arrests per year in US hospitals

Chronic disease management

- Hypertension: 1.4 B
- Sleep apnea: 1 B
- Dementia: 50 B
- Heart failure: 26 M

Prevent illness

- Accurate real-world BP for fundamentally new data for cardiovascular disease prevention

Clinical trials monitoring

- High precision BP measurements for real-time assessment of pressor effects of drugs

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Thank you

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