

Intelligent Data Networks

## FitSense Technology


It's all about Fashion  
Getting results in clinical trials

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Wednesday April 13 Clinical Applications and Future Perspectives




## Will They Wear It?



## It's Just Like Jewelry!



## Wires and Ropes



### What's Wrong With This Picture?



### We got it right the second time!



### VA—Elder Care Rehabilitation

- **Veterans Administration--Elder Care--Atlanta**
  - ◆ Exercise Compliance
  - ◆ The VA spends money on Vets for transportation
  - ◆ Puts patients (particularly ones over the age of 50) who have had broken bones, hip replacements, etc. through a rehabilitation program
- **Concluded that simple activity patient monitoring was effective on the shoe.**

### VA—Stroke Rehabilitation

- **Veterans Administration--Stroke rehab--Baltimore**
  - ◆ When the stroke population exercises they get healthier quicker, and they have less risks of developing secondary conditions
  - ◆ Paralysis in each stroke patient is different
  - ◆ Making sure that the patients get the appropriate amount of exercise is critically important
  - ◆ Knowing how much activity a patient has inside the home is a major challenge
- **Results**
  - ◆ System started out simple, one footpod. 100% compliance.
  - ◆ Added complexity and compliance dropped to 50% by the end.

## Brigham & Women's-- Efficacy of Treatments

- **Brigham and Women's Hospital Harvard Medical--COPD Study**
  - ◆ The lungs currently do not regenerate after disease
  - ◆ Proving the efficacy of treatment takes a long time with traditional methods
  - ◆ Quantifying energy expended as a quality-of-life metric
  - ◆ Proving the efficacy of drug intake vs. activity
    - ◆ Means of shortening the time of qualification of new medications and techniques
  - ◆ Potential- New FDA marker for COPD drugs
  - ◆ 98% compliance from patient population (50). Excellent data 24x7

## Kolding Hospital Efficacy of Treatments

- **Kolding Hospital**
- **Children's Asthma Study**
  - ◆ The aim of the research is to monitor asthmatic children, between the ages of 6 and 12, in a double blind study measuring patients activity levels over a 9 week period. The children wear the Pacer all day and keep a journal to note when specified.
  - ◆ The results will indicate if a particular pharmacotherapy solution is better than another

## University Hospital-Switzerland-- Efficacy of Treatments

- **University Hospital PVD Study**
- **Art.Net Funded Program**
- The aim of the study is to evaluate the change in walking capacity after a well organized and structured intensive physical training program with supportive pharmacotherapy

## Beth Israel--Patient Profiling

- **Beth Israel--NYC--Advanced Medical Technology Institute**
  - ◆ Minimally Invasive surgery outcome measurements
  - ◆ Accurately track and report fitness level before surgical procedures
  - ◆ Accurately track and report fitness level post operatively
- Complexity of the three piece system restricted use in patient population.

## Success in Clinical Trials has two components

- Devices require little or no user interaction
  - ◆ The device must be inconspicuous
  - ◆ Zero user interactions—no switches required
  - ◆ Fit comfortably onto into users apparel
- The sensor must never run out of power.