


Presentation to:
SASM Society of Anesthesia & Sleep Medicine
"Innovation & Entrepreneurship in Sleep-Disordered Breathing"

Dr. Peter Farrell AM, Founder & Chairman
October 22, 2015

➤ Innovation & Entrepreneurship

"It is the mark of the instructed mind to remain satisfied with the degree of precision which the nature of the subject permits and not seek an exactness where only an approximation of the truth is possible."

Aristotle (384-322 BC)



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➤ Making Things Happen: Innovation & Entrepreneurship

- Entrepreneurs create value; they are not risk takers per se but opportunity seekers.
- Innovation is not creativity but requires it. And innovation only occurs when the concept is anointed by the marketplace.




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Where Do We Put Our Scarce Resources?.I.


A selection template:

- **MARKET ASSESSMENT:** Is it sufficiently big and accessible?
- **PEOPLE:** Do we have access to world-class people?
- **FINANCE:** Can we really see a path to the financial resources needed for project completion? (Decreasing the risk of failure increases the value of the undertaking exponentially.

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Where Do We Put Scarce Resources? .II.


- **TIMING:** Will it happen in our lifetime? (The 4/2 rule)
- **TECHNOLOGY ASSESSMENT:** What does the competition know now and how could the competitive terrain change?
- **ALPHA FACTOR:** Do we really love it?
- Then do the **FINANCIAL ANALYSIS** (Break-even, ROI, NPV, EVA, Monte Carlo, etc) to make a final selection
- The **INNOVATION** needs to be exciting and intriguing but it also has to pay the rent

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Key Elements of Leadership:

The British author, historian and Thatcher Government adviser, **Paul Johnson**, in working with Maggie Thatcher distilled a list of 5 characteristics of a leader which resonated with me:


- **Moral courage**, over the long term.
- **Judgment** – this is different from IQ and generally reflects common sense.
- **A sense of priority** – a sort of understanding of the Pareto rule (the 80/20 rule).
- **Disposal of concentration and effort** – effective allocation of time and energy.
- **A sense of humor** – this is vital and often reflects both intelligence and a sense of security or confidence.

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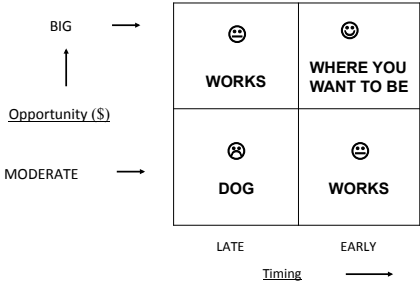
➤ Staff: From the West Point honor code:

'An officer who is not trustworthy cannot be tolerated.....producing outstanding **leaders of character** for our Army is predicated upon the functional necessity of **honesty**.'


At a high level we choose employees based upon:
1) Integrity, 2) Intelligence, & 3) Energy/Enthusiasm

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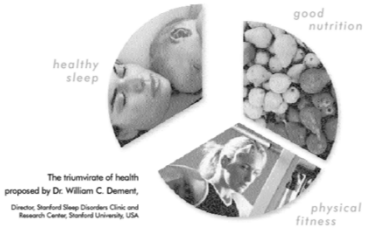
➤ Opportunity Selection




Andy Grove, INTEL

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➤ A Case Study: ResMed



The triumvirate of health proposed by Dr. William C. Dement, Director, Stanford Sleep Disorders Clinic and Research Center, Stanford University, USA


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Over Two Decades Ago!




SLEEP APNEA – A MAJOR PUBLIC HEALTH PROBLEM
EDITORIAL

- “Among specific sleep disorders, the most serious in terms of morbidity and mortality is obstructive sleep apnea.”
- “... it is time for the nation to wake up to the staggering impact of sleep disturbances on the health and welfare of our society, an impact that rivals that of smoking.”

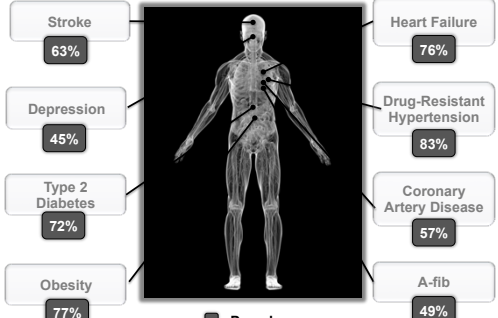
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Signs/Symptoms of SDB/OSA


- Hypertension
- Heart arrhythmias (AF)
- Morning headaches
- Depression
- Nocturia
- Reflux (GERD)
- Impotence
- Accelerated ageing/growth depression (Children)
- Exacerbated Type II diabetes/metabolic syndrome
- Cognitive dysfunction
- Excessive daytime sleepiness

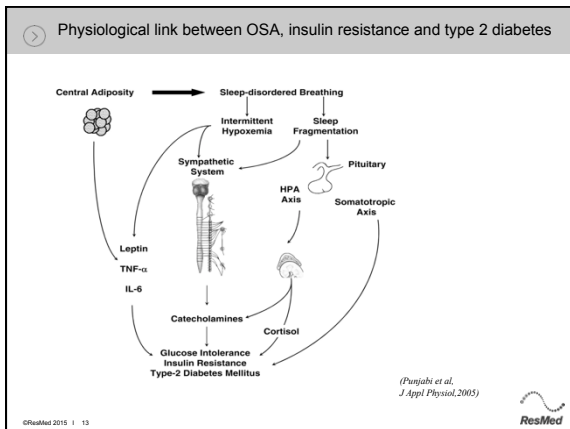
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Sleep apnea: *Highly prevalent in key diseases*



Condition	Prevalence
Stroke	63%
Heart Failure	76%
Depression	45%
Drug-Resistant Hypertension	83%
Type 2 Diabetes	72%
Coronary Artery Disease	57%
Obesity	77%
A-fib	49%

References: Logan et al. J. Hypertension; O'Keefe and Patterson, Obes Surgery; Oldenburg et al., Eur J Heart Failure; Einhorn et al. Endocrine Pract; Bassett et al. Stroke
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- SDB significantly impacts the 4 major causes of death (COD) in the Western World
1. Cardiac disease; 50% of patients seeing a general cardiologist have SDB/OSA at some level
 2. Cancer; SDB significantly accelerates death from solid tumors
 3. COPD; 57% of patients with moderate to severe COPD have significant SDB which causes acute exacerbations (RDS)
 4. Stroke/TIA; up to 75% of patients with stroke/TIA have SDB. Causal?
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Consequences of Untreated SDB/OSA

I want to die like my grandfather did - peacefully in his sleep, not screaming like the other passengers in his car...

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➤ The Holy Grail of Healthcare: *The treatment of SDB*


- Improves quality-of-life for patients
- Prevents and even reverses chronic disease progression
- Reduces costs of managing chronic disease



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➤ ResMed's Mission


To become the global leader in development, manufacture, and marketing of innovative products for the diagnosis, treatment, and management of sleep-disordered breathing


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➤ Overview of ResMed .I.

Leading global developer, manufacturer and marketer of medical solutions to diagnose, treat and manage sleep-disordered breathing, chronic obstructive pulmonary disease and other chronic respiratory conditions.

- Operates in more than 100 countries both direct and with distribution partners
- Integrated global manufacturing operations:
 - Australia, France, Germany, Singapore, and USA
- Key markets: Sleep-Disordered Breathing, SDB in cancer, COPD, and Cardio-Respiratory Conditions
- Invest ~8% of revenue in R&D
- More than 5,000 patents and designs
- Estimated FY 2015 annual revenue ~ US\$1.7 billion
- Approximately 4,500 employees world-wide
- Listed: New York Stock Exchange (NYSE) and the Australian Securities Exchange (ASX); market cap >- \$8 billion.




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> Overview of ResMed .II.


- ResMed has either the #1 or the #2 market position in all major markets in which we operate.
- ResMed made the *Forbes 200 Best Small Companies in America* for 10 consecutive years (1997 – 2006) until we became too big (> \$750M in revenues).
- Robust financial performance: 80 consecutive record top/bottom line quarters* since the 1995 IPO.

* Missed one bottom line result due to voluntary recall in 2007.


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> Sleep-Disordered Breathing: New Platform

- The ResMed AirSolutions Platform provides cloud-connected data access
- Provides value to patients, providers, payers, and physicians
- End to end solutions across the patient pathway: *diagnosis, therapy, management*

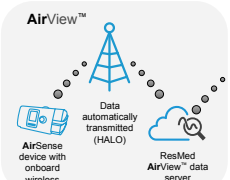


Diagnosis Therapy Monitoring Mgmt by Exception Remote Assist Coaching Self-Monitoring Billing

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> U-Sleep – Better Efficiency, Better Outcomes

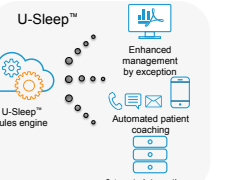
AirView™



Multiple Points of Value

- Improve Workflow Efficiency
- Improve Patient Outcomes
- Add Analytical Insight

U-Sleep™




Clinically-Proven* Efficiencies
Proven ability to maintain positive patient outcomes with significant reductions in labor

Results	90C Group	U-Sleep Group
AH	2.8 ± 3.8	3.0 ± 4.1
Medication Adherence	73%	83%
Mean Hours of CPAP Usage	4.7 ± 2.1	5.1 ± 1.9
Epsworth Sleepiness Score	5.1	5.8
Mean Minutes of Coaching	88.3 ± 25	33.8 ± 26

59% Reduction in Labor

*Source: AT2 Abstract A4670 San Diego May 2014

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➤ AirFit Family

The right fit for you

AirFit F10
AirFit F10i
AirFit F10v

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➤ We continue to build sleep apnea awareness

"Ignorance is our major competitor"

- "Better Sleep for Women" education and product focused campaign
- S+ by ResMed – consumer sleep management solution available online and retail; connected to Apple HealthKit

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➤ Our new respiratory care platform: **Astral**

ResMed introduces the Astral **life support ventilator** globally:





Designed to **enrich life** for patients


- Freedom: *patient quality-of-life*
- Ease of use: *saves clinician time*
- Low total cost of ownership: *efficiency*

reddot design award
product design 2014

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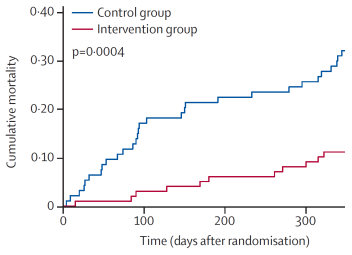
Broad respiratory care solutions


<p>Life Support Ventilation</p> <ul style="list-style-type: none"> Astral™ 100 and Astral™ 150 	<p>Non-invasive Ventilation</p> <ul style="list-style-type: none"> Stellar™ 100 and Stellar™ 150 S9™ VPAP ST-A with iVAPS 
<p>Bilevel Devices</p> <ul style="list-style-type: none"> VPAP™ S, VPAP™ Auto VPAP™ COPD - first and only FDA-cleared device for chronic obstructive pulmonary disease AirCurve™ 10 - always cloud-connected 	
<p>Adaptive Servo-Ventilation</p> <ul style="list-style-type: none"> S9 VPAP™ Adapt specifically designed to treat both obstructive and central sleep apnea. 	

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Non-invasive ventilation reduces COPD mortality


- Relative risk of death reduced by 76% over one year using long-term non-invasive ventilation (NIV) treatment in COPD patients
- One-year mortality in the two matched chronic obstructive pulmonary disease cohorts was: 12% (intervention cohort) versus 33% (control)



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Summary .I.


- SDB/OSA is a major public health problem on a level equivalent to that of tobacco smoking (NEJM April 1993)
- SDB/OSA is the major cause of hypertension which, in turn, is a major cause of heart disease and stroke, the #1 and #4 causes of death in most western countries. SDB/OSA also causes death from cancer, the #2 COD and is associated with COPD exacerbations, the #3 COD in the West.
- SDB/OSA is easy to diagnose and easy to treat; it has been shockingly neglected by the medical establishment

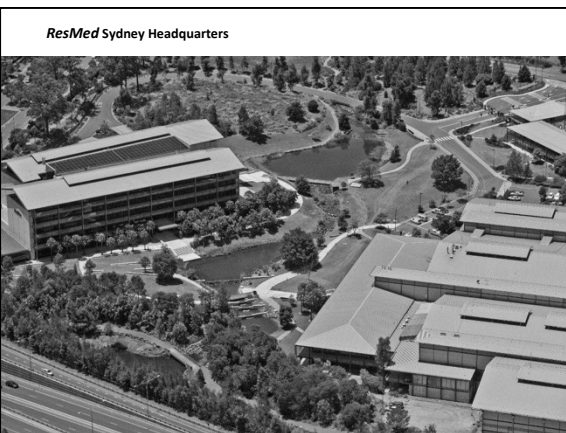
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➤ Summary .II.

- ResMed's biggest competitor is ignorance.
- ResMed is the leading global technology company in the SDB/OSA space; we have the track record to prove it.
- The SDB/OSA opportunity is a marathon and we are only lacing our shoes; it is time for the nation and the world to wake up to sleep

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Thank you