

Business Success and Learning from Failures

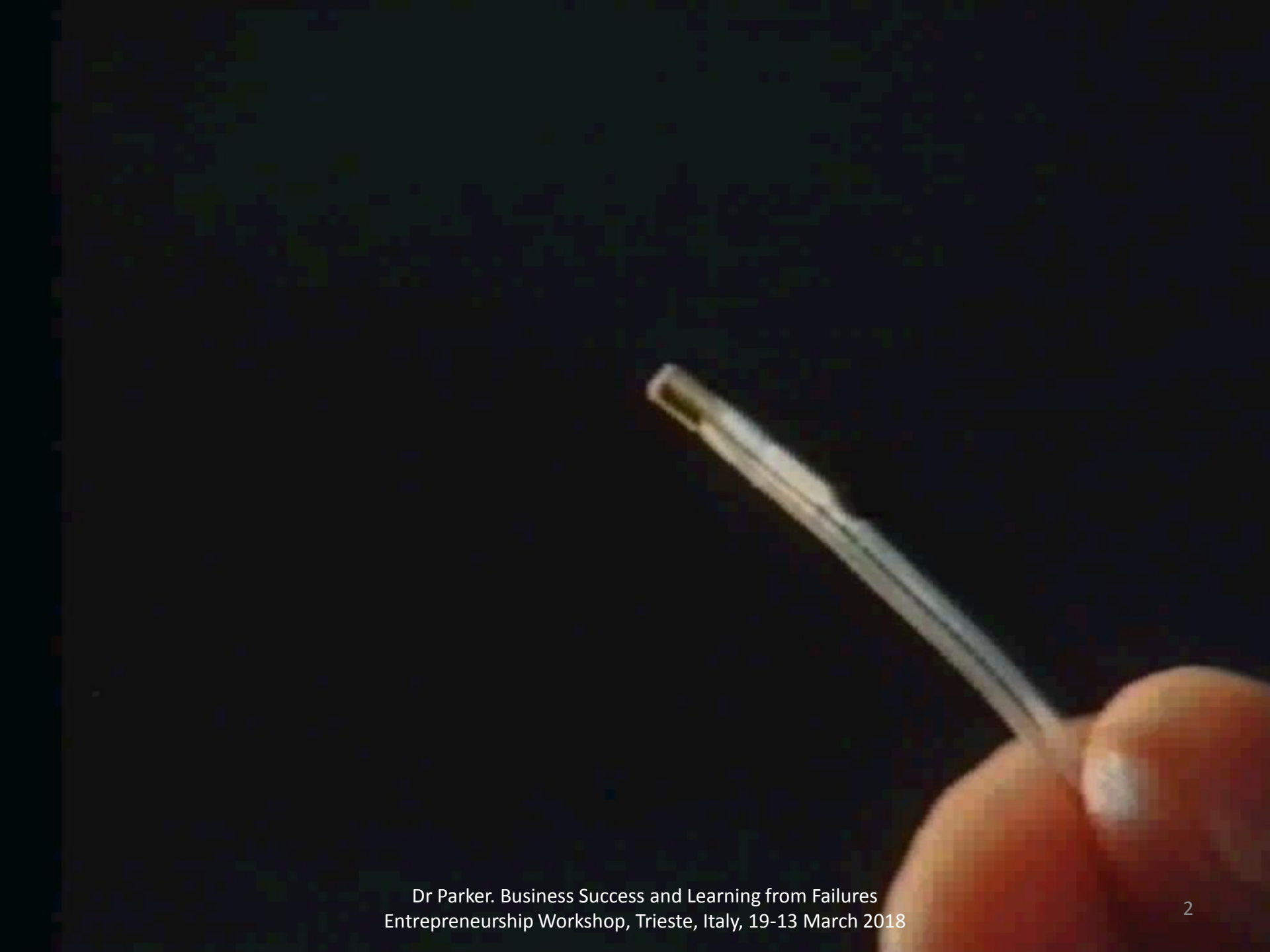
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ENTREPRENEURSHIP FOR SCIENTISTS AND ENGINEERS

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Commercial Decision

Assigned the Intellectual Property
to a major pharmaceutical
company in return for research
support and royalties.

NEOCATH 1000™

Umbilical Artery Oxygen Monitoring System

CONFIDENCE THROUGH EXPERIENCE

Biomedical Sensors have accumulated over ten years' experience working in the field of continuous PaO_2 measurement in the neonate, and have established an international reputation with the **NEOCATH 1000™** Umbilical Artery Oxygen Monitoring System.

The **NEOCATH 1000™** uses an umbilical artery catheter incorporating a Clark oxygen electrode at its tip, allowing direct continuous and accurate measurement of PaO_2 (the recognized parameter of oxygenation efficacy), with minimal physical disturbance to the baby. This is important as manipulation of the neonate... "can have a devastating effect on the premature infant's system", causing fluctuation of PaO_2 and possible introduction of infection.

The catheter is available in 4Fr and 5Fr sizes, to provide uncomplicated access to the aorta in the neonate of less than 1500g, typical of 26-30 weeks period of gestation. It is "as easy to insert as any other umbilical artery catheter".

The bipolar design obviates the need for a second electrode to provide continuity to the measuring circuit. Not only does this mean less connections to the patient, but it also ensures that the signal is not affected by electrical interference and muscle artifacts which could lead to erroneous readings.

The sampling lumen, with a smooth peripheral eye close to the tip, enables samples to be taken for calibration purposes, close to the measuring electrode. In addition, this access point permits continuous measurement of arterial blood pressure via a suitable transducer.

NEOCATH MONITOR – SIMPLE AUTOCALIBRATION FLEXIBLE OPERATION

During its history, the system has been regularly updated. Continuing development into this important clinical area has provided innovation aimed at improving accuracy, ease and security of use, and above all, levels of patient care.

A recent highlight of this active development process has been the introduction of the **NEOCATH 1000™** monitor.

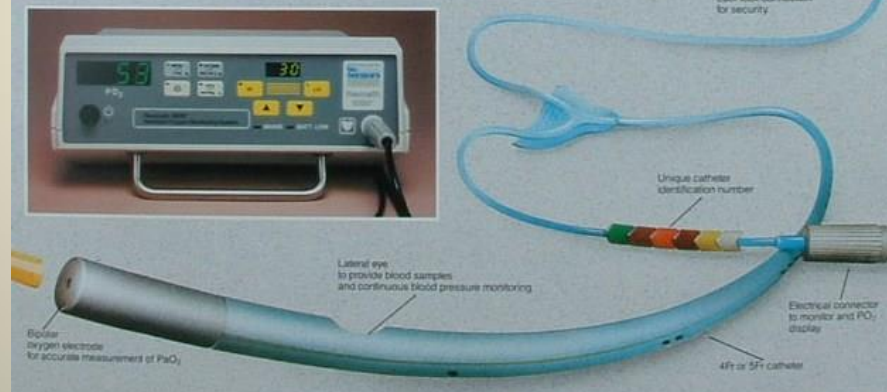
Biomedical Sensors' engineers designed this unit using a thorough analysis of customer experience to define the specification, while recognizing the need for easy and logical operation.

For example, a simple autocalibration sequence removes the requirement for calculations when results from the blood gas analyzer become available. Similarly, L.E.D. displays present readings of PaO_2 , and user selected alarm limits in separate displays; while individual L.E.D. indicators specify mode of operation, battery level, alarm status etc.

An internal rechargeable battery gives approximately 4 hours of continuous operation, or the monitor can run direct from an A/C supply ensuring universal availability.

The **NEOCATH 1000™** monitor is constructed to conform with the highest international safety standards, and to provide trouble-free operation.

Confidence in the system, allows more attention for the patient.



First Company

SIMPLE CONCEPT

- Immediate Order and Sales
- Company Acquired within 5 months
- Company Valuation – Mistake. Take advice (not easy to find)

Second Company

BRAIN OXYGENATION MONTIOR

- Exciting, complex laser physics
- Outcome – Neutral, no gain.
- Don't start a company on technology – too early stage.

Third Company

REMOTE PATIENT MONITORING

- Invasive → non-invasive → remote
- Pulse, Oxygenation

Commercial Decision

Sold the technology to
the pharmaceutical company
for a significant sum.
Application – not our objective.

Innovation-Driven Start-up

- Main Asset – Intellectual Property
- Determine if you have

FREEDOM TO OPERATE

Who is the Entrepreneur?

- Are you willing to appoint your own boss?
- Get it right

Equity

Equity is:

The ownership of a company, especially the right to share in the future profits or appreciation in value of the company.

Equity Investment

When you raise money for your company, your percentage ownership of the company goes DOWN.

Your objective is to make sure that the value of your company increases by enough so that even though you own a smaller percentage it will be of a much larger business – therefore even though your equity has decreased, it has attained real value which can increase further.

Equity Dilution

Example

You own 20% of a US\$1m company

Your stake is worth US\$200,000

By further developments, you raise the value of your company to US\$3m

You raise capital of US\$1m

This makes the “post-money” valuation of the company US\$4m

Your equity decreases by $\frac{US\$1m}{US\$4m} = 25\%$ of your original 20% (i.e. 5%).

You now own 15% of a company with cash of US\$1m

15% of US\$4m = US\$600,000

Value what you know

- Consultancies
- Technical Advisor

Raising Money

- Communicate Clearly
- Be very brief about the technology
- Don't humiliate – μ gas chromatography
- Realistic claims
- Get audience participation

Your Pitch Deck

- Profile of company
- Management team
- Very brief description of your novel and unique product and the problem it solves. Show prototype
- Target market, business opportunity, scaling up
- Competition
- Business strategy
- Route to market, milestones and timescales
- Risks and your contingency plans
- Restate what you're asking for – in a compelling way
- Invite audience participation – encourage questions and comments.

Overview

- It's not the idea, it's its execution
 - management team
 - who will be the entrepreneur?
- Value yourself, value your company
- Communicate clearly and appropriately
- Create a business plan
- Become skilled at raising money
- Be single-minded and tenacious