Boussignac CPAP System
For Acute Therapy
Introduction

Continuous Positive Airway Pressure (CPAP) has always been associated with expensive, bulky and complicated equipment. This has been tolerated because of the ventilatory support it gives patients, reducing intubation rates and relieving symptoms. Reduced intubation rates and a relieving of patient symptoms have a significant impact on the cost of patient care. Recent studies have estimated overall savings of approximately €3800 (£3000) per patient with Boussignac CPAP compared to conventional treatment.

In addition to cost savings, Boussignac CPAP has also overcome previous limitations of using CPAP. The design has allowed CPAP to become simple, lightweight and cost effective yet still perform as effectively as much larger and more expensive equipment.

Background

The Boussignac CPAP System began its journey to the medical marketplace on July 11th, 1973. On that day, a Varig Airlines Boeing 707 experienced a cabin fire and crashed at Orly Airport, Paris. Three severely compromised respiratory patients were transported to the Henry Mondor Hospital in Paris where Dr Georges Boussignac was the anaesthesiologist in charge of the ICU. Dr Boussignac determined that these patients needed high-flow oxygen and improvised a system to deliver CPAP. He secured a plastic bag and supplied it with low-pressure, high-flow oxygen around the patient’s head and placed an outlet hose in an 8-10cm column of water. This set-up maintained pressure against airway structures, keeping them open, whilst allowing the patients to breathe independently. The amount of pressure was regulated by changing the depth of the outlet hose within the column of water.

Understanding that most people would be uncomfortable with the concept of a plastic bag being secured around their head, Dr Boussignac then worked on a method of providing CPAP with a more open system. The result was the Boussignac CPAP valve, a 10oz plastic device that uses the physics of fluid dynamics to increase pressure when attached to a standard, well-fitting oxygen face mask.

Boussignac CPAP is feasible, medically effective and cost effective in the treatment of acute cardiogenic pulmonary oedema

Original CPAP set-up by Dr. Georges Boussignac.

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The Boussignac valve takes gas from a single source and splits it to create four high flow jets. These jets, travelling at the speed of sound, converge in the chamber creating turbulence. It is the turbulence that creates a virtual valve, providing resistance for the patient to breathe against. Increased gas flow causes increased turbulence and so creates a higher pressure. Unlike most CPAP devices, this system requires no valves or moving parts making it very...

...safe, simple and economic

Bernoulli Principle

The virtual valve works using the Bernoulli principle, which states that as a gas passes through a pipe that narrows or widens, the velocity and pressure of the gas varies. In the case of the Boussignac valve, as the pipe narrows, the gas flows more quickly.

Key Benefits

✔ The only complete open system
  - Tolerated better by patients as it is less claustrophobic.
  - Reduces risk of barotraumas.
  - Eliminates re-breathing.
  - Accommodates sudden changes in patient respiratory flow.
  - Allows use of a suction catheter.

✔ Gas flow driven system
  - Set-up time less than 2 minutes.
  - PEEP adjusted simply by changing gas flow.

✔ Does not require a flow generator
  - No investment in capital equipment.
  - No service or repair bills.
  - No expensive valves and masks.

✔ Star tubing
  - Eliminates risk of kinking.

✔ Small and lightweight
  - Easy to transfer patients.
  - Used in and out of the hospital environment.
Directions for Use
Using 100% Oxygen

1. Select the appropriate size of mask kit. Attach the Boussignac valve to the mask.*
2. Connect main line tubing to 30L/min oxygen flowmeter.
3. Attach PEEP gauge tubing to secondary port.
4. Attach narrow tubing into PEEP gauge.
5. With mask fitted to the patient adjust the oxygen flow rate to obtain the desired PEEP level using the CPAP pressure chart below.
6. Disconnect PEEP gauge tubing.
7. Re-cap port.

* The Boussignac valve can also be used on endotracheal tubes (6, 7) and tracheostomy tubes.

[CPAP Pressure Chart]

10

5

0

Flow - L/min

0

10

20

30

CPAP Pressure Chart

Simple to set-up and ready to use in less than 2 minutes
The Added Value of Training

What is the added value of training?
The added value of training is our commitment to you in support of ‘Best Practice’ programmes employed within your NHS Trust. Customer Service is foremost in Vygon’s approach. This extends to our product support and education programmes.

“our commitment to you”
✔ Bespoke In-Service Training
✔ Certificates
✔ Human Resources
✔ CD-ROM/Videos/DVDs
✔ Workshops
✔ Night Training
✔ Technical Support
✔ Literature
✔ Posters

Why is training of added value?
With the Government’s priority for health, demands on NHS Trusts are high. We can help you meet the training requirements set by the Department of Health for all grades of staff.

Our Sales Executives are educated to a standard that enables them to promote ‘Best Practice’ in line with current clinical guidelines. This means that in relation to our products, your staff can be updated and informed of changes relating to current evidence-based practice and guidelines.

Bespoke In-Service Training
Vygon can offer bespoke in-service training, in accordance with your Trust’s policies and procedures. This means that staff will not only learn about our products, but how they fit into every day patient care.

Workshops
Vygon can organise workshops for your NHS Trust to help you disseminate current practice guidelines, involving guest speakers and professionals from relevant fields.

Certificates
Vygon understand the importance of record keeping with regard to the training of staff on new products. Vygon can provide staff with personalised certificates of attendance and competence on completion of our workshops.

Night Training
Upon introduction of new products, Vygon can ensure your night staff are fully supported with education and training.

Technical Support
Our Technical Support Department handles technical enquiries about products, procedural advice and regulatory device issues.

Human Resources
Each customer has the support of their Sales Executive, Regional Sales Manager, Business Development Manager and Sales Support Agent to ensure training meets all needs and expectations. Our teams have the expertise and experience to ensure smooth implementation of your custom-designed programme, encompassing the requirements of your NHS Trust, Hospital, Department, Clinicians, Procurement and the Patient.

Literature
As well as supplying you with product information and order purchasing codes, our literature also has valuable educational information. This includes: practice information, instructions for use and clinical references.

CD-ROM/Videos/DVDs
Vygon provides training aids in the form of presentations and videos/DVDs to accommodate personal preferences for training.

Posters
Posters can be tailor-made to your requirements to ensure your NHS Trust’s protocol and policies are promoted in line with current practice guidelines.
Hospital CPAP Kit

The Boussignac CPAP system comes conveniently packaged in a foam padded case. This means that in an emergency all the items needed to provide CPAP can be found in one place. The case protects the equipment so that nothing is damaged and so that nothing gets lost.

The case has space for three disposable Boussignac sets: a small, medium and large. Each disposable set contains a Boussignac valve, one piece of PEEP gauge tubing, a harness and a face mask. This makes the process of setting up CPAP simpler, quicker and reduces waste.

Having all the disposables in one kit makes ordering simpler and means that you are not left with too many of any one component. This can save you a significant amount of money on unnecessary disposables.

Kit Contents
Small Boussignac Set
Medium Boussignac Set
Large Boussignac Set
30 Litre O₂ Flow Meter
PEEP Gauge
Directions For Use
Carry Case

Ordering information

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Boussignac CPAP Sets

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Boussignac Accessories

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References


Further Reading
