

EP-TRACER

Testimonials | User Reports | Scientific Abstracts



Dr. Tom de Potter
Associate Director
Cardiovascular Center
at OLV Aalst, Belgium



We use EP-TRACER 2 because of its **excellent speed**, high quality of intracardiac signals and ease of use. It enables us to quickly get to **precise and reliable results**. We feel that the new software is a **real improvement** and **most beneficial** to our studies.”



EP-TRACER 2
MobileCart





The **reliability** of the measuring stations help us very much in our challenges. In particular, the **excellent signal processing** and **display** support us in the diagnosis of various diseases."



Prof. Dr. (China)

Jin-Hong Gerds-Li

Department of Internal
Medicine / Cardiology;
Senior Physician,
Deutsches Herzzentrum
Berlin



Prof. Gian-Battista Chierchia
about the EP-TRACER

The EP device is the **most important tool** we have **for the diagnosis of arrhythmias**. By the means of catheters we can read the different electrical information in the various parts of the heart **on one screen – live**. The benefits of a **built-in stimulator** are easy to figure out because we have **one single device** instead of having two – a reader and a stimulator – which is from the space point of view and the user point of view much more useful. These systems can also be **mobile**. In our center we have more than one lab, some are dedicated to other disciplines. When we have a tough program we can do ablations also in these labs by just **moving** the mobile stimulator **into another cath lab**. That is an enormous advantage."



Prof. Gian Battista Chierchia
Director of the Atrial Fibrillation Program
University Ziekenhuis,
Belgium



Muhammad Munawar,
M.D., Ph.D. Senior
Interventional Cardiologist
Bina Waluya Cardiac Center,
Jakarta, Indonesia



The key features I like are automatic stimulation, **very good tracing**, clear recording, **portable** and **sturdy.**"

EP-TRACER 2
Portable



SMART. PRECISE. RELIABLE.



Prof. Pedro Brugada about the early days
of electrophysiology



This **clinical electrophysiology** in fact **started 1967** simultaneously in Amsterdam and Paris. There were first experimental studies with animals. Then they started to perform the first electrophysiological studies with men. This very primitive type of electrophysiological investigations continued to improve in the next years. Basically, let's say around the **late 70s, electrophysiology as we know it today** – of course without ablation – **started**.

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Prof. Pedro Brugada

Head of Heart Rhythm
Management Center
University Ziekenhuis
Brussels

At that time I was very happy that I was one of the fellows at the University of Maastricht with Professor Hein Wellens who were there at the very start of this new electrophysiology area. And of course in **the 80s that was a time of a lot of discussions, a lot of developments**. It was a very interesting time to be there."



Cardiac electrophysiology

is a relatively young subdiscipline of cardiology and internal medicine. It was developed during the mid-1970s by *Hein J. J. Wellens*,

professor of medicine at the University of Maastricht in the Netherlands and attending cardiologist at the Academic Hospital in Maastricht. In 1980 the first microprocessor based

stimulator was developed there, which led to the foundation of the Maastricht-based company CardioTek.

Source: "Cardiac electrophysiology"
From Wikipedia, the free encyclopedia

USER REPORT | ON THE ROAD WITH THE EP-TRACER PORTABLE

EVERYTHING IS IN THE SIGNAL

Prof. Josep Brugada in humanitarian missions abroad



EP-TRACER Portable

Since 2013, when Professor Josep Brugada gave up his managerial role as Medical Director at the Hospital Barcelona in favor of his humanitarian operations in Africa as an electrophysiologist, he has been on-site regularly to help the people with his knowledge and skills.

Prof. Brugada travels about three times a year to the Egyptian Aswan and two times a year to Maputo in Mozambique to perform procedures. At the Aswan

Heart Centre the treatment is free of charge thanks to numerous donors. As one would expect, the number of people who are looking for help from the centre is correspondingly high, many coming from far away, for example Sudan and Ethiopia to seek treatment.

Small logistical and human challenges

The equipment of the Aswan Heart Centre is generally good, but there is a lack of specialist medical personnel,

specifically in electrophysiology. Josep Brugada thus uses his regular visits not only for the treatment of patients with arrhythmias: “The continuity of my visits to Aswan is important to lead the local team to independence” he says.

Despite the good equipment, the journey there every time is a small logistical challenge, as special materials must be brought from Barcelona. It is critical and an advantage if the equipment required is as small as possible and easy to handle. “The EP-TRACER Portable fits into a small travel bag and can be carried as hand luggage – a big advantage for our work”, states the Professor.

Help for many – thanks to simple and effective handling

Brugada describes his missions in Aswan as strictly coordinated. He arrives on Friday, conducts treatments from Saturday morning until Monday evening and returns on Tuesday, in order to use as few of his team’s vacation days as possible. “This works only if the equipment can be set-up and used without delay” says Prof. Brugada. The EP-TRACER Portable is operational in a few minutes. Then everything must be fast: “Every day we treat an average of 12 to 15 child and adult patients”.

Josep Brugada stresses that the treatment of the sick is his main objective, but the on-site training of doctors contributes significantly to the sustain-



Help, also for the smallest



Prof. Brugada and Dr. Mohamed Elmaghawry, the electrophysiologist at Aswan Heart Centre



Prof. Brugada and Prof. Magdi Yacoub, the founder of the Magdi Yacoub Foundation the Aswan Heart Centre belongs to

“The incredible quality of the signal from the EP-TRACER helps me, quickly and efficiently to deal with even the most complex cases!”

Prof. Josep Brugada

able improvement of the overall situation. They learn while Brugada performs the procedure.

The advantage of the EP-TRACER Portable, explains Prof. Brugada, is primarily that it allows the user to control the system and carry out the procedure at the same time. “Most comparable systems require two people for effective operation. Because of the fully-inte-



With a nurse (also patient) in Aswan

grated stimulator, the EP-TRACER is the only system that can be operated by a single person – using only one keyboard.”

Manage the chaos through speed

Things look a little different with the humanitarian missions of the team in Mozambique. Brugada travels to Maputo each time with a nurse and a volunteer. The journey is much more cumbersome and complicated and the local situation differs considerably from the situation in Aswan.

Prof. Brugada describes his campaigns in the two heart centres in which he practices, sometimes one day after the other, as very different situations. While the facilities in the Heart Foundation Centre, an old military hospital, are good, the situation at the public hospital can be chaotic and aimless.

With Melanie, the very first patient treated in Mozambique



Prof. Josep Brugada controlling the EP-TRACER during a procedure



Logistical challenge: a full-fledged EP-lab on the loading area of a pick-up

“As no preparation is possible, also because some patients are travelling from the northern regions of the country, 2,500 km away, there are often chaotic scenes, which you only can counter through speed in the diagnosis and treatment” he reports. Working under constant time pressure, the team manages to treat 15 to 20 patients per day. With the

“The EP-TRACER Portable fits into a small travel bag and can be carried as hand luggage.”

Prof. Josep Brugada

EP-TRACER Portable, the treatment of arrhythmias can be carried out swiftly.

“All the information is in the signal” says Brugada

“The incredible quality of the signal from the EP-TRACER helps me, quickly and efficiently to deal with even the most complex cases!” Through this the likelihood of successful treatment increases

dramatically. This is especially important when treating patients in multiple centres as repetition of treatment is not feasible.

Melanie

After being asked about his most memorable case in these three years, Josep Brugada tells the story of his first patient in Mozambique. He met Melanie, then a 12 year old girl, during his first mission at Maputo Heart Centre. Enquiring after her condition, she showed her bare neck and Brugada saw the obvious signs of a serious incessant tachycardia; her carotid artery pulsed extremely visible and incessant.

After Melanie’s treatment, during which Prof. Brugada ablated three accessory pathways, he met her the next day happily walking around the hospital. When asked how she was doing, she merely bared her neck and Brugada is still deeply moved when he describes: “I was so richly rewarded and was so happy that I no longer saw a visible pulse. Melanie was again a normal girl”.

Brugada’s summary at the end: **“Without the EP-TRACER Portable I could never carry out these missions.”**

“Most comparable systems require two people for effective operation. Because of the fully-integrated stimulator, the EP-TRACER is the only system that can be operated by a single person – using only one keyboard.”

Prof. Josep Brugada



A heart patient in Maputo after successful treatment together with a local nurse and Mariona, the nurse that participates in all missions

→ BIO



**Prof. Josep Brugada
Terradellas, MD, PhD, FESC**

Cardiologist, Specialist in Biology and Sport Medicine, MBA Management in Health Services. Medical Director of Hospital Clínic de Barcelona, head of the Arrhythmia Section of the Pediatric Hospital Sant Joan de Déu and Past President of the European Heart Rhythm Association.

So far, he has published more than 300 original papers in the most relevant international journals. Prof. Brugada held also the post of Deputy Editor of the European Journal of Cardiology. He is member of several scientific societies and is Professor of Medicine at the University of Barcelona since 1998. Regarding the field of research, he discovered, treated and found the genetic cause (along with his brother Pedro and Ramon) of a rare syndrome causing Sudden Death, which is known in the scientific literature as “Brugada Syndrome”.

USER REPORT | ON THE ROAD WITH THE EP-TRACER PORTABLE

IMMEDIATE USE AND FLEXIBLE HANDLING

Dr. Marc Zimmermann and his humanitarian project in Georgia



EP-TRACER Portable

As a member of the advisory board of the Swiss foundation “Fondation Cœur de la Tour”, Dr. Marc Zimmermann is no stranger to humanitarian projects. Founded in 1984, the aim of the foundation is the reduction of the rapid increase in cardiovascular diseases in developing countries. So far projects have been supported in Cameroon, Nepal and Sarajevo.

Under his direction, medical development projects, such as one running since 2004 at the Central Hospital of Yaoundé in Cameroon, are carried out with the focus of training of doctors in cardiology. Since 2015, he is now also performing missions in Tbilisi, Georgia. His col-

league, Dr. Vladimir Velebit, enthusiastically started a project there in 2004 in cardiovascular surgery, which Dr. Zimmermann implemented with his expertise as an electrophysiologist.

Largely unknown technology

Indeed, much has improved in the Georgian health system since 2008, through

the privatization of hospitals. Still, much remains to be done: “In the history of the country until now, about half the number of ablations have been performed that would be performed in Switzerland in a single year”, states the electrophysiologist.

Of the many new or renovated hospitals in Tbilisi and the surrounding area,

only ten were private, of which just seven are equipped for electrophysiology. Nevertheless five of those seven carry out only an average of approx. 15 to 40 ablations per year. “The technology is largely unknown and the methods simply not established yet”, according to Dr. Zimmermann.

A further hurdle: bureaucracy. Billing the cost of treatment represents a challenge. Depending on the condition and age of the patient, they must check with the state health department whether the patient can be treated or whether coverage of 70% of the costs is possible. The patient must then cover the remaining 30%, a fact that blocks access to treatment for many patients. The unemployment rate in Georgia, and especially in Tbilisi, is staggeringly high, Zimmermann reports.

The value of quick success

In general, prevention is a weak point in the Georgian health system and the information provided, for example, in explaining the danger of recurrence in the case of heart attacks, is rudimentary. “Since many diseases may require re-



EP signal



Laptop-based EP-TRACER Portable with connection to larger monitor

“The Portable allowed for immediate use and flexible handling. Also the predictable financial commitment made it the right choice for us.”

Dr. Marc Zimmermann

peated treatment, a long-term, sustained recovery is often very difficult to achieve”, regrets Dr. Zimmermann. Because of this, the success rate of the initial treatment becomes even more important.

The project on the Open Heart Hospital in Tbilisi

A private investor completely renovated the Open Heart Hospital, in which the project is running, and it equipped it with a modern cardiology department. It was opened in June 2015. Already in April of this year, Marc Zimmermann travelled to Tbilisi in order to inspect the department and review the development plan for the project.

Manageable financial commitment

Since the project is still in its infancy, he wanted at this time that the Fondation du Cœur de la Tour first see how it starts and develops. The advisory board avoided coming in with a large investment, due to lack of previous experi-

ence demonstrating the responsible investment of large sums of money. This necessitated the requirement for a mobile, flexible system and thus, in 2015 the EP-TRACER Portable had been acquired. The EP-specialist summarizes his decision: “The Portable allowed for immediate use and flexible handling. Also the predictable financial commitment made it the right choice for us”.

The project is proceeding right on track. Dr. Zimmermann is now spending one week every two months in Tbilisi. He is accompanied by Lionel Agnoletti, a technician that also has a nursing training. “We have already performed three missions, with great success. The first visit was in September 2015, then the second in December and in February 2016 the third. The next trip is already planned for the beginning of July!” he says.



Dr. Zimmermann in conversation with Lionel Agnoletti

“The signals themselves are really very good! And the device itself is so easy to install: laptop, connect monitor – finished in 10 minutes.”

Dr. Marc Zimmermann



Training of the young colleague in Tbilisi

On site is a young, unexperienced electrophysiologist, which the team continuously trains during their missions. They plan that, one day, he will lead the project independently.

Fast set-up

In the cathlab, the EP-TRACER Portable is connected to a big monitor, allowing a larger display for the signals. “The signals themselves are really very good! And the device itself is so easy to install: laptop, connect monitor – finished in 10 minutes”, is how the he doctor describes the simple system design.

Also in complex cases no problem

Even the most complex cases present no barrier for Dr. Zimmermann and the EP-TRACER Portable. He describes

the case of a 14 year old boy, who at the time suffered from three different arrhythmia substrates. In September 2015, Dr. Zimmermann treated him for the first time. After relapse, a re-treatment followed in December. Since then he is going well. “The case was so challenging and complex that the Powerpoint presentation that I have prepared to show to colleagues takes up a full 52 pages”, he insists.

For now the project is limited to Tbilisi, however **“...the device may be used at any time somewhere else, in addition to every two to three months in Tbilisi. Why not in Nepal or Cameroon or elsewhere?”** Marc Zimmermann sums up happily.

The project in Tbilisi is supported by the “Fondation Frédéric et Jean Maurice”, Geneva. The foundation is dedicated to promoting access to adequate medical treatment, especially in developing countries.

→ BIO



Dr. Marc-Etienne Zimmermann

Dr. Marc-Etienne Zimmermann has a long professional background in cardiology.

He developed invasive clinical electrophysiology at the University Hospital of Geneva. His main interests focused on invasive electrophysiology and catheter ablation, electrocardiography and signal-averaging techniques, pacing and implantable defibrillation.

Since 1997, he developed clinical electrophysiology and radiofrequency catheter ablation at the Hôpital de la Tour, Meyrin, Switzerland, a private hospital mainly involved in the treatment of cardiovascular diseases. Zimmermann is Head of the Clinical Electrophysiology.

Apart from more than 100 publications in the field of arrhythmias, he gave several hundreds of talks in that domain and has been responsible for teaching electrocardiography at the medical school of the University Hospital of Geneva until 2014 (privat docent from the medical school of the University of Geneva).

More information on www.schwarzercardiotek.com

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