



History of oncothermia and their devices



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Objective

Oncothermia concept was found when the company was established, however the way of realization is a long process, having various steps forward and sometimes dead-ends. Our objective to show the history of oncothermia through its devices, giving a picture how stable development was achieved by the years, and conclude with a lesson how to go further.

Description

The university spin-off in 1988 was based on a biophysical idea. The medical value was added with the first device in use. This was the "Ducal" device, (started to work in 1988 at Clinic St. Georg, in Bad Aibling, Germany). This was a galvano-device, which was on exhibit in the first Congress of ECT knowledge in Beijing, China in 1991. The next step was a non-invasive device the very first EHY (1992) and parallel was further developed the galvano technique. (ECT) which reached the German GS-approval in 1994. The first EHY2000 was produced in 1994 and reached the CE sign (first ever in the category of hyperthermic oncology according to European medical device Directive) from TÜV Munich, Germany in 1998. In the meantime the first intraluminal device (PCT) was developed on the same theoretical basis like the previous devices, and was in clinical probe in 1995, and the first whole body hyperthermia (WBH) was also parallel developed and tried in 1997. (Its moderate version (MSH) was launched in 1999.) In 2001 a venture capital was invested to the company, and Oncotherm GmbH was established in Troisdorf in 2002. The first device for this company was developed and launched in 2004 (EHY2000plus). The first multi-local device (EHY3000 series) was shown in 2008, and soon, less than a year later, the first very modern intraluminal devices (EHY1000 series) were placed on the market. Parallel with the oncological hyperthermia Oncotherm had developed very unique devices for special use. For a special request a device for asthma treatment (REY) was developed in 2000, and for laboratory use (in vivo and in vitro applications) a high precision device series (LabEHY series) was launched in 2006. This was extended with a special temperature measuring device (EHYTS). A non-treating (non-curative only complementary) small device was developed in 2009 (ChemoBooster), which is for boosting any chemotherapy efficacy. Our new field the andrology, and the first probe device had been appeared in 2010 (AndroTherm).

All the developments from the beginning had ideas of fractal physiology and such modulation!

Medical challenge: modulated electric field application

The start (1985-88) in the private flat ...



The first – Electro cancer therapy (ECT)



Medical challenge: Non-invasive solution

The first – non-invasive solution – Electro-hyperthermia (EHY)



Technical challenge: The electrode optimizing (electrode construction is a key element of the proper treatment!)



Technical challenge: The shielding & electromagnetic compatibility



Challenge with invasivity again – ICT

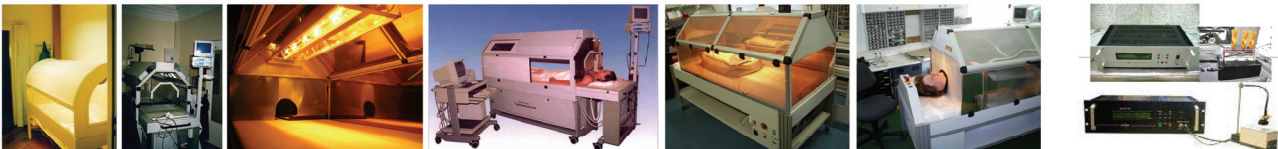


New medical challenge: distant metastases – whole body hyperthermia (WBH)

The extreme solution

The moderate (fever) solution (MSH)

Laboratory needs (LabEHY)



Revolutionary solution for distant metastases – multilocal treatment



New medical challenges:



Medical challenge for intraluminal application



Conclusion

Oncotherm company and its method is based on stable scientific, medical and technical knowledge with specially developed details for the actual tasks in every devices. Our long time expertise made possible developing a completely new technology and reaching the present status: **Oncothermia is matured for acceptance!**