



## International Scientific Committee of Ozone Therapy ISCO3

### The pioneer of the Modern Ozone Therapy: Professor VELIO BOCCI

by

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## The pioneer of the modern ozone therapy: Professor VELIO BOCCI

by

Roberto Quintero, ISCO3 Legal Advisor <sup>1</sup>

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The sensibilities for the sick people and looking for the best available and less expensive means to cure them, has been one constant features of the Italian Professor Velio Bocci, to the point that most of his entire life has been devoted to helping those in need of scientific medical assistance. In a similar way as his Siena ancestor countryman Giacomo Sansedoni did. A picture of this prominent physician is at the walls of the Siena Santa Maria della Scala Museum painted by the Siena Baroque painter Bernardino Mei (XVII Century)

This physician of the XVII Century Giacomo Sansedoni decided to donate all his library and important wealth to the Siena Santa Maria della Scala which was one of “the first hospitals in Europe, with its own organization set up to care for pilgrims, assist the poor and provide for abandoned children.”

(1000 years of life [http://www.santamariadellascala.com/w2d3/v3/view/sms2/storia--22/index\\_en.html](http://www.santamariadellascala.com/w2d3/v3/view/sms2/storia--22/index_en.html))

### Soon contact with the death

Son of a very religious mother and an artistic father, Professor Bocci first direct and cruel contact with the death occurred when he was about 14. He saw his best friend dying of military TBC, incurable at that time; a few years later his partner in collecting fossilized fishes to clarify the crucial role of evolution on Earth and living species, the experienced biologist Professor N. Benacchio died for an acute peritonitis on July 1944. Actually these tragic events impelled him to study and become a physician.

### Physician vocation and meeting the love

His interest for the medicine was so high that although he had been awarded a disliked accountant degree, he enrolled as a medical student at the University of Siena. From the very beginning he excelled being the first of his course to be awarded the Medical Doctor degree in July 1954 with 110/110 cum laude.

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<sup>1</sup> The author wishes to thank Professor Velio Bocci and his daughter Erica to allow him to have access to the Professor's personal papers and to have put aside time to provide information for the writing of this brief paper. Without their assistance and support this document could not have been written. Actually most of the written was taken out from Prof. Bocci own papers.

Based on his solid education and always looking for ways how to improve his knowledge and provide a much better services to his patients, he was awarded a fellowship for specializing (September 1955) in Respiratory Diseases at the famous Sanatorium in Rome, named to Carlo Forlanini, the inventor of pneumothorax in 1882.

In addition to his qualities, Professor Bocci was lucky enough because in the same Sanatorium he met the physiotherapy specialist Helen Carter Balston getting married in August 1959. Since then she has been his only love, along with his daughter a music teacher at the Siena Conservatory Erica Margaret, and his son the associate professor of art at the Georgetown University in Washington, DC. Roberto. Professor Bocci keeps saying that he “has been very fortunate to always have Helen, Erica and Roberto always standing by him and encouraging his research work.”



## A journey devoted to the knowledge, research and teaching

His two most difficult years in the research area started by the end of 1957, when he became an assistant in the Institute of Physiology at the University of Siena. He had to learn and perfect the method of the isolated heart perfusion by trial and errors. It was a worthwhile effort because he learnt that you make a step ahead every time you learn from your mistakes.



During three years (1959-1961) he worked in Biophysics, with A.S. MacFarlane at the National Institute for Medical Research in London.

Having been awarded a NATO fellowship he worked with H. McIlwain in Biochemistry at the Maudsley Institute in London (1964-1965) and he fondly remember a few Sunday's walking in the London parks with Helen and children.

With the interest of learning more and knowing how important and stimulating is to work with the best scientists, he and his family went to the University of Buffalo from 1967 to 1969. Prof. R. Winzler awarded him a Buswell and Fullbright fellowship and he enjoyed very much to do research in an excellent Biochemistry department. He is very glad to remember how Helen and the children enjoyed to go and see the nearby Niagara Falls.

His studies, work and research abroad practically ended in 1971, when he was appointed Professor of General Physiology at the University of Siena, Italy and from 1978 to 2002, Director of the Institute at the Faculty of Pharmacy. He spent brief periods in Biochemistry at the University of Uppsala (1972) and in Neurochemistry at the University of Gottingen in 1976. Owing to the fact that he felt that blood is a wonderful fluid, he also specialized in Clinical Hematology at the University of Florence (1975).

On the whole Professor Bocci fields of research include important subjects such as plasma protein separation by different methods, radioisotope-labeling and then studies of plasma proteins turnover, neurochemistry of isolated neuronal cells and several aspects of erythrocyte metabolism.

By using his expertise in the study of protein metabolism and of analyzing results obtained by isolating and perfusing organs such as liver, kidney, lungs and heart, during the period 1967-1990 he became the world leader on the metabolism, pharmacology and physiological significance of interferons. The achieved results have been highly cited in many international journals and Encyclopedia.

More recently, he became attracted by the possibility of inducing an endogenous production of interferons and other cytokines using ozone. He has written that he felt "a lucky man because towards the end of my academic life, in 1988, by mere accident, I stumbled on the ozone problem that although quite controversial, is a real trouble." Since 1991, he has contributed crucial research papers by clarifying the basic mechanisms of action of ozone regarding its biological effects aiming at making ozonotherapy a truly scientific endeavor.

He has personally contributed to develop three clinical trials, of which two at the Siena University Polyclinic: the first regarding age-related macular degeneration (dry form)



(1996-2001) and the second regarding chronic limb ischemia (2002-2005). Both studies, reported in international journals, have well clarified the great advantage of ozonotherapy in comparison to orthodox treatments. A third study (1998-2000) was performed at the hospital at San Patrignano (Rimini) to evaluate the effect of ozonated autohemotherapy in HIV infection. An improvement of the quality of life was noted but the infection was not modified.

Moreover, he has gratuitously practiced ozonotherapy in a charity clinic (Misericordia at Taverne D'Arbia, Siena) from 2005 up to March 2008: While excellent results were achieved in various ischemic diseases, with the exception of a transitory feeling of well-being, preterminal cancer patients with liver and lungs metastasis, previously heavily treated with chemotherapy, did not show any improvement.

## **Dissemination of the ozonotherapy**

Professor Bocci has given seminars on problems related to interferons and ozone therapy in several Italian, English, Belgian, Dutch, Greek, Swiss, German, Russian and American Universities and has participated during numerous international and national Congresses as session chairman and speaker.

He is the author of about 480 publications and monographs, mostly published in international, peer-reviewed journals including a book on Interferons (1993) and three books on oxygen-ozone therapy (2000, 2002, 2011, 2<sup>nd</sup> edition). The last two are in English: "Oxygen ozone therapy. A critical evaluation", pag 1-440, 2002, Kluwer Academic Publishers Dordrecht, The Netherlands and the second: "Ozone. A new medical drug", pag. 1-315, 2011, Springer, Dordrecht, The Netherlands. The second edition of the latter book has been just printed. So far, these books have been translated into Chinese, Japanese, Greek and hopefully into Spanish soon.

## **Triumphs obtained**

In 1995, he was awarded the Hans Wolff prize for innovative researches in the field of ozonotherapy. By considering him the top expert of ozone therapy, the International Ozone Association (Zurich) invited him to hold the lecture on "Ozone in Biology and Medicine" at the International Ozone Symposium (Basel, October 21-22 1999) during the 200<sup>th</sup> Anniversary of the birth of the ozone discoverer C.F. Schönbein. He was awarded the "Stramezzi" prize for his books on ozonotherapy by the Academy of History of Medical Art in Rome (October 2003).



The Ministry of Education has nominated (May 2003) him Emeritus Professor at the Department of Physiology, University of Siena.

## Difficulties and obstacles: Permanent companions of the pioneer

Professor Bocci achievements in the research and dissemination field have been accompanied by disappointments and obstacles of different sorts. In his own city, – Bocci wrote in 2006 - the Siena hospital chief doctor was always concerned about the legal aspects of the ozone therapy, because “if the patient dies he will be accused of having used a non-validated therapy. The Ethical Committee also refuses to give permission for a trial because there is not yet any prospect that ozone therapy could represent a valid support.” Prestigious journals such as the New England Journal of Medicine and FBRM have not given him the chance of opening a scientific dialogue on ozonotherapy. The World Health Organization (WHO) according to Bocci’s words “has remained disinterested” on the usefulness of biooxidative therapies.

Professor Bocci knows quite well the difficulties in advancing the ozonotherapy because of lack of financial support to conduct enough research. In a paper dated 2005 he clearly expressed the problem for the research: One of the problems of the ozonotherapy “is the lack of financial support for performing controlled and randomized clinical trials, the results of which are critical and urgently needed to prove the validity and atoxicity of zone therapy in various diseases. Objective results from clinical studies represent the unique possibility of convincing the biased opponents of this approach. The private ozone therapist, or even the small existing national associations, in comparison to the pharmaceutical industries that can register an annual profit of billions of dollars, have no financial power and how can an ant compete with an elephant?”

In his presentation at the International Meeting of Ozone Therapy Schools organized by AEPROMO in Madrid in 2010 the Professor Bocci said: “It is unpleasantly surprising that in the field of complementary medicine oxygen–ozonotherapy is not even mentioned because it is a recent development but mostly because it has no sponsors. Although the development of this topic has clearly shown to be well within the classical biochemistry and pharmacology, in contraposition to homeopathy, acupuncture, aromatherapy, Ayurveda and Chinese medicine, it remains unknown.”

Professor Bocci is currently a retired person from the academic field and has recently said that he is very disappointed for the extremely slow clinical progress and the minimal, if any, recognition of the validity of ozonotherapy within orthodox Medicine. However, he continues in the path of continuing fighting for the ozonotherapy recognition. Instead of going to enjoy a well deserved retirement, he has put aside time to continue helping the development of the ozonotherapy and has willingly accepted the



Presidency of the International Scientific Committee of Ozonotherapy (ISCO3). Dr. Bocci hopes to be able to continue working with the expectation to see one day ozonotherapy included among the orthodox medical armamentarium. However, to achieve this goal controlled and well performed clinical trials remains of vital importance.

For his satisfaction he has warmly welcomed the legal advances done by the ozonotherapy in Cuba, Russia and Spain (in eleven out of 17 of its States) where this therapy has been regularized by the health authorities. In his own country, ozonotherapy has been also the object of regularizations at the Regions (States) of Cremona, Lombardia and Marche and by rulings of the Administrative Court in the Region of Lazio. He continues encouraging ozonotherapists to devote time and knowledge to regularize the ozonotherapy in their own countries.

The legacy of Professor Bocci is clear: “The antagonism of Health Authorities is responsible for delaying the application of ozone therapy to billions of patients and we must do the maximal effort to break this situation.”

## Role of the women in the world

One feature not well known from Professor Bocci is his own research on women. He has published two books in English on social problems regarding the role of women in the modern society. He felt the absolute need of writing these two books: the first one entitled: “Only women can avoid the Extinction of the Human Race” (Aracne Ed. Rome, 2<sup>nd</sup> Ed. 2009, pp:1-264), describes the tragic history of mankind. Based on scientific data, it is proposed to re-evaluate and support the role of women in our society.

The second book entitled: “Women at the Helm” (Arena Books, Bury St. Edmunds, UK, 2009, pp:1-156); describes a road map for human survival from a scientific perspective. Crucial genetic, hormonal and brain differences, with the added factors of pregnancy, lactation and child rearing, have made women not superior to men but quite different. If women will have the chance to be a real guide, mankind will have a future, affirms Professor Bocci.



## Basic publications of Professor Bocci on ozonotherapy

The following five papers briefly give a fair idea of the basic biology and usefulness of ozonotherapy in Medicine:

- (1) Scientific and medical aspects of ozone therapy: State of the art. Archives of Medical Research, 37 (2006) 425-435.
- (2) Is it true that ozone is always toxic? The end of the dogma. Toxicology and Applied Pharmacology, 216 (2006) 493-504.
- (3) The case for oxygen-ozonotherapy. British J. of Biomedical Science, 64 (2007) 44-49.
- (4) Basic Biological and Therapeutic effects of Ozonotherapy in Human Medicine, Review published by UNESCO-EOOLS Encyclopedia, 2008.
- (5) The ozone paradox: ozone is a strong oxidant as well as a medical drug, Medicinal Research Reviews.29, (2009) 646-682. All the other papers can be traced in PubMed.

The second edition of his book “A new medical drug”, 2nd ed., 2011, XXI, 315 p. 25 illus., Hardcover, is available at Springer:

(<http://www.springer.com/medicine/book/978-90-481-9233-5?changeHeader>)