

Robert O. Becker

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Robert Otto Becker (May 31, 1923 – May 14, 2008) was a U.S. orthopedic surgeon and researcher in electrophysiology/electromedicine. He worked mainly as professor at Upstate Medical Center in State University of New York, Syracuse, and as Director of Orthopedic Surgery at the Veterans Administration Hospital, Syracuse, New York.^{[2][3]}

Becker was known for his work in bioelectricity and leading the early opposition to high-voltage power lines.^[3] He has been named as one of the most influential figures in the area of anti-EMF activism.^[4]

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	Robert O. Becker
Born	May 31, 1923 River Edge, New Jersey
Died	May 14, 2008 (aged 84) Lowville, New York Death caused by pneumonia^[1]
Residence	United States of America
Fields	bioelectricity electromedicine
Institutions	Upstate Medical Center at State University of New York Veterans Administration Hospital
Alma mater	Gettysburg College New York University School of Medicine
Known for	Father of Electromedicine Electrochemically induced cellular regeneration
Spouse	Lillian Janet Moller
Children	3

Early life

Becker was born May 31, 1923 in River Edge, New Jersey to Otto Julius Becker and Elizabeth Blanck.^{[2][3]} He earned a bachelor's degree from Gettysburg College in 1946 and a medical degree from the New York University School of Medicine in 1948.^{[2][3]} Becker was an intern at New York's Bellevue Hospital, then completed a residency Mary Hitchcock Memorial Hospital in Hanover, New Hampshire.^{[2][3]} Serving in the United States Army from 1942 to 1946, during World War II.^[2] Becker also served from 1951 to 1953 in the United States Army Medical Corps.^{[2][3]}

On September 14, 1946, Becker married Lillian Janet Moller in New Canaan, Connecticut.^[2] They resided in New York City and Valley Stream, New York before settling in Syracuse in the late 1950s.^[2] There, Becker joined the SUNY Upstate Medical Center.^[3]

Research

Becker has been credited with furthering the awareness of the scientific community to the study of electric potentials in organisms.^[5] His work showed that living organisms and animals show a direct current of electric charge which is measurable from their body surface.^[5] In the 1960s Becker's research also showed that living bone can piezoelectrically generate electric potentials,^[5] which led to work on using electricity in the treatment of ununited fractures.^[6] Ultimately, however, the use of electrotherapy for increasing bone healing has not been shown to be effective.^{[7][8]} Becker mentioned in *The Body Electric* that this may have been because the devices as eventually used were not designed properly and did not account for the electrical field of the 60Hz power source the machines used.

Becker believed that extrasensory perception could occur from extremely low frequency (ELF) waves.^[9]

Awards

In 1964, Becker received the William S. Middleton Award from the research and development agency of the United States Veterans Health Administration.^[10] The official research history of the SUNY Upstate Medical Center also states that Becker was awarded "the Nicolas Andry Award by the American Association of Bone and Joint Surgeons in 1979".^[11]

Later life

In the years prior to his death, Becker lived in Lowville, New York.^[3] He died in Lowville's Lewis County General Hospital due to complications of pneumonia on May 14, 2008.^[2] He was survived by his wife, three children, and two grandchildren.^[3]

Published works

Books

- *Electromagnetism and Life*. State University of New York Press, Albany 1982, ISBN 0-87395-560-9
- *The Body Electric. Electromagnetism and the Foundation of Life* (with Gary Selden). Morrow, New York 1985, ISBN 0-688-06971-1
- *Cross Currents. The Promise of Electromedicine, the Perils of Electropollution*. Torcher, Los Angeles 1990, ISBN 0-87477-536-1

As publisher

- *Mechanisms of Growth Control*, edited by Robert O. Becker. Thomas, Springfield 1981, ISBN 0-398-04469-4

Selected papers

PubMed contains 91 listings for Becker RO. The listings below are some of those for which Becker is first author.

- Search for Evidence of Axial Current Flow in Peripheral Nerves of Salamander (<http://www.sciencemag.org/content/134/3472/101.abstract?sid=d9ee7886-69a4-4ee4-a3a2-5c8af66f462e>). Becker RO. Science. 1961 Jul 14;134(3472):101-2.
- Longitudinal direct-current gradients of spinal nerves (<http://www.nature.com/nature/journal/v196/n4855/pdf/196675a0.pdf>). Becker RO, Bachman CH, Slaughter WH. Nature. 1962 Nov 17;196:675-6.

- Stimulation of partial limb regeneration in rats (<http://www.nature.com/nature/journal/v235/n5333/abs/235109a0.html>). Becker RO. *Nature*. 14 January 1972;235(5333):109-11.
- Electron paramagnetic resonance in non-irradiated bone (<http://www.nature.com/nature/journal/v199/n4900/pdf/1991304a0.pdf>). Becker RO. *Nature*. 1963 Sep 28;199:1304-5.
- Photoelectric effects in human bone (<http://www.nature.com/nature/journal/v206/n4991/pdf/2061325a0.pdf>). Becker RO, Brown FM. *Nature*. 1965 Jun 26;206(991):1325-8.
- Electron paramagnetic resonance spectra of bone and its major components (<http://www.nature.com/nature/journal/v210/n5036/pdf/210583a0.pdf>). Becker RO, Marino AA. *Nature*. 1966 May 7;210(5036):583-8.
- Stimulation of partial limb regeneration in rats (<http://www.nature.com/nature/journal/v235/n5333/pdf/235109a0.pdf>). Becker RO. *Nature*. 1972 Jan 14;235(5333):109-11.
- Electrical stimulation of partial limb regeneration in mammals (<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1806700/>). Becker RO, Spadaro JA. *Bull N Y Acad Med*. 1972 May;48(4):627-41.
- Regeneration of the ventricular myocardium in amphibians (<http://www.nature.com/nature/journal/v248/n5444/pdf/248145a0.pdf>). Becker RO, Chapin S, Sherry R. *Nature*. 1974 Mar 8;248(444):145-7.

Patents

Iontopheretic system for stimulation of tissue healing and regeneration US 5814094 A 1998^[12]

See also

- Electromagnetic radiation and health#Electric power transmission
- L Field
- Electrotherapy

References

1. "Robert O. Becker, 1923-2008". *Microwave News*. Retrieved 18 October 2014.
2. "Dr. Robert O. Becker". *Watertown Daily Times*. Watertown, New York. May 29, 2008. Retrieved May 12, 2012.
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8. Kooistra BW, Jain A,1 and Hanson BP (April–June 2009). "Electrical stimulation: Nonunions". *Indian J Orthop*. **43** (2): 149–55. doi:10.4103/0019-5413.50849.
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10. Veterans Health Administration Office of Research and Development. "VA BLR&D Research Awards". Washington, D.C.: U.S. Department of Veterans Affairs. Retrieved May 16, 2012.
11. SUNY Upstate Department of Orthopedic Surgery Research History (http://www.upstate.edu/ortho/research/pdf/research_history.pdf)
12. <http://www.google.com/patents/US5814094>

External links

- Electromagnetism and Life By Robert O. Becker and Andrew A. Marino (<http://n.b5z.net/i/u/8100263/f/MSelectromagnetismbook.pdf>)
- Robert O. Becker, MD; 1923 - 2008 a research bibliography (<http://www.earthpulse.net/Becker.htm>)

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