

Beginnings of the Hypoxia Symposia

Like many new ideas, it is difficult to date exactly the origins of the Hypoxia Symposia: they are the fruit of many persons' work and dreams. The fall of 1973 is as close as we can come for the genesis of the Hypoxia meetings. Himalayan mountaineering was flourishing by then and it had become obvious that many climbers - and casual tourists and even doctors - knew little about many of the hazards of altitude.

Believing that the early Everest climbers had valuable knowledge of altitude to share, in the fall of 1973 Dr Charles Houston, with help from the Alpine Club, invited a dozen of the great British mountaineers to a meeting in London to talk about their personal experiences on the highest mountains. Among them were Noel Odell, Bill Tilman and Raymond Greene. Dr Mike Ward set the stage by summarizing what was known about altitude illnesses. Though no written record survives, the discussion was so stimulating that the Alpine Club organized a larger meeting in March 1975 in Wales, the proceedings of which were published a year later (1). In July 1975, the eighth year of high altitude research on Mount Logan (2), Drs. John Sutton and Charles Houston gave several informal seminars about various aspects of altitude physiology and medicine to some of the team who served as subjects for the research. These people, many of them climbers and students, were enthusiastic, suggesting that other mountaineers and scientists might also be interested.

Accordingly, Houston and the Yosemite Institute organized a three day meeting in Yosemite National Park. At this nervously planned meeting many aspects of mountain medicine were discussed by experts in altitude, cold injury, trauma, medical evacuations and other topics of importance to climbers, trekkers and casual visitors to the mountains. This Mountain Medicine One was so successful that three more were held, one in Yosemite and two, sponsored by the Arctic Institute, in Banff, the immediate ancestors of the Hypoxia Symposia.

The objectives of the early Mountain Medicine Symposia were well defined: to offer the best available information about mountain hazards not only for doctors but also for climbers, hikers and others who might be in harms way in the mountains. Each attracted a large audience. Authorities like Noel Odell from England, Bo Siesjo from Sweden, Jacques Foray from France and many mountaineers spoke, and other scientists presented abstracts of their work for the medical audience. In 1978 Everest was climbed, au naturel as it were. And as more climbers tried the high mountains, more deaths from altitude

illness were recorded, and in 1979 the main thrust of the meeting in Banff was on research in oxygen transport and utilization, with one of the four days designed for mountaineers. For this meeting the name Hypoxia Symposium was used for the first time.

Of historical interest are the misgivings which clouded this change in emphasis. Some said that mountaineers wouldn't come; others warned that true scientists were already over-committed. Many doubted that there would be enough new material to attract the best scientists. These fears proved groundless: climbers did come, and outstanding scientists eagerly accepted an invitation to speak. We were determined to keep the cost modest, but even so the only real problem, which turned out to be perennial, was lack of money!

The programs, planned for every other year, got better and better, more and more authorities and an international audience came to listen or talk, and more junior scientists presented research abstracts. Subsequent meetings were designed for scientists exploring all aspects of hypoxia - due to altitude or illness in man as well as in birds, fish, insects and mammals. This emphasis continues today. Hypoxia was led from its inception until 1997 by C.S. Houston, G. Coates and J.R. Sutton. With Sutton's death in 1996, Houston passed leadership of the meeting to R.C. Roach and P.H. Hackett who still run the meeting today.

At present the scientific presentations are sophisticated, but also, respecting the origin of the meetings, distinguished science in mountain medicine is also featured throughout the program, including clinical cases and practical advice for mountaineers. The easy access to great outdoor winter sports in the Canadian Rockies does not detract from or distract the audience.

In the nearly 40 years since Hypoxia began, the quality of the program and enthusiasm of the audience continue to increase. Scientists and mountaineers from 20-25 countries participate in each meeting. Since 1981 most of the Proceedings of the Symposia have been printed, but unfortunately the first four books are out of print. Since 2013, the main presentations of each meeting were published as mini-reviews in the Journal of Applied Physiology and edited by R.C.Roach, P.H. Hackett and P.D. Wagner.

Original history written by C.S. Houston, Burlington, Vermont, August 1997. To read about Hypoxia Founder Charlie Houston, click [here](#). Updated by R.C. Roach, Denver, Colorado, August 2016.

References

- Mountain Medicine and Physiology. Clarke, C., Ailliams, E., Ward, M. London: The Alpine Club, 1975.
- High Altitude Physiology Study. Houston, C.S. Burlington, Vermont: Queen City Printers, 1980.

Chronology

- 1979 Hypoxia 1 (Banff Springs)
- 1981 Hypoxia 2: Man at Altitude
- 1983 Hypoxia 3: Exercise and Altitude
- 1985 Hypoxia 4: Hypoxia and Cold (Lake Louise)
- 1987 Hypoxia 5: The Tolerable Limits (Lake Louise)
- 1989 Hypoxia 6: The Adaptations (Lake Louise)
- 1991 Hypoxia 7: Hypoxia and Mountain Medicine (Lake Louise)
- 1993 Hypoxia 8: Hypoxia and Molecular Medicine (Lake Louise)
- 1995 Hypoxia 9: Hypoxia and the Brain (Lake Louise)
- 1997 Hypoxia 10: Women and Altitude (Lake Louise)
- 1999 Hypoxia 11: Hypoxia: Into the Next Millennium (Jasper)
- 2001 Hypoxia 12: Hypoxia: From Genes to the Bedside (Jasper)
- 2003 Hypoxia 13: Hypoxia: Through the Life Cycle (Banff)
- 2005 Hypoxia 14: Hypoxia and Exercise (Lake Louise)
- 2007 Hypoxia 15: hypoxia and the Cardiovascular System (Lake Louise)
- 2009 Hypoxia 16: Hypoxia and Exercise (Lake Louise)
- 2011 Hypoxia 17: Hypoxia and Cancer (Lake Louise)
- 2013 Hypoxia 18: Hypoxia (Lake Louise)
- 2015 Hypoxia 19: Hypoxia (Lake Louise)
- 2017 Hypoxia 20: Hypoxia (Lake Louise)

[Hypoxia Symposia Proceedings](#)