

Ken Zafren, MD, FACEP, FAAEM, FAWM

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CURRENT POSITIONS

Emergency Programs Medical Director, State of Alaska 2001-present
Staff Emergency Physician - Alaska Native Medical Center (Level II Trauma Center)
4315 Diplomacy Dr. Anchorage, AK 99508 USA 1998-present
Clinical Professor and Staff Physician, Division of Emergency Medicine
Stanford University Medical Center (Level I Trauma Center)
300 Pasteur Dr. Stanford, CA 94305 USA 1999-present
Affiliate Staff Emergency Physician - Providence Alaska Medical Center
3300 Providence Dr. Anchorage, AK 99508 USA 1994-present

EDUCATION AND TRAINING

Diplomate - American Board of Emergency Medicine 1995, recertified 2005
Emergency Medicine Residency - Kern Medical Center (Bakersfield, CA) 1991-1994
Transitional Internship - Presbyterian/St. Luke's Medical Ctr. (Denver, CO) 1985-1986
M.D. - University of Washington (Seattle, WA) December 1984
Graduate studies (Physiology) - University of Washington (Seattle, WA) 1979-1983
Premedical studies - University of Colorado (Boulder, CO) 1977-1978
Graduate studies (Geography) - University of Colorado (Boulder, CO) 1976-1978
E.M.T. (Emergency Medical Technician) - University of Colorado (Boulder, CO) 1977
B.A. (Mathematics) - New College (Sarasota, FL) 1975

MEDICAL ACTIVITIES AND INTERESTS

Emergency medicine, environmental medicine, including high altitude medicine and physiology, frostbite, hypothermia, medical care in remote areas and mountain rescue
Fellow of the Academy of Wilderness Medicine – awarded 2007 (charter group)
Chairman, Awards Committee, Wilderness Medical Society 2009-present
Vice President for the Americas – International Commission for Mountain Emergency Medicine
2001- present; United States Representative 1995-present
Secretary-Treasurer – Alaska Chapter, American College of Emergency Physicians 2001-2010
President - Alaska Chapter, American College of Emergency Physicians 1997-1998
Associate Medical Director - Himalayan Rescue Association 1993-present
Medical Director - Lake Clark National Park 1997-2011
Medical Director - Alaska Mountain Rescue Group 1994-2011 Medical Adviser 2011- present
Medical Director - Denali National Park Mountaineering Rangers 1997-2001
Board of Directors - Wilderness Medical Society: 1991-1996; 1999-2006
Co-chair, Program Committee – International Conference on Cold-Weather Medicine 2004
Chair, Conference Planning Committee of the Wilderness Medical Society 1998-2002
Co-chair, Program Committee - World Congress III on Wilderness Medicine 1999
Advisory Committee - International Congress of Mountain Medicine 1997
Chair, Program Committee - 7th Annual Winter Wilderness Medicine Conference 1997
Co-chair, Program Committee - 2nd World Congress on Wilderness Medicine 1995
Founding Editor, Wilderness Medical Society Educational Presentation Series
Participated in Southwest Alaska Hepatitis B screening program 1983

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HONORS AND AWARDS

Education Award of the Wilderness Medical Society 2003

Service Award of the Wilderness Medical Society 2004

Hero of Emergency Medicine of the American College of Emergency Physicians – awarded 2008

Delivered Inaugural Address - Institute of Mountain Emergency Medicine, Bolzano, Italy 2010

Award for Excellence in Peer Reviews – Wilderness and Environmental Medicine 2010

Mountain Rescue Association Award for Outstanding Contribution to Mountain Rescue Medicine 2012

Founders Award of the Wilderness Medical Society 2012

Alaska Council on Emergency Medical Services 2012 George Longenbaugh Memorial Award

Himalayan Rescue Association - Nepal – 40th Anniversary Plaque of Honor for Outstanding Contribution and Continued Support 2013

ONGOING EDITORIAL ACTIVITIES

Editor, Images Section and Member Editorial Board - Wilderness and Environmental Medicine (Journal of the Wilderness Medical Society) 1998-present

Author and Editorial Consultant – High Altitude Illness Module of the Physicians Information and Education Resource (PIER) – American College of Physicians 2004-2010

Journal Reviewer for High Altitude Medicine and Biology, Wilderness and Environmental Medicine, Aviation Space and Environmental Medicine, Resuscitation, Journal of Travel Medicine, Lancet Neurology, PLoS ONE (Public Library of Science)

MOUNTAIN MEDICINE AND MOUNTAIN RESCUE

Member, Scientific Advisory Committee - Institute of Mountain Emergency Medicine, European Academy Bozen/Bolzano, Italy 2010-present

Chair, Medical Committee - Mountain Rescue Association 1998-2008 (continue to serve on committee)

Physician - Mount Vaughan Antarctic Expedition 1993

Chairman of the Board of Directors - Alaska Mountain Rescue Group 1990-1991

Mountain rescue 1975-present (Boulder, Seattle, Anchorage)

Volunteer physician - Himalayan Rescue Association, Nepal 1989, 1992

Expedition physician - Nepalese-American Ohmi Kangri Expedition 1989

Medical expedition to Nepal 1980

Board of Directors - Rocky Mountain Rescue Group (Boulder, CO) 1978-1979

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OTHER ACTIVITIES AND INTERESTS

Climbs and treks in North and South America, Europe, and Asia 1972-present
Elected to membership in the American Alpine Club 1977-present
Board of Directors - Mountaineering Club of Alaska 1990-1991
Grand Prize Winner in MD Magazine photo contest 1988
Language skills: fluent in German; speak and read Spanish, French; speak Nepali

MEMBERSHIPS

American Alpine Club
American Association for the Advancement of Science
American Academy of Emergency Medicine
American College of Emergency Physicians
American Physiological Society
International Society for Mountain Medicine
International Society of Travel Medicine
National Association of State EMS Organizations
National Association of EMS Physicians
Wilderness Medical Society

PREVIOUS FULL-TIME POSITIONS

Acting Medical Director - Veco International (Exxon Valdez Oil Spill) Summer 1989
Staff physician - North Care Medical Centers 1986-1990; Associate Medical Director 1990-1991
Systems analyst - Institute for Behavioral Sciences (Boulder, CO) 1979

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PUBLICATIONS

- Zafren K, Hlastala MP. Gas exchange during acute hypoxia in dogs. Abstracts of the Third Banff International Hypoxia Symposium, 1983
- Zafren K. More on tetracycline and ticks. *New Engl J Med* (308) 7: 403-404, 1983
- Zafren K, Hackett P. High altitude medicine. Educational slide set. Wilderness Medical Society, 1992
- Zafren K, Purcell T. Open and closed peritoneal lavage. *Ann Emer Med* (21) 10:1298, 1992
- Zafren K, Purcell T. Base deficit as a diagnostic test for abdominal injury. *Ann Emer Med* (21) 11: 1406, 1992
- Reeves J, Wagner J, Zafren K, et al. Seasonal variation in barometric pressure and temperature in Summit County: effect on altitude illness. In: Sutton JR, Houston CS, Coates G (editors) *Hypoxia and Molecular Medicine* : 275-281, 1993
- Zafren K, O'Malley J, Mills WJ. Frostbite and Other Cold Injuries. Educational slide set. Wilderness Medical Society, 1995
- Zafren K, Reeves J, Schoene RB. Treatment of High Altitude Pulmonary Edema by bed rest and supplemental oxygen. *Wilderness Environ Med* 7 (2):127-132, 1996
- Zafren K. Warning! Long commute. *Science* (272): 1726, 1996
- Zafren K. Use and abuse. *The Economist* (Nov 30, 1996):8, 1996
- Zafren K. Outcome assessments and air ambulance services. *Lancet* 347:1843, 1996
- Forster H, Zafren K. Thoracostomy at the scene of an accident in the mountains. Guideline of the Commission for Mountain Emergency Medicine (International Commission for Alpine Rescue), St. Jean, Switzerland, 1996
- Forster H, Zafren K. Treatment of dislocations and fractures. Guideline of the Commission for Mountain Emergency Medicine (International Commission for Alpine Rescue), St. Jean, Switzerland, 1996.
- Zafren K. Epidemiology of Himalayan trekking. Proceedings of the International Congress of Mountain Medicine, Interlaken, Switzerland: 23-25, 1997
- Zafren K, Honigman B. High altitude medicine. *Emer Med Clin N Amer* (15) 1:191-222, 1997
- Zafren K, Storrow AB, Schmidt JC, Stack LB. Environmental Conditions. In: Knoop KJ, Stack LB, Storrow AB (editors) *Atlas of Emergency Medicine*. McGraw-Hill: New York, 451-480, 1997
- Zafren K. Re: Prevention and management of cardiovascular events during travel. *J Travel Med* (4) 4:152, 1997
- Forster H, Zafren K. State of art of surgical techniques in mountain rescue. Proceedings of the International Congress of Mountain Medicine, Interlaken, Switzerland: 34-36, 1997
- Zafren K. Hyponatremia in a cold environment. *Wilderness Environ Med* 9 (1): 54-55, 1998
- Zafren K. Mountain Rescue in North America. *Progress in Mountain Medicine and High Altitude Physiology*. Japanese Society of Mountain Medicine: Torokorozawa, 279-282, 1998
- Zafren K. Himalayan Rescue Association. *Progress in Mountain Medicine and High Altitude Physiology*. Japanese Society of Mountain Medicine: Torokorozawa, 283-284, 1998
- Zafren K. Telemedicine revisited. *Ann Emer Med* (31) 6: 790, 1998
- Zafren K. Rescue on Ptarmigan Peak. *Alaska Med* (40) 2: 36-37, 1998
- Zafren K. Migratory pain in appendicitis. *Amer Jour Emer Med* (16) 4: 437-438, 1998
- Zafren K. Gamow bag for high-altitude cerebral oedema. *Lancet* 352: 325-326, 1998
- Zafren K, Butler F. Wilderness medicine and military medicine. *Wilderness Environ Med* 9 (2): 62-63, 1998
- Butler F, Zafren K (editors). Tactical management of wilderness casualties in special operations. *Wilderness Environ Med* 9 (2): 64-117, 1998
- Zafren, K. Scenario 9: altitude sickness. In: Butler F, Zafren K (editors). Tactical management of wilderness casualties in special operations. *Wilderness Environ Med* 9 (2): 108-111, 1998
- Zafren K. Tragedy on Ptarmigan Peak. *Wilderness Environ Med* 9 (3):188-190, 1998
- Zafren K. Brown recluse spider bite. *Wilderness Environ Med* 9 (4) 211-212, 1998

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- Zafren K. Prognostic indicators in frostbite. *Wilderness Environ Med* 10(2):115-6, 1999
- Zafren K., Kercher E. Erythema nodosum. *Wilderness Environ Med* 10 (3):171-173, 1999
- Zafren K. Response to safety of rescuers letter. *Wilderness Environ Med* 10(3):204-205, 1999
- Zafren K. Lightning injuries. *Wilderness Environ Med* 10(4):253-255, 1999
- Basnyat B, Savard GK, Zafren K. Trends in the workload of the two high altitude aid posts in the Nepal Himalaya. *J Travel Med* 1999; 6:217-222, 1999
- Zafren K, Storrow AB, Schmidt JC, Stack LB. Environmental Conditions. In: Knoop KJ, Stack LB, Storrow AB (editors) *Pocket Atlas of Emergency Medicine*. McGraw-Hill: New York, 303-314, 2000
- Zafren K. Short haul release assembly - "3-ring circus." *Wilderness Environ Med* 11 (2):109-111, 2000
- Zafren K. Unusual presentation of a fracture and possible early compartment syndrome. *Wilderness Environ Med* 11 (3):199-200, 2000
- Zafren K. Understanding medical problems associated with high altitude. *Emerg Med* 32 (9): 90-98, 2000
- Zafren K. Immersion injury. *Wilderness Environ Med* 11 (4):269-271, 2000
- Zafren K, Hackett P. High altitude medicine (revised edition). Powerpoint presentation); Wilderness Medical Society, 2001
- Zafren K, O'Malley J, Mills WJ. Frostbite and Other Cold Injuries (revised edition). Powerpoint Presentation; Wilderness Medical Society, 2001.
- Zafren K. Poison oak dermatitis. *Wilderness Environ Med* 12(1):39-40, 2001
- Zafren K. Warnings in the wilderness: preventive search and rescue. *Wilderness Environ Med* 12(2):129-133, 2001
- Zafren K. Wound care in the wilderness. *Wilderness Environ Med* 12(3):201-203, 2001
- Zafren K. How useful is on-mountain sonography? *Wilderness Environ Med* 12(1):230-231, 2001
- Rammlmair G, Zafren K, Elsensohn F. Qualifications for emergency doctors in mountain rescue operations. In: Elsensohn F (Ed.) *Consensus Guidelines on Mountain Emergency Medicine and Risk Reduction*. International Commission for Mountain Emergency Medicine, 2001
- Rammlmair G, Zafren K. Immobilization and use of the vacuum mattress in organized mountain Rescue. In: Elsensohn F (Ed.) *Consensus Guidelines on Mountain Emergency Medicine and Risk Reduction*. International Commission for Mountain Emergency Medicine, 2001
- Zafren K. Prehospital diagnosis and staging of hypothermia. In: Brugger H, et al. (Eds.) *Jahrbuch 2001. Österreichische Gesellschaft für Alpin- und Höhenmedizin*: Innsbruck, 11-15, 2001
- Zafren K, Thurman RJ, Storrow AB. Environmental Conditions. In: Knoop KJ, Stack LB, Storrow AB (editors) *Atlas of Emergency Medicine* (second edition). McGraw-Hill: New York, 513-563, 2002
- Zafren K. Effect of insurance on admission for head injury. *Am J Emer Med* 19:460, 2002
- Zafren K. Management of blunt trauma victims with significant hemoperitoneum with normal examination. *Am J Emer Med* 21:513, 2003
- Zafren K. Thrombotic complications at altitude. *Wilderness Environ Med* 15: 155, 2004
- Sacco F, Zafren K, Brown, K et al. Guidelines for the management of head injuries in remote and rural Alaska. *Alaska Med* 46(58-62), 2004

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- Zafren K. Hypothermia. In: Mahadevan SV, Garmel GM (Eds.) *An introduction to Clinical Emergency Medicine*, Cambridge University Press, New York: 626-632, 2005
- Zafren K. Lightning injuries. In: Mahadevan SV, Garmel GM (Eds.) *An introduction to Clinical Emergency Medicine*, Cambridge University Press, New York: 633-638, 2005
- Zafren K. Near drowning. In: Mahadevan SV, Garmel GM (Eds.) *An introduction to Clinical Emergency Medicine*, Cambridge University Press, New York: 639-643, 2005
- Zafren, K, Durrer B, Herry, J-P, Brugger H, Lightning injuries: prevention and on-site treatment in mountains and remote areas. *Resuscitation* 65:369-372, 2005
- Zafren K, Lim IT. Hypothermia: a cold weather hazard. *Trauma Reports* 6(6):1-12, 2005
- Zafren K. Too high too fast: experiences at high altitude, In Smith AW, Schwartz E, Shaw M (editors) *Travel Medicine: Tales Behind the Science*. Elsevier, Amsterdam 177-181, 2007
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- Zafren K, Hackett P. High altitude medicine (3rd edition). Educational Presentation Series. Wilderness Medical Society. 2008
- Zafren K, O'Malley J, Mills WJ. Frostbite and Other Cold Injuries (3rd edition). Educational Presentation Series. Wilderness Medical Society. 2008.
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- Wilkerson JA, Moore EE, Zafren K (editors). *Medicine for Mountaineering and Other Wilderness Activities* (sixth edition). The Mountaineers Books, Seattle 2010
- Zafren K. Frostbite and Nonfreezing Cold Injuries. In Förster H, Berghold F (editors). *Mountain and High Altitude Medicine (13th edition)*. Austrian Society for Mountain and High Altitude Medicine, Kaprun, Austria, 1-13, 2010.
- Luks AM, McIntosh SE, Grissom CK, et al. Wilderness Medical Society Consensus Guidelines for the Prevention and Treatment of Acute Altitude Illness. *Wilderness Environ Med* 21:146-155, 2010.
- Gertsch JH, Lipman GS, Holck PS, et al. Prospective double-blind, randomized, placebo-controlled comparison of acetazolamide versus ibuprofen for prophylaxis against high altitude headache: the headache evaluation at altitude trial (HEAT). *Wilderness Environ Med* 21:236-243, 2010.

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- Zafren K. Avalanche triage: are two birds in the bush better than one in the hand? *Wilderness Environ Med* 21:273-274, 2010.
- Oelz O, Zafren K. Accident on Mt. Kenya. *Wilderness Environ Med* 22:87-90, 2010.
- Mechem CC, Zafren K. Frostbite. In: UpToDate, Basow DS (Ed), UpToDate, Waltham, MA (UpToDate.com), 2011.
- Zafren K, Feldman J, Becker R, et al. D-dimer is not elevated in asymptomatic high altitude mountaineers after descent to 5340 meters: The Mount Everest Deep Venous Thrombosis Study (Ev-DVT). *High Alt Med Biol* 12(3): 223-227, 2011.
- Zafren K. In response to "Wilderness Medical Society practice guidelines for the prevention and treatment of frostbite." *Wilderness Environ Med* 22(4):364-5, 2011
- Zafren K. In response to Bradford Washburn's 1962 *NEJM* article "Frostbite: what it is – how to prevent it – emergency treatment" – historical background and commentary. *Wilderness Environ Med* 22(4):366-8, 2011.
- Zafren K. Frostbite and Nonfreezing Cold Injuries. In Förster H, Berghold F (editors). *Mountain and High Altitude Medicine (14th edition)*. Austrian Society for Mountain and High Altitude Medicine, Kaprun, Austria, 1-24, 2012.
- Cauchy E, Zafren K. Frostbite. In David S (editor) *Textbook of Emergency Medicine*. Wolters Kluwer Health India, New Delhi, 1455-62, 2012.
- Zafren K. High Altitude Illness. In David S (editor) *Textbook of Emergency Medicine*. Wolters Kluwer Health India, New Delhi, 1473-91, 2012.
- Zafren K. Public access defibrillation. *Ann Emerg Med* 59(6):558, 2012
- Davis C, Engeln A, Johnson E, et al. Wilderness Medical Society guidelines for the prevention and treatment of lightning injuries. *Wilderness Environ Med* 23(3):260-9, 2012
- Zafren K. Prophylaxis for acute mountain sickness. *Ann Emerg Med*, 60(5): 671-2, 2012
- Zafren K. Does ibuprofen prevent acute mountain sickness? *Wilderness Environ Med* 23(4):297-299, 2012.
- Zafren K. Prediction of acute mountain sickness by pulse oximetry: what are the right questions? *Wilderness Environ Med* 23(4):377-378, 2012.
- Auerbach PS, Zafren K. Drowning. In Mahadevan SV, Garmel G (editors) *Introduction to Clinical Emergency Medicine: Guide for Practitioners in the Emergency Department. 2nd ed.* Cambridge University Press. New York, NY 641-645, 2012.
- Zafren K. Heat Illness. In Mahadevan SV, Garmel G (editors) *Introduction to Clinical Emergency Medicine: Guide for Practitioners in the Emergency Department. 2nd ed.* Cambridge University Press. New York, NY 646-652, 2012.
- Zafren K. Accidental Hypothermia. In Mahadevan SV, Garmel G (editors) *Introduction to Clinical Emergency Medicine: Guide for Practitioners in the Emergency Department. 2nd ed.* Cambridge University Press. New York, NY 653-659, 2012.
- Zafren K. Lightning. In Mahadevan SV, Garmel G (editors) *Introduction to Clinical Emergency Medicine: Guide for Practitioners in the Emergency Department. 2nd ed.* Cambridge University Press. New York, NY 660-664, 2012.
- Zafren K, Danzl D. Frostbite. In Marx JA (editor). In *Rosen's Emergency Medicine 8th ed.* Elsevier, Philadelphia, 1877-1882, 2013.
- Danzl D, Zafren K. Accidental Hypothermia. In Marx JA (editor). In *Rosen's Emergency Medicine 8th ed.* Mosby, Philadelphia, 1883-1895, 2013.
- Brugger H, Durrer B, Elsensohn F, et al. Resuscitation of avalanche victims: evidence-based guidelines of the International Commission for Mountain Emergency Medicine (ICAR-MEDCOM). *Resuscitation* May; 84(5):539-546, 2013.
- Zafren K, Berghold F, Hillebrandt D. "Performance enhancing" drugs at high altitude. *Wilderness Environ Med* 24(2):173-174, 2013.
- Zafren K. Frostbite: prevention and initial management. *High Alt Med Biol* 14(1):9-12, 2013
- Mechem CC, Zafren K. Accidental hypothermia in adults. In: UpToDate, Basow DS (Ed), UpToDate, Waltham, MA (UpToDate.com), 2013.

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- Basnyat B, O'Hea J, Zafren K Environmental Stress. In Farrar J, Hotez PJ, Junghanss T, et al. (editors). In *Manson's Tropical Diseases 23rd Edition*. Elsevier, Philadelphia, 1084-1095, 2013.
- Zafren K. Prevention of high altitude illness. *Travel Med and Infect Disease* Jan-Feb; 12(1):29-39, 2014
- Quinn RH, Wedmore I, Johnson E et al. Wilderness Medical Society practice guidelines for basic wound management in the austere environment. *Wilderness Environ Med*. Sep; 25(3):295-310, 2014.
- Zafren K, Smith WR, Johnson DE, Kovacs T. Spine protection in the austere environment. *Wilderness Environ Med*. Sep; 25(3):364-366, 2014.
- Zafren K, Giesbrecht GG, Danzl DF, et al. Wilderness Medical Society guidelines for the out-of-hospital evaluation and treatment of accidental hypothermia. *Wilderness Environ Med* (In Press)