

Donald Morton

Leading authority in melanoma research and treatment

Donald Morton (b 1934; q University of California, San Francisco 1958), died from heart failure on 10 January 2014.

As a child in the 1930s, Donald Morton lived in rural poverty in West Virginia. The family home, built by his coalminer father, had no indoor plumbing and no electricity. Morton went on to study medicine and, during a career that lasted over half a century, amassed a list of research and clinical accomplishments that are recognised worldwide.

Morton's most important work was perhaps the development of sentinel lymph node biopsy techniques—now the standard in the US for detection and surgical treatment of several cancers, particularly melanoma and breast cancer. He also spent decades trying to develop an effective marketable vaccine for melanoma. Although his efforts did not end in success, his research provided a clearer understanding of the immunology of cancer.

Morton was generally acknowledged as a highly creative researcher with innovative ideas and new treatment approaches. "He was a brilliant clinical researcher and clinical trials designer," says Odysseas Zoras, a surgical oncologist at the University of Crete and president of the Hellenic Society of Surgical Oncology.

Throughout his career, Morton was eager to inform the scientific world of his work. "Don was a prodigious writer whose publications

covered many different subjects," says Charles M Balch, a surgical oncologist at the University of Texas Southwestern Medical Center in Dallas.

At the time of his death 924 papers authored by Morton were listed on Thomson Reuters Web of Knowledge, notes Balch, who is also editor in chief of the *Annals of Surgical Oncology*. Morton's papers have been cited more than 35 000 times, an average of 38 citations per paper.

Donald Lee Morton was born in 1934 in the Appalachian coalmining town of Richwood, West Virginia. The family struggled financially, but as he grew up, his mother stressed the importance of education. Morton was awarded a coveted place to study at Berea College in Kentucky, which accepted only needy students and charged no tuition fees. Before finishing there, he transferred to the University of California at Berkeley, where he received his bachelor's degree.



JOHN M. HELLER/GETTY IMAGES

He earned his medical degree from the University of California at San Francisco in 1958, followed by general surgery training at the university's medical centre. He was awarded a fellowship in 1960 at the National Cancer Institute in Bethesda, Maryland, where he became interested in melanoma and became a senior surgeon and head of the tumour

immunology section. By the early 1970s Morton was chief of general surgery and of surgical oncology at the UCLA School of Medicine.

In the mid-1970s Morton began his initial studies on lymphatic mapping and sentinel lymph node biopsy procedures for melanoma.¹ At the time, surgeons would remove all lymph nodes surrounding a cancerous tumour to see if the tumour had spread. About 80% of the time doctors would learn that the operation had not been necessary. Morton introduced cutaneous lymphoscintigraphy to identify, or map, the regional lymphatic basin receiving drainage from a primary cutaneous melanoma. From the 1980s he refined lymphatic mapping, and doctors now inject a radioactive dye near tumours to illuminate the drainage pathway.

"Intraoperative mapping of the sentinel node is a landmark achievement in surgical oncology," noted the American College of Surgeons when announcing Morton as the recipient of the 2008 Jacobson Innovation Award. "Morton's seminal contribution has spared countless patients the morbidity of

a complete regional lymph node dissection needlessly done in the absence of nodal metastasis."

Balch says that over the years Morton validated the technique through a series of "brilliantly designed clinical trials,"² including "two landmark international studies," generally referred to in the abbreviated forms MSLT-I and MSLT-II (Multicenter Selective Lymphadenectomy Trial). A final MSLT-I analysis was published after Morton's death in the *New England Journal of Medicine*.³ *The BMJ* analysed the lymph node biopsy procedure in an investigative feature article in January 2013.⁴

In 2008 the American College of Surgeons recognised Morton's "pioneering work" with intratumoural Bacille Calmette-Guerin (BCG) for non-specific melanoma, the first successful clinical application of immunotherapy against a metastatic human cancer. His work "laid a foundation for the use of intravesical BCG in superficial bladder cancer, which became the first cancer immunotherapy approved by the US Food and Drug Administration," the society said.⁵

At UCLA, one of Morton's patients was Hollywood icon John Wayne, who died from stomach cancer in 1979. Morton went on to establish the John Wayne Cancer Clinic at UCLA in 1981 with support from Wayne's family. In 1991 Morton left UCLA to co-found the John Wayne Cancer Institute with the Wayne family, becoming medical director and surgeon in chief.

In the 1990s Morton continued working on a cancer vaccine, co-founding the company CancerVax with more than \$100m (£60m; €72m) in venture capital funding. Early trials of a vaccine appeared promising, but these were abandoned in 2005 when an independent review committee concluded that the vaccine did not lengthen survival. Morton's efforts were profiled in the *New York Times*.⁶

Morton, who served as president of the Society of Surgical Oncology, and the World Federation of Surgical Oncology Societies, trained more than 135 fellows, many now in leadership roles at universities and major cancer centres

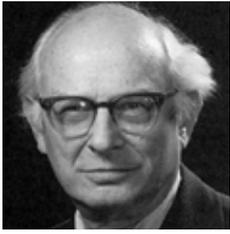
Morton's first wife died in a car crash in the early 1980s. He leaves their son and three daughters; his second wife, Lorraine; and their daughter.

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References are in the version on bmj.com.

Cite this as: *BMJ* 2014;348:g1746

Philip Kramer Bondy



Research endocrinologist Yale University (b 1917; q Harvard 1942), d 14 October 2013.

Born and educated in New York City and Cambridge, MA, Philip Kramer Bondy (and his wife, Sarah) moved to Yale University in 1952, where he worked until his retirement, except for a five year stint from 1971 to 1976 at London's Royal Marsden Hospital and Institute of Cancer Research. When he arrived in London, he knew little about cancer, but this was not a major obstacle since the hormonal treatment of breast cancer with tamoxifen was just beginning. Bondy's unique contribution was to bring his expertise as an endocrinologist to the understanding and treatment of hormone dependent tumours. He completed his career back in the US as the chief of staff of West Haven Veterans' Administration Hospital. He leaves Sarah and three children.

Jessica Bondy

Cite this as: BMJ 2014;348:g2537

David Robert Hadden



Consultant physician Metabolic Unit, Royal Victoria Hospital, Belfast; honorary professor Queen's University Belfast (b 1936; q Belfast 1959: MD, FRCPEd, FRCP), died from pancreatic cancer on 26 February 2014.

As a Fulbright fellow at Johns Hopkins Hospital in Baltimore, USA, David Robert Hadden was one of the first to discover growth hormone binding protein. Nutritional experience when he was a Medical Research Council fellow in Uganda and Cambridge

provided the stimulus to set up the Belfast diet study, which showed that a strict diet alters the natural history of type 2 diabetes. His collaboration in the UK Prospective Diabetes Study confirmed that good blood glucose control prevents complications of type 2 diabetes. Hadden led Belfast's involvement in the Hyperglycaemia and Adverse Pregnancy Outcome Study, which highlighted harmful effects of small increases in blood sugar in non-diabetic mothers. He leaves his wife, Diana; a son; and two daughters.

Patrick Bell, Robert Hadden, David McCance

Cite this as: BMJ 2014;348:g2528

Judith Frances Hornby



Former consultant radiologist (b 1941; q Manchester 1965; DCH, FRCR), died from uveal melanoma on 12 March 2014.

After junior posts in Manchester, Judith Frances Hornby (née Pickering) accompanied her husband to Toronto, where she worked in paediatrics during his orthopaedic training. The couple returned to Northumberland in 1971, where she enjoyed a period of general practice at the university. She retrained in radiology in 1978 and was a consultant in South Tyneside until retirement. Her lifelong interests were in literature, ornithology, and modern languages, and she was well known for her hospitality. After retiring the couple sailed widely in northern Europe and settled finally in Wester Ross. Judith leaves a husband, Roger; a daughter; a son; and a granddaughter.

Stella Hornby

Cite this as: BMJ 2014;348:g2525

Thomas Lind

Former consultant in obstetrics and fetal medicine Royal Victoria Infirmary (RVI) and Associated



Hospitals NHS Trust; emeritus professor of reproductive physiology Newcastle University (b 1934; q Durham at Newcastle 1958; PhD, DSc, FRCPath, FRCOG), died from complications of Parkinson's disease on 2 December 2013.

After house posts, Thomas Lind ("Tom") did his extended national service in the Royal Army Medical Corps, mostly in Germany, and attained the rank of major. Over several decades he published groundbreaking pregnancy studies on carbohydrate metabolism, diabetes, and haematological disorders. He served on national advisory groups and the Royal College of Obstetricians and Gynaecologists' council and committees. He was clinical director for six years, closely involved with the merger of the two Newcastle units in 1993. A fetal medicine training programme, of which he was the co-director, was the first in the UK to be RCOG approved. Tom leaves his wife, Ursula; three sons; and six grandchildren.

John Davison

Cite this as: BMJ 2014;348:g2535

Ashley John Miller



Former consultant orthopaedic surgeon Mayday Hospital, Croydon (b 1939; q St Bartholomew's Hospital 1963; FRCS), d 11 June 2013.

In 1974 Ashley John Miller ("John") was appointed consultant at Mayday Hospital—the same year as he published a prophetic paper on metal sensitivity as a cause of failure with joint replacement, in which his main

conclusion was that this was caused by metal on metal prostheses and the only treatment was joint revision. An expert in total hip replacements and revisions, particularly bone sparing and non-cemented prostheses, he travelled, lectured, and gave operative demonstrations in Europe and the US, always raising doubts about metal on metal devices, but it was not until 2010 that the Department of Health released an official alert on this. John's last years were marred by recurrences of a longstanding haematological malignancy. He leaves Monica, his wife of more than 50 years; three children; and grandchildren.

Rupert Courtenay-Evans

Cite this as: BMJ 2014;348:g2527

Thomas Hugh Willson



General practitioner Hatfield, Hertfordshire (b 1957; q Royal Free Hospital Medical School 1984; MA, DOccMed), died from disseminated caecal carcinoma on 26 December 2013.

While working as a GP principal at Burvill House Surgery in Hatfield, Thomas Hugh Willson ("Tom") became interested in occupational health and worked in a preparatory school and with the police. He had made his own lute as a teenager, which had to be sold in order to fund his medical training. Diagnosed with disseminated caecal carcinoma in October 2012, he, typically, found his medical curiosity roused throughout his treatment with chemotherapy and subsequently, with radiotherapy and surgery for a cerebellar metastasis. Only two months before his death, he organised, and rode in, a sponsored bike ride of 20 miles. Tom was buoyed in his final illness by a strong Christian faith. He leaves his wife, Lynn; three daughters; and two sons.

Robert Luder

Cite this as: BMJ 2014;348:g2324