

Chapter Four

The History of the American College of Laboratory Animal Medicine

Charles C. Middleton, DVM

Introduction

The American College of Laboratory Animal Medicine (ACLAM) was founded in 1957 to encourage education, training, and research in laboratory animal medicine; establish standards of training and experience for veterinarians professionally concerned with the care and health of laboratory animals; and recognize qualified persons in laboratory animal medicine by certification examination and other means. The College was chartered on February 18, 1957, and is incorporated under the laws of the state of Illinois as a non-profit organization. It is also a specialty board recognized by the American Veterinary Medical Association.

The College was originally established as the American Board of Laboratory Animal Medicine by 18 "Charter Fellows" who had made significant contributions to laboratory animal medicine and were actively engaged in the specialty. The name of the organization was changed on August 24, 1961, and the term "Fellow" was discontinued in favor of "Diplomate." The College has grown steadily and its membership now numbers more than 660 Diplomates and 13 honorary members.

The basic policies and concepts of the College have not changed since its formation. The testing and certification of qualified veterinarians in the specialty continues to be the highest priority. Educational programs of the College also receive strong emphasis to appraise the membership and the scientific community of advances in laboratory animal medicine.

A strategic plan was approved in 1993 and implemented in 1994 to enhance and broaden the activities of the College (1). ACLAM's Mission Statement is: "The American College of

Laboratory Animal Medicine (ACLAM) is an organization of board-certified veterinary medical specialists who are experts in the humane, proper, and safe care and use of laboratory animals. ACLAM establishes standards of education, training, experience, and expertise necessary to become qualified as a specialist and recognizes that achievement through board certification. ACLAM actively promotes the advancement of knowledge in this field through professional continuing education activities, the development of educational materials, and the conduct of research in laboratory animal medicine and science. ACLAM fosters the recognition of its members who contribute to human and animal health improvements by being the leaders of the veterinary medical specialty known as laboratory animal medicine.

Historical Background

ACLAM and the American Association for Laboratory Animal Science (AALAS) were conceived and brought to fruition by the same people.

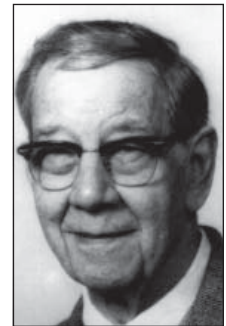
Dr. Nathan "Nate" R. Brewer was a leader in this group. Largely through his efforts, and those of his colleagues, these organizations became realities (2). Much of the early history of ACLAM and the Animal Care Panel (ACP) (the original name of AALAS) is intertwined (3) (4), so overlapping information is not an error, but rather information taken directly from material submitted by Dr. Brewer for use in writing the history of ACLAM. Both AALAS and ACLAM owe Dr. Brewer a debt of gratitude for his pioneering efforts and for having shared much of the early history of both groups.

The first mention of an organization planned for veterinarians and others working for institutions using laboratory animals in their research and teaching programs was in 1946. According to Dr. Brewer, he and Dr. Arthur Rosenberg presented an exhibit on laboratory animals at the 1946 American Veterinary Medical Association (AVMA) meeting. This exhibit attracted such people as Drs. Wayne O. Kester, Mark L. Morris, and Benjamin D. Fremming and encouraged the idea of exploiting this field as an opportunity open to veterinarians. "The decision was not to limit the Animal Care Panel to veterinarians," continued Dr. Brewer. "We recognized that much could be gained by including research workers with PhDs, etc. Nevertheless, the idea of veterinary leadership was important to us."

Dr. Brewer shows how the two organizations being planned blended. "The idea of a specialty board was the answer and at the AVMA meeting in Atlantic City (in 1948 or 1949) this concept was encouraged."

These two meetings were important in the genesis of both the ACP and the American Board of Laboratory Animal Medicine, now AALAS and ACLAM respectively.

While the concept of a broad-based organization of people involved in laboratory animal care (the ACP) and a specialty board of veterinarians involved in laboratory animal medicine came from the same people at the same time, the ACP was established first. It was easier to establish the Animal Care Panel than a veterinary specialty group, because there was no group that had to approve it. At this time, the American Veterinary Medical Association (AVMA) had recognized only two



Dr. Nathan Brewer



Drs. Alan Kraus, Daniel Ringler and A. E. "Gene" New (left to right) served as ACLAM Presidents in 1980–81, 1979–80 and 1978–79 respectively. Photo taken in 1979.

specialty boards, the American College of Veterinary Pathologists and the American Board of Veterinary Public Health, now called the American College of Veterinary Preventive Medicine. Any group of veterinarians wanting to establish a specialty board could do so only with the approval of the AVMA, which was a time-consuming endeavour.

Among the earliest people working in laboratory animal medicine—in addition to Dr. Brewer at the University of Chicago and Arthur Rosenberg at Northwestern University—was Robert Litt, who was head of the experimental surgical facilities at the University of Illinois Medical School in Chicago.

In 1947 he moved to private practice. Elihu Bond, who started with Dr. Brewer in 1948, replaced Litt and later moved to the Berg Institute in New York City. Lester Fisher followed Rosenberg at Northwestern University. He later moved to the Lincoln Park Zoological Gardens in Chicago and latter became its director. He was replaced by Ben Cohen in July 1949. In 1948 Robert Flynn was made supervisor of the Argonne National Laboratory animal facilities and retired from there. In 1949, the Hektoen Institute became the fifth Chicago institution to hire a veterinarian for the animal research program. William Schroeder was the individual who filled this position. Dr. Brewer pointed out that these five Chicago institutions realized that animal facilities were increasingly becoming an institutional responsibility rather than the responsibility of each researcher. Dr. Brewer postulated that these institutions believed veterinarians, because of their knowledge of husbandry and diseases of domestic animals, would be best qualified for these appointments.

These five veterinarians (Brewer, Bond, Cohen, Flynn, Schroeder) sent the letter of invitation for what was to become the Animal Care Panel. These same five, with others, worked to establish a laboratory animal medicine specialty board sanctioned by the AVMA. The AVMA had appointed a Committee on Care of Laboratory Animals. This committee prepared a proposal for the AVMA stating that the degree of DVM. was not sufficient to indicate proficiency in the diagnosis and treatment of diseases of laboratory animals and proposed the establishment of a board of veterinary specialists in laboratory animal medicine. In addition to proposing a specialty board, this committee proposed that the AVMA further encourage research in diseases of laboratory animals by setting aside one of its fellowships for that purpose.

The first official endeavor to establish a specialty board came from Drs. Nate Brewer and Bob Flynn. Airmail invitations were sent to 17 veterinarians to attend a meeting on November 28, 1956, at the Morrison Hotel in Chicago. The letter stated that a proposed constitution had been drafted and that the AVMA would be petitioned for recognition of the organization as a specialty board. Incorporation was proposed for Illinois, because the AVMA personnel could help because their offices were in Chicago. Most of those invited to the organizational meeting became members.

The American Board of Laboratory Animal Medicine (ABLAM) was incorporated on February 18, 1957, under the laws of the state of Illinois as a non-profit organization. The incorporating members were Drs: Nathan R. Brewer, Benjamin D. Fremming, Robert J. Flynn, Melvin M. Rabstein, Jules S. Cass, Robert D. Henthorne, Bennett J. Cohen, Robert J. Veenstra, and Robert J. Young. Shortly after incorporation the organization was officially recognized by the AVMA as a specialty board. Dr. Brewer was elected as the first ABLAM president and was re-elected in 1958 and 1959. Bob Flynn was the secretary-treasurer from 1957 through 1962. The governing body of ABLAM was called the Council.

Charter Fellows (sometimes referred to as grandfathers) of ABLAM were those veterinarians of established reputations who

Author's Note

The material in this chapter is drawn from a number of cited references, but also from personal knowledge and recollection. Therefore, I would like to give you some personal background. I recently completed writing the *History of the American College of Laboratory Animal Medicine: The First Forty Years*. This 188-page document is of primary interest to veterinarians, particularly Diplomates of the American College of Laboratory Animal Medicine (ACLAM). Because I wrote the history of ACLAM, I was asked to write a chapter for inclusion in the American Association for Laboratory Animal Science publication *Fifty Years of Laboratory Animal Science*.

I attended my first Animal Care Panel (ACP) meeting, which we now know as the American Association for Laboratory Animal Science (AALAS), in Chicago in 1962. I was a post-doctoral student with Thomas B. Clarkson at the Bowman Gray School of Medicine at the time. Tom introduced me to Nathan Brewer and Bennett J. Cohen at that meeting. I joined ACP and have been a member ever since. In 1966, I sat for the ACLAM certifying examination, which was held at an AALAS meeting, also in Chicago. I continued to attend AALAS meetings until I retired in 1995 and am a Lifetime Member.

I knew almost all of the people who were instrumental in the development of both the ACP and the American Board of Laboratory Animal Medicine (ABLAM), which is what the American College of Laboratory Animal Medicine was first called. The same people were working at the same time to create both organizations with few exceptions. Both AALAS and ACLAM have had close association from the beginning, which will probably continue.

were engaged in laboratory animal medicine and who joined together to establish the organization at its organizational meeting. The title also included others elected for Fellowship by unanimous vote of the original group. Charter Fellows were required to be graduates of veterinary schools recognized by the AVMA, be members in good standing of the AVMA, have a Masters degree or equivalent training from a recognized institution of higher learning and five or more years experience in laboratory animal medicine or eight years experience in laboratory animal medicine, without the advanced degree. Such individuals had to apply for Charter Fellow status within 12 months of incorporation.

Fellows were veterinarians who met the training and experience requirements, made a distinct contribution to the advancement of laboratory animal medicine, had satisfactorily completed the board examination and had been elected by a majority of the members. Not long after the organization started, the Council elected fellows following passage of the board certifying examination. The initial examination fee was set at \$15.

In addition to Member Fellows there was an Associate Membership, open to veterinarians who had at least three years of post-graduate experience in laboratory animal medicine and who met all prerequisites for board examination except the advanced training and experience requirements.

In 1961 the name of the organization was changed from American Board of Laboratory Animal Medicine to the American College of Laboratory Animal Medicine. The title for full members (whether grandfathered or by examination) was changed from Fellow to Diplomate. The name of the governing body was changed from Council to Board of Directors. The term of office was set at one year for the president and the office of vice president was discontinued. The office of president-elect was created. The president-elect would serve one year prior to assuming the office of president. The first two presidents (Brewer and Fremming) served three years each.

At the Board of Directors meeting on April 12, 1966, a decision was made that Associate Members would be notified that those who had not achieved Diplomate status, that is, passed the certifying examination, would be discontinued as members in 1972. No new associate members would be accepted as of this meeting. This action, in large part, led to the establishment of the American Society of Laboratory Animal Practitioners (ASLAP) which was incorporated on July 11, 1967. Former Associate Members, as well as others interested in the field of laboratory animal medicine, were given the opportunity for membership in the laboratory animal medicine organization. Board specialty groups have no official voice in the AVMA House of Delegates, but practitioner groups do. Thus ASLAP has recognition and provides laboratory animal medicine with a voice in the AVMA.

At the October 4, 1967, Board meeting, there was discussion regarding the relationship between AALAS and ACLAM and the need for ACLAM to mount a continuing education program. The issue was discussed again at the October 21, 1968 Board meeting. ACLAM requested AALAS eliminate information about ACLAM sponsored sessions from the AALAS program. This action was influenced by the AVMA decision establishing a separate section on laboratory animal medicine at the AVMA Annual Meeting. However, ACLAM resumed sponsorship of program sessions at AALAS meetings at a later date, a practice that continues today. ACLAM also conducts business meetings, examination reviews, and other activities at the AALAS National Meeting.

Since at least 1973, ACLAM has had an annual banquet. These have variously been held at the time of the AALAS or AVMA National Meetings and since 1996, at the ACLAM Forum. The board at their October 4, 1977 meeting, approved a motion to invite the AALAS president to the ACLAM banquet as a non-paying guest. A motion was also approved to invite the AALAS president-elect in future years. At this time ACLAM invited all who took the examination to attend as non-paying guests. Both practices were discontinued after a few years because of cost; however, attendance was encouraged on a paying basis.

In 1969 the External Affairs Committee (newly appointed and chaired by Ben Cohen) dealt with image concerns, particularly regarding recognition of ACLAM as an organization, its role and

objectives. On October 13, 1971, the official seal was agreed upon and a logo was established. In July 1972, the logo first appeared on ACLAM printed materials and in October of the same year, lapel logo pins were purchased for wear by Diplomates.

The first honorary membership in ACLAM was awarded to Thomas C. Jones in 1971. Honorary membership is bestowed on individuals, not necessarily veterinarians, who have made outstanding contributions to the field of laboratory animal medicine. To date 14 individuals have been honored. In addition to Jones these are: Berton Hill (1973), George Harrell (1974), Williard Eyestone (1976), Robert Prichard (1977), Joe Held (1978), Harry Rowsell (1979), Philip Trexler (1981), Leo Bustad (1982), Lars Wass (1989), Pravin Bhatt (1992), Abigail Smith (1994), Julia Hilliard (1995), and Leo Whitehair (1996).

Publications

The ACLAM's first publications were a joint endeavor with the Institute of Laboratory Animal Resources (ILAR) of the National Academy of Sciences. They were entitled "Animal Models for Biomedical Research I, II, III, and IV" in 1968, 1969, 1970, and 1971. They were based on ACLAM-sponsored symposiums, held in conjunction with AVMA Annual Meetings. Although well-received, the publications ended because of funding problems. The publications were identified by a Library of Congress card number and were made available from the printing office of the National Academy of Sciences.

The ACLAM's first textbook "Biology of the Laboratory Rabbit," was published in 1974. Editors were Steven H. Weisbroth, Ronald Flatt, and Alan L. Kraus. This initial effort established a relationship with Academic Press. To date, ACLAM has produced 17 volumes in this textbook series. Most of the texts are species-oriented; but some explore other subjects such as animal models, anesthesia and analgesia, a formulary for laboratory animals and a general text on laboratory animal medicine.

The ACLAM newsletter started out as a one or two page letter from the President with the first published in 1961. The first newsletter in its current format was Volume 1, No. 1, September 1970. The Newsletter has varied from one to 20 or more pages over the years with different formats, cartoons, jokes, and letters to the editor,

etc. Starting in 1970, it was published in March and September. Publication frequency has increased over the years and it is currently published five times per year. The newsletter has become much more businesslike and formal over the years. In 1996 newsletter editor, Charles Raflo, established a site for ACLAM on the World Wide Web. The newsletter and other



ACLAM President A. E. "Gene" New (left) congratulates Joe R. Held on becoming an honorary member of ACLAM. Photo taken in 1979.

information about ACLAM is carried on this site. The address is www.aclam.org.

From time to time ACLAM has developed position statements on various issues. The most noteworthy of these is the "Report of the American College of Laboratory Animal Medicine on Adequate Veterinary Care in Research, Testing and Teaching." The requirement for adequate veterinary care of laboratory animals was codified in the regulations of the federal Animal Welfare Act and the Public Health Service Policy on the Humane Care and Use of Laboratory Animals. After extensive deliberations, the College issued a report in 1986 on adequate veterinary care to assist scientists, administrators, and veterinarians in implementing suitable programs. Continued evolution of animal experimentation, veterinary medicine, and animal welfare science led to revision of the report in 1996. The report was printed and widely distributed.

Examinations

The ACLAM certifying examination has a long and varied history. The first written examination was held in 1962. It was authored by William C. Doloway. During this time there was also an unstructured oral examination. After the first year, written questions were verified by reference to assure validity. For three years professionals approved to take the examinations were sent a copy of the previous year's examinations. Each year some, but by no means all, of the questions were revised. At the same time, a Diplomate took the examination separately to serve as a control. There was no passing score *per se*; however, those taking the examination had to make 70 percent of the Diplomate's score. In the early years it was possible for a person to achieve Diplomate status without examination, based on outstanding accomplishments. Nothing in the record reveals that this ever happened, although one person became a Diplomate as a result of a special oral examination.

Starting in 1964 the examination and process of becoming a Diplomate became more regular and formal. That year Mel Rabstein was appointed chair of the Examination Committee. At that time people passing the examination had to wait a year before being certified as a Diplomate. In 1966 the waiting period was eliminated and those passing the examination were certified at the Board meeting following the candidate's completion of the examination. The first practical examination was given in 1965, but several exceptions were made and individuals were certified who either did not take or did not pass the practical. Since 1966 candidates must pass both the practical and written examinations to become Diplomates. The oral exam which had always been controversial was discontinued in 1972.

The examination was held the Sunday before the AALAS meeting for several years. This was deemed to be the best site because most taking the exam, as well as those administering it, were likely to attend the AALAS meeting. The Board met on Wednesday after the examination was administered and the examination results were presented to the Board for action.

Starting in 1967 the examination time changed to the Sunday preceding the AVMA meeting. This change, coupled with a laboratory animal medicine program co-sponsored with ASLAP and the ACLAM banquet, significantly increased attendance at the AVMA meeting. Starting in 1997 the examination was held at a non-meeting site, where the only activity is administering the examination. This change, along with moving the banquet to be in conjunction with the ACLAM Forum, has resulted in significantly decreased attendance at the AVMA meeting by ACLAM Diplomates.

The procedure of having a Diplomate sit for the exam as a control was dropped after 1964. Henceforth, a numerical score was decided following each examination at what was considered a natural break point and which would provide for an appropriate percentage of candidates to pass. The "natural break" was where there was a gap of four to five points in the scoring. Sometimes "natural breaks" did not occur and the whole process was controversial because it was not considered fair. This was changed in 1986 when a passing score of 66 percent was set for both parts of the examination. The Board had authority to lower-but not raise-the score necessary for passing. However starting in 1994, the board has strictly adhered to the policy of a 66 percent passing score.

Training Programs

Post-doctoral training was addressed by the founders. The first formal training program was initiated by Tom Clarkson at the Bowman Gray School of Medicine in 1959 (8). John LeMay was the first person to complete such a program. He was appointed the first veterinarian in charge of the research animal facilities at Duke University. Ben Cohen started a training program soon after at UCLA. Sigmund T. Rich was his first post-doctoral student. Robert L. Hummer, Colonel, United States Air Force, started a program not long after at Brooks Air Force Base in San Antonio. Ralph F. Ziegler and Dale D. Boyd were the initial participants at Brooks Air Force Base. All the programs started as two-year programs. Some were residency only and some had master's degree programs associated with them. Later, some programs offered the opportunity to earn a PhD degree.

ACLAM set standards for what constituted acceptable training based upon a publication by the National Academy of Science (9). Programs were not approved by ACLAM, but an ACLAM committee evaluated applicants' training and experience for approval to sit for the examination. The procedure changed in 1993, when all program directors were asked to submit a synopsis of their program based on criteria developed by ACLAM (10). ACLAM now officially recognizes training programs meeting these criteria.

Continuing Education

Continuing education has been an important facet of ACLAM activities. From its first meeting in 1957, ACLAM has sponsored or co-sponsored educational programs at annual meetings of the AVMA. Likewise ACLAM has sponsored or co-sponsored programs at the National Meetings of AALAS.

The ACLAM Forum evolved as an effort to provide additional continuing education. The first Forum (the first Forum was actually called ACLAM Retreat) was held in conjunction with the 1975 AALAS meeting in Boston. Through 1980 the Forums were held in conjunction with AALAS National Meetings, but since then they have been free-standing meetings. The Forum is presently an annual meeting. Forum topics and locations are listed in Table 1.

ACLAM has sponsored the production of some 30 autotutorial sets on topics in laboratory animal science and medicine. Production of these educational materials has been an ongoing effort since 1974. The sets are comprised of slides and audiotapes, or videotapes, and syllabi. The sets are produced in conjunction with the Health Sciences Center for Educational Resources at the University of Washington.

Strategic Planning

In the early 1990s ACLAM undertook a planning process which culminated in membership approval of a Strategic Plan

Table 1. American College of Laboratory Animal Medicine Forums

Year	Topic	Location
1975	Continuing Education Retreat	Boston, Mass.
1976	Continuing Education and Re-certification	Houston, Tex.
1978	Quality Assurance Programs	Brookhaven National Labs, L.I., N.Y.
1979	Biohazard Control	Lake Lanier Islands, Ga.
1980	Animal Production	McCormick Creek Park, Ind.
1982	Immunology	Gatlinburg, Tenn.
1983	Biomedical Research	Howey-in-the-Hills, Fla.
1984	Emerging Technology in Lab Animal Medicine	Olive Branch, Miss.
1985	Genetics	Martha's Vineyard, Mass.
1986	Animal Welfare	Columbia, Md.
1988	Current Concepts in Lab Animal Medicine	Columbia, Md.
1990	Anesthesia and Analgesia	Columbia, Md.
1992	Molecular Pathogenesis of Viral Infections	Lake Tahoe, Calif.
1994	Occupational Health and Safety	Stone Mountain, Ga.
1996	Transgenic Animals, Gene Therapy, and IACUC Issues	Annapolis, Md.
1997	Human Resource Management and Facility Design	Orange Beach, Ala.
1998	Ethics and the Use of Laboratory Animals	St. Charles, Ill.

in October, 1993. As a result of the plan, ACLAM:

- Established a program in 1993 to formally recognize training programs which meet ACLAM Minimal Training Program Standards.
- Employed a part-time executive director in 1995.
- Established the ACLAM Foundation in 1995 to fund research projects in laboratory animal science and medicine. Dr. Martin Morin was appointed chair of the Foundation in 1996. Funds were raised and the first research grants were awarded in 1997.
- Enhanced its publications activities. Dr. Henry Baker was appointed chair of a newly established Publications Committee in 1996.
- Established a Re-certification Program as of January 1, 1996. The program recognizes continuing education and other activities designed to maintain the quality of educational expertise of Diplomates and to recognize such qualifications through re-certification.
- Developed an ACLAM exhibit in 1996, along with brochures on the role of laboratory animal veterinarians. The exhibit has been shown at scientific and professional meetings.
- Developed a Role Delineation Document which was approved by the membership in 1997. This document delineates the essential roles of laboratory animal veterinarians and describes the knowledge and skills required to carry them out. It is being used as a basis to modify the credentials process and examination to assure their relevancy.

Conclusions

It is clear that AALAS and ACLAM have had a very close relationship for many years. There is nothing to suggest that this will change, since it benefits both organizations. ACLAM is an affiliate member of AALAS. Actions contemplated by ACLAM have always

been considered for their effect on AALAS. The best example of this was when ACLAM was studying the feasibility of a journal of its own. The journal never came to be, probably because of strong arguments made against it from the standpoint that it might hurt AALAS publications.

The AALAS meeting is the best attended of all meetings by ACLAM Diplomates. The Board has always met there, and an ACLAM business meeting has always been held there. An ACLAM exam review is held there as well. ACLAM Diplomates' involvement and interest in AALAS will continue without doubt. Many ACLAM Diplomates have served as presidents of AALAS, on the board, and on committees.

Dr. Brewer and his colleagues had great vision and wisdom in conceiving, nurturing, and bringing to fruition both organizations. It is doubtful that the high-quality

programs of animal care and use which both enhanced creature comforts and the quality of biomedical research would be what they are today without these organizations that Dr. Brewer was directly responsible for organizing—ACLAM, AALAS, and indirectly ASLAP.

References

1. **American College of Laboratory Animal Medicine.** 1993. ACLAM Strategic Plan. Final report of the ACLAM Strategic Planning Committee.
2. **American College of Laboratory Animal Medicine.** 1946–1965. Unpublished reports.
3. **Flatt, R.E.** (Ed.). 1980. The origins of laboratory animal science and medicine. *Lab. Anim. Sci.* **30**:737–800
4. **Mattingly, S.F. and N. Addcox.** 1994. The past is prologue: a history of the American Association for Laboratory Animal Science. *Cont. Top.* **33**:46–51.
5. **Brewer, N.R.** Personal communication.
6. **American Society of Laboratory Animal Practitioners.** 1965–1975. Unpublished reports.
7. **Weigler, B.J., J.D. Thulin, S. Vandewoude, et al.** 1997. The supply and demand for laboratory animal veterinarians from 1980 to 2005. *Cont. Top.* **36**:39–46.
8. **Clarkson, T.B.** 1980. The evolution and history of training and academic programs in laboratory animal medicine. *Lab Anim. Sci.* **30**:790–792.
9. **Cohen, B.J., H.J. Baker, N.J. Dodds, et al.** 1979. Laboratory animal medicine: guidelines for education and training. *ILAR News* **22**:M1–M26.
10. **Rand, M.S.** 1994. Preparation for membership in the American College of Laboratory Animal Medicine. *Cont. Top.* **33**:57–60.