

## Research programs of the AOA and their role in osteopathic medical education

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The research programs of the American Osteopathic Association (AOA) Bureau of Research (Bureau) have had a long history.<sup>1,2</sup> The chief goal of these programs has been to investigate problems of a biologic nature in order to obtain a better understanding and a more effective application of the philosophy and concepts of osteopathic medicine. With the 1986 mandate from the AOA Board of Trustees to develop research training in osteopathic residencies, efforts have begun to focus on the role that research experiences can and should play in osteopathic medical education. This report focuses on the current priorities of the Bureau and the many current research activities of the AOA (Table).

### Administration of research supported by the AOA Bureau of Research

The Bureau of Research began as the Committee on Research in 1939. In 1943, the Osteopathic Research Council, an advisory board, was established. This latter group had its name changed to the Osteopathic Research Board in 1945. In 1951, the Committee on Research became the Bureau of Research and was merged with the Osteopathic Research Board. In 1986, the Bureau

was reorganized into its present form.

The Bureau's charge is to encourage scientific research and to maintain and improve high standards of medical education in osteopathic medical colleges as mandated by "Article II—Objectives" of the AOA Constitution. The Bureau represents the Board of Trustees in promoting and enhancing the research programs of the AOA, of the osteopathic medical profession in general, and its affiliated organizations and institutions. Therefore, the Bureau is responsible for the growth and development of the osteopathic medical research program of the profession, and for providing assurance of a consistently high standard in research supported by the AOA. The Bureau is composed of 10 members selected to represent the diverse interests of the practice and non-practice affiliates of the AOA. (See Appendix I, page 633.)

The past decade has seen a continual increase in the complexity of the questions asked by biomedical researchers. To maintain high-quality programs that, themselves, are capable of growing in response to meet those research needs, the Bureau has created one standing council, the Council on Research Grants (Figure), whose scope and function are described in the following paragraphs. With the creation of this Council, the Bureau has been able to devote more time to policy matters as the Council has undertaken the primary role in initial evaluation and administration of selected research programs. The AOA research grant and

fellowship programs are fully described in the *Osteopathic Research Handbook*,<sup>3</sup> published in September of each year. This handbook is widely distributed and may be obtained from the AOA Department of Education, Division of Research.

The Bureau also implements AOA policy as it relates to the AOA Annual Research Conference, and includes all research conferences and workshops.

In October 1996, the Bureau published the textbook, *Foundations for Osteopathic Medicine*, executive editor Robert C. Ward, DO. The 1100-page textbook covers osteopathic philosophy and history, and osteopathic medical considerations in basic sciences, behavioral sciences, clinical problem-solving, family practice and primary care, clinical specialties, health restoration, and palpatory diagnosis and manipulative treatment. The publication of this osteopathic medical textbook represents the culmination of a 6-year project supervised by the Bureau of Research for the AOA Board of Trustees and House of Delegates.

### Council on Research Grants

The Committee on Research Grants was established by the Board of Trustees in 1986 to implement AOA policy on the evaluation of research grant applications and the administration of funded grants. In 1993, the committee was renamed as a Council. More specifically, this Council is charged with processing grant applications, evaluating their scientific merit,

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presenting funding recommendations to the Bureau, and monitoring the status of research supported by the AOA by receiving reports from grantees. The Council also serves as the reviewing body for abstracts submitted for the AOA Research Conference. The Council on Research Grants comprises five voting members who all have grant reviewing expertise. (See Appendix I, page 633.)

### Efficacy and outcomes research

The osteopathic medical profession has need for more research into the medical efficacy and cost-effectiveness of treatment of patients using osteopathic manipulative management. To address this need, the House of Delegates of the AOA has directed the Bureau of Research to "... implement a research protocol to determine the effectiveness of osteopathic manipulative management, when appropriately practiced, in restoring the health of patients in a cost-effective manner..." (AOA House of Delegates resolution 271, OMT Research Data, Approved July 1990).

In 1991, the Bureau of Research issued a request for applications, "Efficacy of an Osteopathic Approach to Representative Clinical Entities." In September 1992, the Bureau incorporated this research area into its annual grant program.

The purpose of this program is to encourage assessment of the efficacy, including cost-effectiveness and safety, of the integration of osteopathic manipulative interventions into a total osteopathic medical approach using controlled experimentation that evaluates objective, quantifiable outcomes.

The desired research will investigate specific osteopathic manipulative interventions used both in the care of ambulatory and hospitalized patients. Examples of potential interventions include, but are not limited to, the following representative clinical entities: acute neuromusculoskeletal, chronic neuromusculoskeletal, acute viscerosomatic/somaticovisceral, and chronic viscerosomatic/somatovisceral.

The targeted outcomes, as appropriate to each specific intervention, will include one or more of the following:

<b>Table Current Research and Awards Programs Managed by the American Osteopathic Association</b>	
<b>■ Research programs</b>	
<input type="checkbox"/>	A. T. Still Osteopathic Foundation and Research Institute
<input type="checkbox"/>	AOA Research Grants
<input type="checkbox"/>	AOA Research Fellowships
<input type="checkbox"/>	AOA Clinical Investigator Development Award (CIDA)
<input type="checkbox"/>	Annual Research Conference
<b>■ Awards</b>	
<input type="checkbox"/>	Gutensohn/Denslow Award
<input type="checkbox"/>	Irvin M. Korr Award
<input type="checkbox"/>	Louisa Burns Memorial Lecture
<input type="checkbox"/>	Burnett Osteopathic Student Research Award
<input type="checkbox"/>	Student Presentation Award

- perception of pain,
- use of analgesics,
- range of motion,
- time lost from work,
- return to work,
- recurrence rates,
- functional criteria of disability, and
- use of pharmacological agents.

Research studies currently funded as a result of this program include: "Effect of osteopathic manipulative treatment (OMT) on gait in subjects with low back pain"; "Effect of pre-op morphine and post-op OMT upon post-op pain following total abdominal hysterectomy (with or without salpingoophorectomy or myomectomy)"; and "The efficacy of OMT in the elderly hospitalized with pneumonia."

In 1994, the Bureau of Research proposed a Medical Outcomes Research Initiative with the goal to develop a comprehensive program for demonstrating the effectiveness of osteopathic princi-

ples and practices (OPP) and OMT in the delivery of healthcare by osteopathic physicians. The definition of outcomes research is the evaluation of the effectiveness of an intervention on the promotion of health and on the prevention or the treatment (or both) of disease or dysfunction. In the case of osteopathic medicine, it is the evaluation of OPP and OMT. The end points of outcomes research may include, but are not limited to, patient health, quality of life, patient satisfaction, or cost-effectiveness (or both). The principal methodology used in outcomes research is clinical trial using modern research design methods and data analyses.

A Request for Proposals (RFP) was announced in late 1995 for research proposals that would assess one or more of the following:

- the effectiveness of OPP/OMT;
- the contribution of DOs applying OPP/OMT in primary care;
- the contribution of DOs applying OPP/OMT in specified populations;
- the contribution of DOs applying OPP/OMT in preventive medicine, and/or
- the cost-effectiveness of healthcare delivered by DOs applying OPP/OMT.

Outcomes research that has been funded as a consequence of this RFP include: "A pilot study of the effects of OMT on the course of HIV infection"; "The use of OMT in the management of chronic and recurrent otitis media"; "Evaluation of the effect of selected osteopathic manipulative techniques on headache pain"; and "Patient satisfaction with OMT: A clinical outcomes research study."

### AOA Department of Education

Administrative support for the Bureau and its Council is provided by the Division of Research. In addition to providing secretarial services, the Division also administers the grants funded by the AOA and by the A.T. Still Foundation and Research Institute, AOA Research Fellowships, AOA Clinical Investigator Development Award, AOA Annual Research Conference, Student Presentation Award, Burnett Osteopathic Student Research Award, and special award programs of the Bureau.

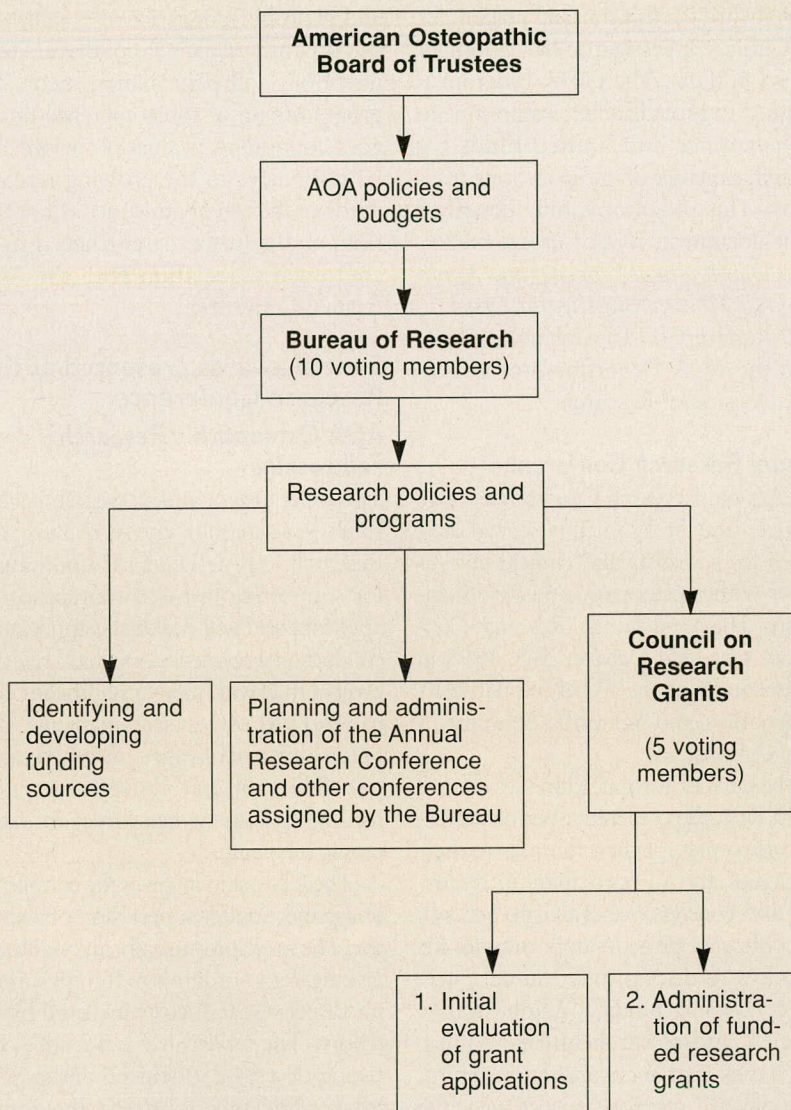


Figure. Mechanism of administration of research supported by the AOA.

### American Osteopathic Foundation

The American Osteopathic Foundation (AOF) is a separately incorporated organization affiliated with the AOA. It serves the osteopathic medical profession through philanthropic activities and efforts. One goal of the AOF is to support research through liaison with the Bureau. For example, the AOF is one interface between potential corporate sponsors of research programs of the Bureau and the Bureau membership. Certain monies raised through the AOF are distributed by the Bureau for ap-

proved research programs. The AOF has recently funded a 3-year, \$150,000 grant to the Bureau of Research.

### National Association of Osteopathic Foundations

The National Association of Osteopathic Foundations (NAOF) is an organization of independent and AOA-affiliated osteopathic medical foundations. The objectives of this organization serve to improve the effectiveness of each member group by providing advice, counsel, and expertise in several areas. These areas include foundation management, funding re-

sources, grant proposal development, public relations, marketing, and evaluation of fund-raising needs of each group member. Liaison is maintained between the NAOF and the Bureau of Research.

### Current research programs managed by the AOA

#### A.T. Still Foundation and Research Institute

Research efforts in osteopathic medicine trace their beginning to the founding of the A.T. Still Postgraduate College of Osteopathy in 1907. In 1909, this organization was renamed the A.T. Still Research Institute. The American Osteopathic Foundation, a related organization for support of research, publications, educational facilities, and other philanthropic activities, was founded in 1927. In 1935, the foundation and the institute merged into the present A.T. Still Osteopathic Foundation and Research Institute. Today, the organization, through income derived from the Burnett-Timken Trust fund, awards 1- and 2-year research grants for investigations that are specifically directed to OMT and OPP. Grant applications may be made through the same mechanism as that for AOA Research Grants.

Current projects funded under A.T. Still Foundation and Research Institute include: "Study on the activation of the immune system by OMT in health and disease"; "Dermatomal somatosensory evoked potentials, spinal manipulation and lumbosacral radicular pain"; "Development of an animal model to detect the efficacy and beneficial effects of manipulative therapy on joint inflammation"; "Trigeminal brainstem and spinal pathways underlying manual manipulations on the cranium"; "Reflex somatic dysfunction during myocardial ischemia"; and "Effect of osteopathic manipulation on sympathetic activity."

#### AOA Research Grants Program

American Osteopathic Association funding for research grants began in 1937. Currently, the AOA Research Grants Program awards 1- and 2-year research grants for projects in biologic and clinical sciences. Preference is given to research

that is directed toward answering questions traditionally or currently associated with the osteopathic medical profession including OMT and OPP.

Funds for AOA research grants are awarded only to institutions meeting the requirements for general assurances, use of budgeted equipment, and protection of research subjects. The principal investigator of an application for funding from AOA research programs must be: (a) an osteopathic physician who holds a full-time appointment at an AOA-accredited, affiliated, or approved osteopathic medical institution; or (b) a biomedical researcher who demonstrates evidence of professional training and experience as appropriate for his or her individual discipline and who holds a full-time appointment at an AOA-accredited, affiliated, or approved osteopathic medical institution; or (c) an osteopathic physician who holds a full-time appointment at a nonosteopathic academic or healthcare institution having accreditation, affiliation, or approval as appropriate for that institution's activities.

Some of the research projects funded under AOA research grants are listed in the Efficacy and Outcomes Research section. Other projects include: "Motor unit recruitment in eccentric contraction," "The impact of an organized wellness program on first-year osteopathic medical students," "Spinal reflex excitability and somatic dysfunction," "Osteopathic manipulative therapy and the efficacy of influenza vaccination of the elderly," "Human infant development and acquisition of locomotor and postural skills," "Development of computer-based visualization modules to assist in teaching basic osteopathic concepts," "End of life care: Impact of the osteopathic physician," and "Use of osteopathic manipulative treatment by osteopathic specialists."

### **AOA Clinical Investigator Development Award (CIDA)**

The AOA Board of Trustees in 1990 approved the establishment of a training program to recruit and prepare osteopathic physicians for research and teaching careers in the medical sciences. The

AOA award for this training program is the Clinical Investigator Development Award (CIDA). The CIDA program is designed to provide a fellowship stipend to the trainee and limited funds for research expenses of the sponsoring institution. This program is fully described in the document, *AOA Clinical Investigator Development Program and Application for Clinical Investigator Development Award (CIDA)*, which is available from the AOA Department of Education, Division of Research.

### **Annual Research Conference**

The Annual Research Conference, since its inception in 1955, has served as a forum for scientists and clinical investigators within osteopathic medical institutions. The 42nd Annual Research Conference was held October 5-9, 1998 in conjunction with the 103rd Annual AOA Convention and Scientific Seminar in New Orleans, La.

The current format addresses several needs. First, the conference permits investigators to present their findings to their colleagues and to participate in discussion and constructive criticism. Second, the conference provides opportunities for attendees to discuss their mutual interests concerning funding, administrative policies, and research interest topics, which may lead to collaboration. Third, the conference promotes an increase in the quality and quantity of research devoted to osteopathic medical principles, practices, and procedures. Fourth, the conference encourages students of osteopathic medicine to become more involved in research activities of the profession. In these ways, the conference serves to promote research within the osteopathic medical profession and to allow the profession to demonstrate its research interests and strengths.

The conference's program has centered on general scientific sessions, including both poster and slide formats. Symposium and forum sessions of the program provide appeal to both PhD and DO scientists through the inclusion of topics addressing issues of importance to both groups, such as the relationship of the musculoskeletal system to endocrine

and neurohormonal activity; aging and osteopathic medicine; controversies in nutrition; and pain management. The programming of the conference undergoes continuous evaluation in order to be responsive to the growing research needs of the osteopathic medical profession, and is further strengthened by its continued association with the AOA Annual Convention.

### **Special awards presented at the Research Conference**

#### **AOA Osteopathic Research Fellowships**

The AOA Osteopathic Research Fellowship is sponsored by the AOA Bureau of Research. It is designed as a mechanism for supporting research training of the applicant and will enable the applicant to conduct a basic science or clinical research project that will make a significant contribution to osteopathic medicine. The fellowship encourages an osteopathic physician to contribute to research throughout his or her career in osteopathic medicine.

The fellowship involves the completion of a project under supervision of a sponsor. The sponsor is usually an established investigator who agrees to furnish support for direct research costs incurred by the fellow. The award is for \$5,000, consisting of a \$4,250 stipend and a \$750 travel allowance to attend the annual AOA Research Conference following the year of the fellowship.

#### **Gutensohn/Denslow Award**

The Gutensohn/Denslow Award is the highest award sponsored by the AOA Bureau of Research. The \$5,000 award is funded by Glaxo Wellcome, Inc through AOF. This award is given in honor of J. Stedman Denslow, DO, a noted researcher in viscerosomatic reflexes and biomechanics, and Max T. Gutensohn, DO, a noted educator and past chairman of the Bureau of Research. Nominees must be either an osteopathic physician or hold a doctoral level degree and be on the faculty or staff of an osteopathic medical institution. They must be, or have been, actively involved in clinical or basic science research as well as the

education process. Previous Laureates are: Albert F. Kelso, PhD (1984); Wilbur V. Cole, DO (1985); Irvin M. Korr, PhD (1987); Myron C. Beal, DO (1988); Robert W. Gracy, PhD (1989); Richard J. Cenedella, PhD (1990); William L. Johnston, DO (1991); Michael M. Patterson, PhD (1992); Paul A. Kimberly, DO (1993); Thomas C. Adams, PhD (1994); Anthony G. Chila, DO (1995); John N. Howell, PhD (1996); Robert E. Kappler, DO (1997); and Philip E. Greenman, DO (1998).

### **Irvin M. Korr Award**

The Bureau of Research is establishing the Irvin M. Korr Award to honor a basic scientist at a college of osteopathic medicine for exemplary career achievements in research, education, publication, and service to the osteopathic medical profession. The Bureau is seeking funding from a pharmaceutical firm, private contributions, or the Osteopathic Research and Development Fund (ORDF). This award honors Irvin M. Korr, PhD, a long-standing member of the Bureau of Research, known for innovative thinking in the development of research questions.

### **Louisa Burns Memorial Lecture**

The Louisa Burns Memorial Lecture is an award given in honor of Louisa Burns, DO, who headed the A.T. Still Research Institute from 1914 to 1936. With her graduation from the Pacific College of Osteopathy, San Francisco, in 1903, Dr Burns was the first individual in the osteopathic medical profession to establish a long-term research program. This award was initiated in 1969, and its recipient is recognized annually with the delivery of the Louisa Burns Memorial Lecture at the AOA Research Conference.

### **Burnett Osteopathic Student Research Award**

The Bureau of Research offers the annual Burnett Osteopathic Student Research Award, recognizing a student of osteopathic medicine for the most outstanding concept paper pertaining to an osteopathic research proposal. The award consists of an all-expense paid trip to the

Annual Research Conference plus \$100 cash. The award is named in honor of the contributions made to the osteopathic medical profession by John H. Burnett, DO, and Mary M. Burnett, DO. Support for the award has been provided by interest earned from the Burnett Presidential Award and a donation from the Sam & Marille Sparks East Town Osteopathic Foundation and Smith Kline & French Laboratories. Eligibility is limited to students enrolled in AOA-accredited colleges of osteopathic medicine.

### **Role of research in osteopathic medical education**

As osteopathic medicine embarks on its second century, exciting research problems remain to be addressed. In order to be prepared for this challenge, the profession needs to develop more researchers from within its ranks. To facilitate that process, it is important that undergraduate and graduate osteopathic medical students see successful role models actively pursuing their career paths. Early exposure to researchers, be they biomedical investigators ("basic scientists") or osteopathic physicians engaged in clinical investigation, is often the seminal event in one's decision to consider a career as a researcher. The Research Conference will continue to play a major role in this process.

### **Development of Funds for Research**

In 1986, the Board of Trustees approved the establishment of the Committee on Research Funding, renamed the Council on Funding for Research and Education (CFRE) in 1993, to identify and develop additional sources of funding for the AOA research programs. In addition to staff support from the AOA Department of Education, the CFRE also received staff support from the AOA Controller. Consultation was provided to the Council through the AOA General Counsel and others as necessary. As part of an effort to review all investment policies and procedures of the AOA, in July 1994, the AOA Board of Trustees created an Investment Committee of the Bureau of Finance. With the formation of

the Investment Committee, the CFRE has been inactivated.

As a first step toward obtaining new funding capabilities, the AOA membership elected to develop the ORDF, begun in 1989. This fund is administered by the Bureau under guidelines approved by the Bureau of Research and the Bureau of Finance. As the principal of the fund grows, earned income will become available to fund long-range programs, including research grants and fellowships, manpower development and education programs, and outcome and efficacy studies. In 1998, the Bylaws of the American Osteopathic Association were amended to ensure that the Bureau of Research received a fixed amount each year from the ORDF. With the growth of the ORDF, which already exceeded a \$6,000,000 market value at the end of the 1998 fiscal year, the AOA will be assured of having the ability to provide seed or matching funds (or both) for larger long-term projects.

### **References**

1. *1998 Yearbook and Directory of Osteopathic Physicians*, ed 89. Chicago, Ill: American Osteopathic Association; 1998.
2. Northup GW: *Osteopathic Research: Growth and Development*. Chicago, Ill: American Osteopathic Association; 1987.
3. *Osteopathic Research Handbook*. Chicago, Ill: American Osteopathic Association; 1998.