Since the latest self-study of MSU-COM began in July 1982, there have been concerted efforts to enhance and streamline the College's curriculum.

Many have regarded these efforts with a "don't-fix-it-it-ain't-broke" skepticism, one heartily nourished by the consistently high quality of our graduates.

But evolution in the medical world has turned to revolution. The knowledge base for medical practice is doubling in less than twelve years. New technology makes last year's major purchase obsolete. Third-party payers, malpractice insurance, DRGs, and other economic forces have changed criteria and organizations for care. Patients are more sophisticated and more concerned about being partners in their own health.

"The osteopathic profession has been uniquely adaptive in strengthening its professional basis and the quality of its medical practice," noted Keith Goldhammer, former dean of the MSU College of Education and an educational consultant for MSU-COM. "The accreditation standards of the American Osteopathic Association require a constant process of curricular evaluation."

Goldhammer notes three major emphases in medical education that must be addressed.

First, the changes in medical practice in the last decade mandate changes in the teaching and learning of medicine.

"Technological developments and electronic data processing place in the physician's command a great deal more information for diagnosis and treatment," he said. "This demands a higher level of knowledge of the relationship of basic science concepts and principles to the function of the human body."

"The plague of medical education is the psychological fact of 'knowing' doesn't immediately translate into available knowledge for 'doing,'" Goldhammer said. "We access knowledge for the purposes for which we learned it. Therefore, students acquire basic science and medical knowledge in the first two years to pass exams. Two years later, this knowledge doesn't easily translate for a second purpose -- clinical application."

"In short, traditional modes of teaching are no longer adequate," he said. "They must be reviewed to better match styles and conditions of medical practice."

Second, Goldhammer noted, "Ambulatory care training is essential because the hospital no longer performs the same function it did ten years ago. It is no longer the place to see all the stages of recovery."

"Six years ago a surgical patient might have six-day stay and be available for rounds daily with students," he said. "Now only those persons who are extremely ill, at high risk, or in emergencies are in hospitals. There is no continuity of care in that setting for clinical learning."

Finally, "because of the tremendous knowledge explosion, we must train physicians to become lifelong learners," Keith Goldhammer, educational consultant said. "This means that systematic didactic instruction must take place alongside clinical instruction..."

Goldhammer said that this requires "a consistent and systematic approach throughout all four years to guarantee that the last two years of education are continuous with the first two years. This means that our on-campus clinical faculty will have to play a major role in coordinating..."
Susan Koory has been named the director of development at MSU-COM. Koory was the director of development at Hurley Medical Center in Flint, a position she held for the last eight years. She noted she was pleased to stay within the health industry in her new post.

"The health area is always changing, largely because of external demands and new technology," she said. "I like the challenge of working within an industry that provides this diversity."

She believes an institution such as MSU can offer special challenges and opportunities. "I've always enjoyed academic settings," she said. "My experiences as a student provided many positive occasions."

Her goals at MSU-COM include working on the capital campaign and annual giving. She looks forward to working with the faculty and the dean on these projects as well as finding key leaders in the Michigan osteopathic community.

"This is not really a job that can be accomplished by a single individual or through letter writing and phone calls," she explained. "It will require a lot of personal contact and collaborative effort."

Koory obtained an undergraduate degree in business administration and M.P.H in health planning and administration from the University of Michigan. She received an M.S.A. in business and administration from Central Michigan University.

While at Hurley, her accomplishments included creating, organizing and staffing the development department and a 500-person volunteer services department, and raising over $7 million since 1980. She also served as an independent consultant to local organizations in Flint.

She organized numerous special fund raising events including a state-wide biking effort involving eight hospitals that raised $350,000 in 1986. She also established a local community organization, now funded with assets over $100,000, to grant wishes of dying children.

She served as the trust officer at Michigan National Bank of Flint and as the executive director of the DeWaters Charitable Trust.

Koory was an adjunct lecturer at the University of Michigan School of Management for one semester.

She has been active in community service organizations. She is currently involved with Emergency Shelter for Women and is a trustee of the Flint Area Health Foundation.

She was the president of the Michigan Association for Hospital Development in 1987 and was a regional communication chair of the National Association for Hospital Development (NAHD). She is also a member of the American Hospital Association and Council of Michigan Foundations.

She published "Development and Health Promotion: A Happy Marriage," in 1981 in Michigan Hospitals and in the NAHD Journal. Koory has always lived in Michigan and currently commutes to MSU from her home in Flint.

Her office at MSU-COM is located in A310B East Fee Hall, 355-8355.
A new approach to head and neck support

Robert P. Hubbard, associate professor of biomechanics, has developed a new device that could reduce neck fatigue and injury to operators of high performance vehicles.

In order to help reduce the occurrence of neck injuries to race car drivers and fighter pilots, Robert P. Hubbard has developed a unique device.

The newly patented head and neck support device (HANS) is designed to reduce neck fatigue and injury which the current helmets and shoulder harnesses allow, said Hubbard, an associate professor of biomechanics.

In a common helmet and shoulder harness design, the neck must support the head and limit the motions of the head. In normal operation of high performance vehicles, neck strains are fatigue and compromise operator performance. In a violent maneuver or crash, extreme head motions with the associated neck strain can cause life-threatening injury.

Hubbard has put tethers from the rear and sides of a helmet to a collar and yoke to be worn by a driver or pilot, under the shoulder harness. In this way, the wearer would enjoy freedom of movement while reducing the forces usually put upon the neck.

The development of HANS devices started in response to a request from James Downing, winner of five championships in the International Motor Sports Association. Downing used the HANS prototype during the Daytona 24-hour race held last month.

At the current stage of development, no HANS device has been tested in a crash environment. Hubbard is currently investigating specific applications. He has discovered that the neck strains and injuries common in auto racing are shared by parachutists and operators of all high performance vehicles, aircraft and boats.

Without the HANS device.

Direct resistance of head motion with HANS.
"To facilitate learning and to accommodate students with computer or math phobias, there are NO examinations. Grades are based on weekly assignments, weekly open-book quizzes and a term paper."

That's how Thomas Adams, professor of physiology, advertises his course on computers in medicine, a course for which he received the Golden Key National Honor Society Award.

The course, open to both undergraduate and graduate students, focuses on the programming and use of handheld microcomputers. Sometimes attended by physicians and nurses and by Medical Scientist Training Program students, the course requires no background in computers or math skills beyond basic algebra. Adams believes to do practical calculations on affordable computers. He decided to create the course and then spent two years looking for a text.

He found many computer instruction books but he couldn't understand any of them.

"Theory books didn't help," he explained. "I needed practical applications. I wanted to teach a meat-and-potatoes, hands-on, how-do-you-do-it course."

Finally he wrote his own text. Within three months of writing it he received a call from a California company wanting to publish it.

"I guess other people were having the same problem I was," he said.

The book, which could serve as a self-teaching guide, is still available through the company, called EduCALC, which specializes in professional computing products.

The course has given Adams the chance to take risks with teaching, something he believes professors should always strive for.

"The essence of the course is to provide math and computer skills at a very practical level," he said. "Not many professors would teach that kind of course without exams."

In some classes students have to decide between "psyching-out" the professor and passing the exams or really learning, he said.

"Everyone who is conscientious will get a good grade," he said. "They are free of the exam pressure and can concentrate on learning."

As part of his attempt to keep the course worry-free and to facilitate learning, he encourages students to turn in assignments more than once. They have the opportunity to re-do them before receiving a final grade.

Several grants and continuous support from Hewlett Packard, Inc., have provided the computers and printers used in the course. Adams asks students to share computers so they can work together and, he hopes, learn from each other.

He offers the course three terms a year and limits enrollment to 30, in order to give students individual attention.

Students are also encouraged to use the computer imaginatively, and to adapt the assignments to their own interests. Several of his students have published their term papers from the course. One physician who took the course now uses his computer on his hospital rounds.

Adams believes there is tremendous potential in computers.

"They are very patient teachers, you can use continued on back page
Computer-assisted views of the spine

A computer-generated image of the spinal column has been developed by Herbert Reynolds and Richard Hallgren of the Department of Biomechanics.

"In the past, we had to rely on numerical and statistical data for analysis," Reynolds said. "Unfortunately, numbers alone don't do justice to the complexity of motion."

If you visited Richard Hallgren, associate professor of biomechanics, at the MSU Engineering Building, you might be startled by the sight of what looks like a human spinal column moving about on the screen of a computer display.

Along with Herbert Reynolds, associate professor of biomechanics and director of the Systems Anthropometry Lab, Hallgren has used data to reconstruct a human spine which can be viewed from any point in three-dimensional space.

They conceived of the idea about six years ago, but it has only been recently that technology has progressed to the point where it becomes practical to incorporate their concept in the classroom.

"Technology has finally caught up to our idea," Hallgren said. "The graphics capability of computers has increased to the point where they can handle the large images that we are generating, and their cost has decreased at the years ago can be now purchased for $50,000. The project involves producing a video tape that would show a computer generated spine that would match the motion monitored by a physician examining a patient. "We will be able to show what the physician attempts to image in his mind as he examines a patient," Reynolds said.

Reynolds collected motion data in his Systems Anthropometry Lab by measuring sequential increments in the position of the spine of an embalmed cadaver. He utilizes stereoradiography to locate in three-dimensional space target points that he places on the bones. By following the movement of these targets, he can determine the exact location of the bones and how they move relative to each other. Once the motion data have been collected, the bones are removed, cleaned, and processed through a

Continued on back page
Shirley Harding: MSU-COM's Urologist

Shirley Harding, assistant professor of osteopathic medicine, has met many challenges in her career. Harding, a 1977 graduate of MSU-COM, is one of only about 100 who are women urologists. Of that 100 she is the only D.O.

Originally interested in surgery, she took a general surgery residency at Botsford General Hospital. She then took urology as a sub-specialty, but was discouraged from the field by some physicians.

"Some physicians said I would starve," she recalls. "They said that mostly men have urological problems and that men wouldn't accept a female urologist."

Since the patients seemed to accept her quite well, she decided to pursue urology.

In 1982 she went into urological surgery training at Detroit Osteopathic Hospital/Bi-County Hospital.

Perhaps her acceptance by male patients can be best exemplified by her participation in Sparrow Hospital's Recovery of Male Potency Program, a support group for patients and families. While she says people are often surprised when she is introduced as a urologist, they like "getting a female perspective."

Harding says she always had the idea of teaching and clinical work in the back of her mind. So after a few years of group practice in Detroit, she accepted an offer from MSU-COM.

"I love to see how much students can learn and improve," she said. "I enjoy having a chance one-on-one to improve students' ability as physicians."

Presently, Harding lectures to medical students as a group and works with them and interns on rotations. She also has been involved with some continuing medical education programs. In addition to teaching students, she enjoys teaching her patients and working with them.
"I love to see how much students can learn and improve," she said. "I enjoy having a chance one-on-one to improve students' ability as physicians."

She finds reward in helping patients to improve their general health, whether by assisting them with a change in lifestyle or with the removal of a cancerous tumor. She is the first full time urologist at MSU-COM. Harding was given the opportunity to establish her clinic at the MSU Clinical Center.

"When I arrived I was asked: What do you need?" she said.

In addition to the facilities she has set up there, she utilizes urodynamics testing at Lansing General Hospital. The testing, which monitors continuous bladder pressure and electrical activity of muscles, can pick up neurological causes of bladder symptoms, she explained.

Harding received a B.A. in art from MSU. She then did some masters work in human nutrition at MSU. Professors encouraged her to enter medical school.

"A part of me wasn't quite satisfied with what I had done," she said. "I was looking for a combination of art and science."

She believes surgery and art are natural and complementary interests.

"In surgery and art work you use the same manual skills," she said. "And you have the same feeling of accomplishment."

Harding believes students with hobbies that require manual dexterity can excel faster in surgery training.

She chose osteopathic medicine because her philosophy of medical care matched osteopathic principles, she said.

She has been attracted to the field since undergraduate school at MSU when she became acquainted with several D.O.s.

Harding sees patients at Lansing General Hospital, Sparrow Hospital and St. Lawrence Hospital.

Harding talks to one of her patients at the Clinical Center.

Harding confers with a medical student.
the clinical curriculum."
He noted that in the instance of osteopathic principles and practice, this continuing involvement was particularly important to maintain these skills after students leave campus.

Gail Riegel, associate dean for academic affairs, noted that five targeted areas have been identified in the curriculum revision process to date. These include:
1. To develop and pilot an ambulatory care clerkship.
2. To revise and define learning objectives for the preclerkship curriculum — what it is, what it should be, and what it can be.
3. To define input of osteopathic principles and practice in the curriculum.
4. To explore opportunities to introduce and develop new modes of instruction into the curriculum, including computer literacy.
5. To review and revise the hospital-based clerkship program.

"When we started, we tended to plan our curriculum through a rear-view mirror," Riegel said. "Now we've engineered a model to decide what objectives are appropriate for an integrated curriculum.

"The dean is to be especially commended for his role in this process," Riegel said. "He provided the stimulation and the impetus. He had the patience to allow the process of faculty development and leadership to take place, resulting in more faculty ownership and participation on curricular issues.

"The fact that we've reached this stage with this kind of involvement demonstrates the growing health of our college," he said.

Retrospective: moving toward curricular revision

A self-study completed in July 1983 to respond to an AOA site visit was the impetus for MSU-COM's current curricular efforts. That study noted implementation of the systems model, integration of osteopathic theory and methods within the entire program, and quality control in Unit III as areas which needed enhancement.

In October 1984, a 12-faculty ad hoc curriculum review committee, chaired by Keith Goldhammer, noted "there is no compelling evidence that the program is seriously flawed or failing to carry out its mission. However, there is compelling evidence that the educational program falls short of its potential to exhibit the highest standards as the example for other institutions of osteopathic medical education."

The "Goldhammer Report" included numerous specific recommendations for curricular revision, and faculty requested that the Curriculum Committee address its efforts to consideration of the recommendations.

"The fact that we've reached this stage with this kind of involvement demonstrates the growing health of our college."

Four subcommittees were organized.

The first, working with the basic sciences, was engaged in the development of the Osteopathic Curriculum Information System, which identified existing curricular content. The second, investigating on-campus clinical training, conducted an extensive survey of existing instructional techniques and methodologies, primarily in the systems biology courses. The third, working in close cooperation with the clinical faculty, the Office of Academic Affairs and the directors of medical education at affiliated hospitals, developed guidelines for the base hospital clinical clerkship programs, and assisted departments with the revision of their clinical protocols. The fourth surveyed the integration of osteopathic principles and practice in the College curriculum.

Early in 1986, the Curriculum Committee moved from assessing "what is" in the curriculum to reviewing "what should be." Four faculty subcommittees developed graduation objectives in the areas of medicine, surgery, ambulatory care and behavioral medicine.

In early 1987, a Curriculum Revision Task Force was appointed to move the substantial work accomplished by the Curriculum Committee to its culminating phase. The task Force included 26 faculty members assigned by the department chairpersons, with the chairperson of the Curriculum Committee, the dean, the educational consultant and the associate dean for academic affairs serving as ad hoc members.

The Task Force comprised three committees to address preclerkship training, hospital-based clerkships and ambulatory care clerkships. Their reports were accepted by the Curriculum Committee during its February 1988 meeting and presented for approval at the February faculty assembly.
News from beyond...

Alumni, we need and always appreciate your news!

Send items to: "Communique," MSU-COM, Office of Health Information, A310 East Fee Hall, East Lansing, MI 48824-1316.
For assistance call (517)355-9261.

John M. Ketner, 1978, was board certified in general surgery in 1987.
He writes that he has three children.

Kenneth J. Richter, 1978, will be a physician for the cerebral palsy team to the paralympics in Seoul, Korea, in October.

Donald Hillman, 1979, was recently elected chief of family practice at Ingham Medical Center in Lansing.
He is a full time family practice physician at Blue Care Network - Health Central East and is also currently chief of the family practice department.

Lawrence L. Prokop, 1980, has been elected to a three-year term on the board of directors of the American Osteopathic Academy of Sports Medicine.
He is also director of the George Washington University Teaching Service at the National Rehabilitation Hospital where he instructs residents in physical medicine and rehabilitation.

Susan M. Coughlin, 1981, recently married William Madden and moved from Hawaii to Pennsylvania.
She published an article in the December issue of the Hawaii Medical Journal entitled "Prevalence of Smoking at a Large Sugar Cane Plantation in Hawaii."

She received the American Cancer Society's Public Education Award for 1987 in Kauai.

Kirk Bellis, 1982, recently finished his child psychiatry fellowship at Indiana University Medical School at Indianapolis.
He writes: "I am now living in Guam about 8,000 miles from MSU. I arrived in time for Typhoon Roy and winds of 150 mph. I am the only child psychiatrist to ever work and live in Guam. I'll be here for three years and hope to travel a lot.
"The water is beautiful and snorkeling is great. I plan to take up scuba and travel to nearby islands.
"Hey, everyone it's 85 degrees everyday. I'll send postcards next month from Bali!"

He writes: "Mom and baby are doing well, as are the rest of the family. Greg joins Emily, 5, and Ben, 3.
"I am an intern medicine resident at Marshfield Clinic in Marshfield, Wisconsin."

Patricia A. Schmidt, 1987, writes:
"Surviving internship and will be staying on at Detroit Osteopathic/Bi-County Community Hospitals for an internal medicine/primary care residency."

Harold E. Bowman, professor and associate chairperson of pathology, was appointed as the American Medical Association representative to the Residency Review Committee for Pathology for a term which began in January. The committee is involved in maintaining the quality of graduate medical school education for the specialty of pathology.

Carl G. Becker, associate clinical professor of family medicine, has recently received certification from the American Board of Quality Assurance and Utilization Review Physicians.

Lynn Brumm, professor of family medicine, spoke on his experiences as a general practitioner in an Amish community at the International Health Project Brown Bag noon-hour presentation in February.

John Goodridge, professor of family medicine, was awarded the Andrew Taylor Still Medallion of Honor by the American Academy of Osteopathy in October. This is the highest award conferred by the Academy; not more than one is awarded annually.
It is awarded to those who have exhibited, among other accomplishments in scientific or professional affairs, an "exceptional understanding and application of osteopathic principles and of the concepts which are the outgrowth of those principles."

Lynn S. Herrington, medical student, married Paul A. Kelly, M.D., on November 21 at the MSU Alumni Chapel.

Laurey R. Hunselman, medical student, gave a presentation on "Fungi of the Skin" at the 207th Division of the Michigan Army National Guard, Medical Division in December. Her graduate advisor is Alvin L. Rogers, professor of microbiology and public health.

News on campus...

The news about MSU-COM faculty, students and staff.

continued on 10
Visiting professor

A visiting professor from Auckland, New Zealand, P.J. Scott, M.D., was working with the Medical Humanities Program during winter term.

Scott came to MSU to study and research medical education in the United States as part of a report to the New Zealand Cabinet. Scott is on a committee charged with making suggestions on the design of hospitals and related services in the New Zealand Health Service.

He is also interested in MSU’s approach to the integration of medical ethics into the medical school curriculum, particularly decisions regarding the allocation of health care resources.

Scott selected MSU because of the published work of the faculty of the Medical Humanities Program.

For the past eight years, Scott has been professor and head of the Department of Medicine at the School of Medicine, University of Auckland. He will return there in September as professor of internal medicine with special responsibilities in medical education and involvement in community health services.

New additions to the student lounge

The MSU-COM student lounge in D9 Fee Hall has some new features.

Student Council sought approval to change the function of the lounge from a quiet study area to a more social area earlier in the school year, said Jay Hoffman, student council president.

"There was no place to go and relax and just blow off steam," Hoffman said.

The MSU-COM Student Osteopathic Medical Association donated a ping pong table.

The council has also facilitated the arrival of a pool table, two pin ball machines and a coffee machine—all coin operated.

Michael Caccamo and Michelle Giansiracusa, student council members, organized the changes.

Hoffman hopes to add a television to the room in the future.

SAA upcoming elections

The Student Associate Auxiliary is holding nominations for the Board of Officers for 1988/89. Elections will take place in April.

Those wishing to nominate someone should contact a board member: Leslie MacKenzie, president; Judi Piers, vice president; Debbie Bur, recording secretary; Christine Wray, corresponding secretary; and Patty Peets, treasurer.

Celebrate Health Days Picnic

An all events day for students and faculty of all four professional health schools has been planned for April 29.

Including the Colleges of Human Medicine, Nursing, Veterinary Medicine and Osteopathic Medicine, the day’s events will include volleyball, baseball, soccer and other games between the colleges.

The main purpose is to allow the students of each college to interact with each other, said Edward Loniewski, one of the coordinators of the event.

The picnic will be in addition to the planned participation in various individual projects for the University-sponsored Celebrate Health Days which take place that week, he said.

Loniewski expects that about 600 people will attend.

MSU-COM’s Student Osteopathic Medicine Association and students from the College of Human Medicine proposed the event.

The students organizing the day plan to sell t-shirts, which will cost $6.

News on campus

continued from 9

Francis Kidder, medical student, and her husband Ben are the parents of a daughter, Zanie Ruth, born on November 10.

Terry S. Stein, professor of psychiatry, presented a main lecture at the International Conference, "Homosexuality Beyond Disease," sponsored by the University of Utrecht, The Netherlands in December.
Calendar of events

April 6 - 10
Tutorial on Direct Action Thrust Manipulative Technique

A five-day intensive course in the principles and use of direct action high velocity manipulative therapy. Primary emphasis will be placed upon the spine, pelvis and thoracic cage.

Prerequisites are "Principles of Manual Medicine" and "Level I Muscle Energy Technique." Sponsored by MSU-COM and MSU College of Human Medicine. 40 hours of Category 1 credit. Cost is $600 or $300 for physicians in training.

April 15-17
The Differential Diagnosis of Low Back Pain: An Interdisciplinary Approach

The course objectives include: presenting an integrated patient assessment as a basis for differential diagnosis, diagnostic procedures to assist in differential diagnosis, the interrelationship of visceral and somatic etiologies of low back pain, and using case histories as models for the problem solving process in patient management.

Sponsored by MSU-COM. 20 hours of Category 1 credit. Cost is $300 or $200 for physicians in training.

April 30 - May 2
Tutorial on Level I Myofascial Release Technique

Intensive exposure to basic concepts of myofascial release manipulative therapy. Emphasis is placed on direct experiences giving participants opportunity to test various forms of motion and motion changes, and palpate various tissues and forms.

Prerequisite training is "Principles of Manual Medicine." Sponsored by MSU-COM and MSU College of Human Medicine. 24 hours of Category 1 credit. Cost is $375 or $200 for physicians in training.

May 5-6
Cognitive-Perceptual-Motor Therapy Approach to Neurobehavioral Rehabilitation of the Brain Injured Child and Adult

Will focus on the holistic approach to sensory integrational training and neurobehavioral rehabilitation of brain injured children and adults and their integration into family, school and community.

Will be held at Northwestern Michigan College, Traverse City, Michigan. Sponsored by MSU-COM Division of Rehabilitation Medicine, Grand Traverse Chapter of the Michigan Head Injury Alliance and the Traverse Bay Area Intermediate School District. 12 hours of Category I credit. Cost is $85.

June 17 - 18
Second Annual Alumni Mid-Year Seminar: Diagnosis and Management of Common Neurologic Diseases

To be held at Grand Traverse Resort Village in Grand Traverse. Sponsored by the MSU-COM Alumni Association. Cost is $100, $50 for members of the MSU-COM Alumni Association or $25 for physicians in training. Eight hours of Category I credit. A separate course brochure will be mailed prior to the conference.

MAOPS Post-Graduate Conference and Scientific Seminar

The Michigan Association of Osteopathic Physicians and Surgeons, Inc.'s 89th Annual Postgraduate Conference and Scientific Seminar will be held April 21-23 at the Hyatt Regency Dearborn at Fairlane Town Center. CME credit is anticipated to be 29 hours of Category 1-A credits.

Topics are: risk management, sports medicine, ACLS certification and recertification, psychiatry and abuse, allergies, high-tech medicine update and obstetrics and gynecology.

For more information call 1-800-482-7656 or 313-476-2800.
A unique and award winning teaching approach

Continued from page 4

ting them on your own time and you don't have to obligate another person," he said.

Adams, who has no formal training in computers, has mastered the machine through self-study.

"It is an advantage because I was able to pick and choose what was useful to me in biological studies," he said.

He has published numerous programs with Hewlett Packard, Inc. One of them, which he wrote with Richard Heisley, professor of physiology, won a national award for program writing.

"We did some things that someone trained probably wouldn't have done quite that way," he said, "but ours works just as well."

He has written about 15 programs which are medically related.

Adams now has graduate assistants in the course. In the past some students had volunteered to help him. Ben Benko, a graduate in the natural science interdepartmental biology program volunteered and Cheryl Killingsworth, assistant professor of physiology also volunteered to assist him.

Computer-assisted views of the spine

Continued from page 5

CAT scanner to obtain morphological data.

Hallgren has written specialized computer programs that electronically reproduce an image of each bone on a computer display terminal. The motion data and the morphological data are then combined to create a "spine" that moves exactly as it did when it was intact in the cadaver.

"In the past, we had to rely on numerical and statistical data for analysis," Reynolds said.

"Unfortunately, numbers alone don't do justice to the complexity of motion."

An undistorted three-dimensional image gives you additional understanding and insight into the motion of a complex structure such as the spinal column, he said.

The video has the potential to be used in several medical courses, including the manipulation series.

Besides Reynolds and Hallgren, Robert Soutas-Little, chairperson, Robert Hubbard, associate professor, and James Rechtien, associate professor, all from the Department of Biomechanics are involved. Funds for its support have been received from the National Osteopathic Foundation and the United States Air Force.

The Communique Connection

Alumni, faculty and students we need and always appreciate your news.

Do you have new family members, new professional goals, a new location? Have you recently published a paper, given a presentation, received an award. Please update us!

Write to: the Office of Health Information, MSU-COM, A310 East Fee Hall, East Lansing, MI 48824-1316. Include your phone, address and graduating class. For assistance call (517) 355-9261.

Include your year of graduation (if you are an alum) and/or your position at MSU-COM. Please date and sign your submission.

JAN CARSON
COM CONT, MEDICAL EDUCATION
A306 EAST FEE HALL, MSU
EAST LANSING MI 48824-1316