Answers in the archives

Disease pathology collection teaches orthopaedists best methods to treat current orthopaedic diseases

Dr. Henry L. Jaffe

Dr. Jakob Erdheim

Dr. Crawford W. Campbell

A new system to store an aging collection of disease data will inform orthopaedic surgeons how past cases were treated, giving them ammunition to provide better care for their present and future patients.

Deep within **Henry J. Mankin, M.D.**'s home, thousands of photographs, slides, and letters fill a wall of filing cabinets to overflowing. Stacked in excess atop the cabinets, these are not merely treasured mementos with which Dr. Mankin cannot bear to part. They could be, according to Dr. Mankin, important research tools for orthopaedic surgeons.

"The contents consist of bone, cartilage, and soft tissue pathology," said Dr. Mankin, who figures that altogether there are more than 12,000 patient cases archived in his basement. He plans to use these collections for education and research.

"If you understand the disease, you can treat it very effectively. If you treat symptoms or treat what the patient wishes, you can make a lot of mistakes," Dr. Mankin said. "It really is necessary to understand the nature and the character of, and the possible problems that can arise from a disease. That's why, crucial to our understanding of orthopaedics, is an understanding of the pathophysiology of disease."

Orthopaedic History Lesson

Dr. Mankin's collection of data, which describes the functional changes that accompany disease, comes from several sources. Approximately 7,000 cases are from Dr. Mankin's own collection of 2 X 2 slides for which he has developed a computerized system to track the various diseases.

Friend and colleague **Henry L. Jaffe, M.D.**, a pathologist, left Dr. Mankin his pathology collection upon his death. Dr. Jaffe's collection consists of about 5,000 cases for which he kept a histological slide, X-Rays, photographs of patient material, and text copies of letters that he sent to the referring physician. Among Dr. Jaffe's collection are also included data collected by **Jakob Erdheim, M.D.** of Vienna.

> *"If a truth is uncovered where there is insufficient information, that's a step forward. If people learn something about disease that they wouldn't know otherwise, that's a giant step forward."*

"Just before the Anschluss, before Dr. Erdheim was killed by the Nazis, he sent his collection to Jaffe rolled in a very large rug," said Dr. Mankin, noting the historical significance.

The rest of Dr. Mankin's collection was willed to him by another friend and colleague, **Crawford W. Campbell, M.D.**

Dr. Henry and Mrs. Carole Mankin

Letting data out of the basement

Dr. Mankin, who currently serves as a senior research consultant for the Orthopaedic Oncology Service at Massachusetts General Hospital, offered to store the collections in his home when he learned that the hospital did not have the room or the desire to keep them.

Henry J. Mankin, M.D. stores a collection of more than 12,000 pathology cases in his basement. He hopes to place all of them on CDs to aid in orthopaedic education.

"They didn't think it was worth keeping so they were going to put it on Iron Mountain, and that would have been the end of it. I decided to put it in my basement instead," said Dr. Mankin. "So I have a collection, extraordinary in size, in my basement."

Providing storage space, however, was not the reason that Dr. Mankin chose to keep the files. As a life-long educator committed to teaching the pathophysiology of orthopaedic disease, Dr. Mankin saw the potential to turn the collection into a database that could serve as an important educational system for orthopaedic surgeons, residents, fellows, and staff and also provide a basis for clinical research.

"What I'm trying to do is make copies of it on CDs and turn it into something that is logical and sensible for people to use for education and research. And I'm doing it in part with a generous grant from the Orthopaedic Research and Education Foundation," Dr. Mankin said.

Every year OREF funds approximately 10 Educational Awards of up to $25,000. These are used for educational programs developed in conjunction with a recognized, national organization to evaluate the effectiveness of orthopaedic education at all levels; for clinical consensus conferences; for workshops and symposia; for innovative approaches to education, and, like Dr. Mankin's project, for the development of educational electronic media.

With his educational grant Dr. Mankin hopes to turn his collection of data into a searchable database to make it easy for orthopaedists to find information about a particular disease. So far he has been able to copy more than 900 cases to CDs.

"One of the things we're trying to do is set up an Internet collection that could be used like Google™. You'd type in, say chondrosarcoma, and you'd be provided with the material for chondrosarcoma, including various pictures and summaries of the patients and so forth," Dr. Mankin said.

The more treatments change…

In addition to education, Dr. Mankin points out that the data can also be used to perform research. He recently published a paper in *Clinical Orthopaedics and Related Research* comparing current information on Paget's sarcoma with the information Dr. Jaffe collected between 1930 and 1950. Dr. Mankin found, to his dismay, that treatments for Paget's sarcoma — a highly malignant tumor that arises in patients with widespread Paget's disease — have not improved the outcome. The death rate is the same.

"I presented the paper at a meeting of the Musculoskeletal Tumor Society and everybody was stunned and they didn't believe me, so I now have a small grant to collect cases of Paget's sarcoma from members of the Musculoskeletal Tumor Society and I'm putting together a large collection based on that paper," Dr. Mankin said. This collection, Dr. Mankin hopes, will show what needs to be done to better treat the disease.

Dr. Mankin notes that other orthopaedists could use the Jaffe-Erdheim-Campbell collection in a similar fashion to his Paget's sarcoma study.

> *"You've got to know something about the disease to make people well. That's an absolute fact."*

"Suppose you want to write a paper about Clear Cell sarcoma, which is a rare tumor. Not very many are reported in the literature. Well, if you go through the Jaffe collection, you'll find another 20, and then you can take those cases and put them together, define them, review their X-Rays, look at their histology and you'll be able to write the paper. It's an exciting idea."

As with Dr. Mankin's paper on Paget's sarcoma, this information can be used to evaluate current treatment methods to determine if alternatives are needed to enhance patient care.

(continued on page 12)

Answers in the archives *(continued from page 11)*

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Believing in Education

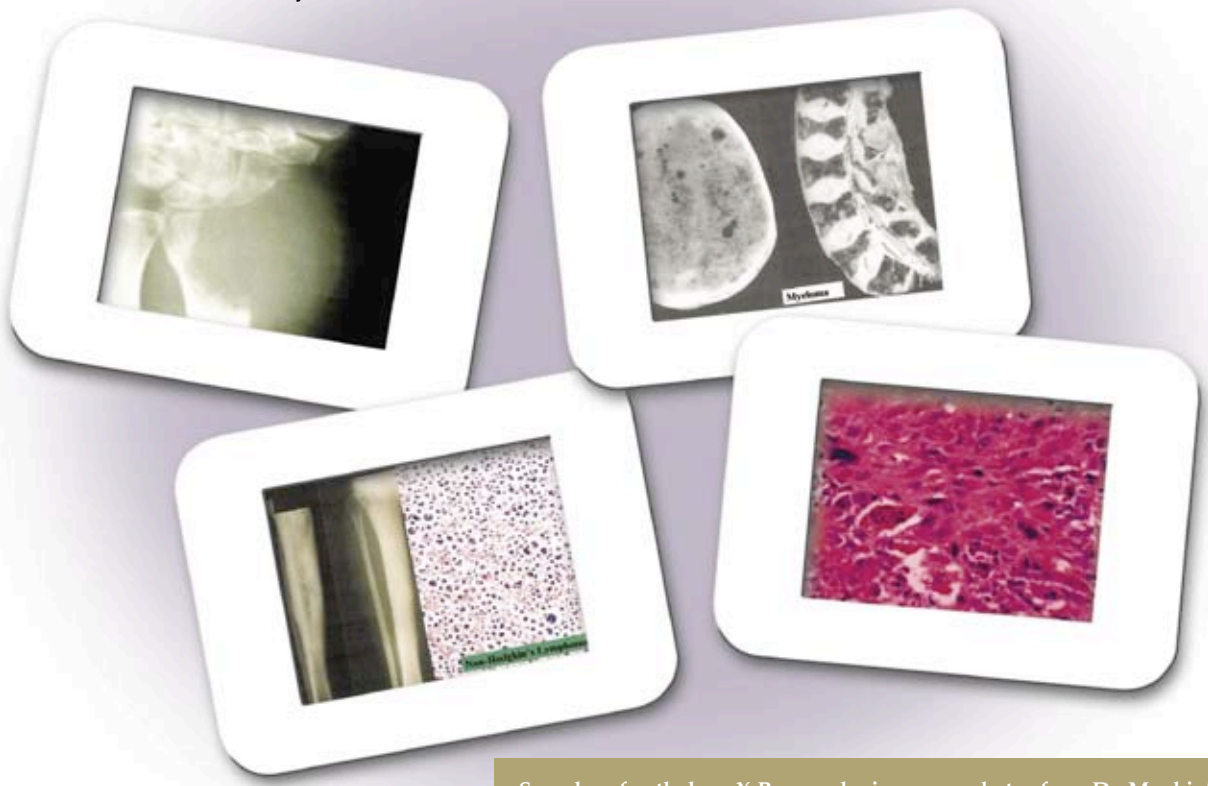
Although Dr. Mankin said that he would have found some way to complete his project, **he acknowledges the fact that he couldn't have started it without the funding from OREF**.

"I didn't have any idea about how to cover the cost of putting the information into CDs and it occurred to me that it would be wonderful to try to do it through some of the orthopaedic organizations. The one that made the most sense, by definition, was OREF."

OREF also made sense because of Dr. Mankin's long history with the Foundation. He served as an OREF Regional Chairman for the greater New York area between 1966 and 1972, was a member of the Grant Advisory Committee between 1971 and 1982, and a member of the Constitution Committee from 1983 to 1984. In addition, Dr. Mankin and his wife, **Carole**, have made annual gifts to OREF at the highest Order of Merit level almost since the program began nearly 25 years ago.

"We think it's a magnificent organization. It sponsors, supports, and encourages research and education, and that's my whole life. That's what I believe in," said Dr. Mankin. "If you don't conduct research, things will stay the same and if you don't educate people in one generation it's the end of your world. If grants are funded for the purpose of education and clinical research, everybody — orthopaedic surgeons, residents, staff — benefits. If a truth is uncovered where there is insufficient information, that's a step forward. If people learn something about disease that they wouldn't know otherwise, that's a giant step forward."

Dr. Mankin believes that this philosophy of learning can be applied to patients as well. "You've got to know something about the disease to make people well," stated Dr. Mankin. "That's an absolute fact. And that's what the Jaffe-Erdheim-Campbell collection does. With sections on osteoarthritis, rheumatoid arthritis, sarcoid, syphilis, polio, all kinds of diseases that are seen or were seen everyday, it teaches you about the disease you treat. If the physicians who care for patients with connective tissue disorders know more about the disease, the patients will live better and longer."



Samples of pathology X-Rays and microscope photos from Dr. Mankin's collection. Clockwise from top left: giant cell tumor, myeloma, osteosarcoma, lymphoma