

Kenneth DeHaven, M.D., '63: A well-timed career

By Laura Stephenson Carter

If anything can be credited with revolutionizing professional and amateur sports, it's arthroscopic surgery. DMS alumnus Kenneth DeHaven, M.D., has played a key role in that revolution.

It used to be that a knee injury—especially a tear in the meniscus, a wedge of cartilage within the joint—could prematurely end an athlete's career. Before the 1970s, the standard treatment for knee tears was complete removal of the meniscus via open surgery; without a meniscus, it was nearly impossible to play a sport competitively. DeHaven, an athlete himself, has since helped to pioneer arthroscopy—a minimally invasive technique involving the use of a flexible, fiber-optic device to see inside the joint, diagnose the extent of an injury, and even repair it.

DeHaven knows about sports injuries firsthand. In high school, he lettered in football, basketball, and track. And at Dartmouth, he was a star football player—center on offense and linebacker on defense; he helped lead Dartmouth to its first Ivy League championship in 1958 and was captain of the team in 1960. DeHaven was lucky. He never had any major injuries. But his experience with minor ones spurred his interest in sports medicine, a field that was emerging while he was still in training.

“One of the first things that gave me some insight was when I was a sophomore in high school and I had a foot fracture,” he recalls. He figures that he injured his foot doing the high jump during track season in the spring of his ninth-grade year. “It was probably a stress fracture that wasn't too severe.”

After an x-ray confirmed the fracture, DeHaven asked his family physician if he could play football that fall. The doctor didn't know but referred DeHaven to someone who might: a new orthopaedic surgeon in town who had just completed his residency at the University of Michigan, where he'd helped to take care of its football team.

The surgeon had good news: As long as the injury didn't bother DeHaven too much, he could play. Then at the end of football season, the surgeon said, he should have a cast put on the injured foot.

DeHaven's father, who tested products for the home appliance manufacturer Frigidaire, crafted an aluminum insole to fit inside his

Grew up: Kettering, Ohio—a suburb of Dayton

Education: Dartmouth College '61 (A.B. in history), Dartmouth Medical School '63 (B.M.S.), Northwestern University Medical School '65 (M.D.)

Training: Residencies in general surgery and orthopaedic surgery at the Cleveland Clinic and a fellowship in sports medicine at the Sports Medicine Clinic of Atlanta

Military service: U.S.S. *Galveston* (1967-68); U.S. Naval Hospital at Camp Pendleton, California (1968-69)

Avocation: Repairing and restoring antique clocks

Organizations he's been president of: American Academy of Orthopaedic Surgeons, American Orthopaedic Society for Sports Medicine, Arthroscopy Association of North America

The dexterity DeHaven honed doing arthroscopic surgery comes in handy as he now tinkers with antique clocks.

son's shoe. “It was bent a little so I could get kind of a rocker-action push-off,” says DeHaven. The stress fracture “didn't really hurt that much. So I played the whole season and then went into a cast afterwards.” He missed basketball season that winter, but his foot healed fine.

Most doctors would have put a cast on right away, DeHaven says, forcing him to miss football season. It was, he adds, “my first exposure to having a little bit of a different mind-set about injuries for in-season and pre-season athletes.” That exposure, combined with his growing interest in medicine, eventually propelled him into orthopaedic surgery and sports medicine.

His initial attraction to medicine may have been stimulated by his own family's medical problems. DeHaven was just 9 when his 15-year-old brother died of leukemia. And his father had a malignant lymphoma on his neck that was treated with radiation. The therapy caused complications, including necrosis, or tissue death, on his father's ear and neck as well as in the underlying bone. “He had a long series of major, ticklish, delicate surgeries and then had major skin grafting done,” DeHaven recalls. “Most of my memories growing up, he always had a big bandage on his head.”

Some years later, all grown up, DeHaven was a resident in surgery at the Cleveland Clinic just as, coincidentally, the concept of sports medicine was beginning to take shape. The chair of orthopaedic surgery at Cleveland, C. McCollister Evarts, M.D., had recruited Roy Collins, M.D., to start one of the first sports medicine programs in the country. DeHaven worked with Collins and also did a three-month rotation in Atlanta with Fred Allman, M.D. Allman, explains DeHaven, was “the first person in the U.S. who had gone into full-time orthopaedic sports medicine.”

After finishing his residency in 1972, DeHaven stayed on at the Cleveland Clinic. Evarts—one of the first chairs in the country to develop an orthopaedics department along subspecialty lines—asked DeHaven what he'd like to pursue in addition to sports medicine. “Arthroscopy,” DeHaven replied. He'd taken a knee course with arthroscopy pioneer Robert Jackson, M.D., who practiced in Toronto, and he wanted to learn more. As it happens, Collins had acquired an arthroscope but hadn't been very successful using it, so Evarts was

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happy to send DeHaven to be trained by Jackson. In Toronto, DeHaven watched carefully as Jackson manipulated the arthroscope to peer inside patients' injured knees.

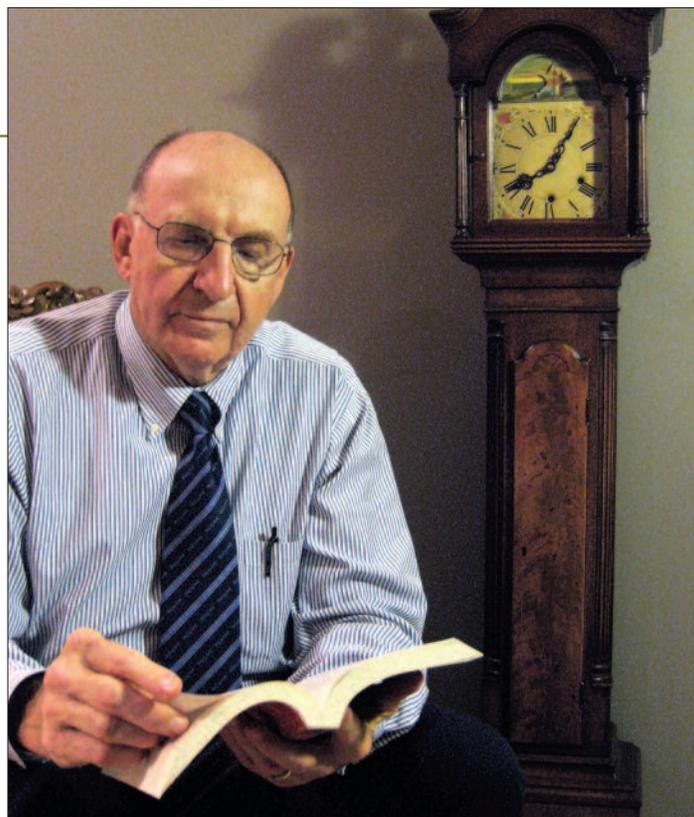
"I could tell right away that he was doing two or three things differently," says DeHaven. Today, a trainee would be able to observe an instructor's every move on a video screen. But "this was before there were teaching attachments," says DeHaven, "so I [used] what I call the lean-in, lean-out" method of observation. (Back then, arthroscopy was used only to diagnose the extent of injuries; its role in fixing them would come later.) Jackson would get an injury lined up in the scope, then step back so DeHaven could look through it. The trainee, recalls DeHaven, would "hope nothing changes in the meantime, because the scene might be totally different when you look." Despite the rudimentary equipment, DeHaven continues, "I looked in there and I could see, 'Yeah there it is.' So then [Jackson] handed me the scope and said, 'Now you [find] it.' Well, I was able to do it."

One of Jackson's techniques was to keep the knee tissues constantly irrigated; he had a resident closely monitor the irrigation system throughout a procedure. At the Cleveland Clinic, the irrigation set-up wasn't watched as closely. Often the system would get clogged, fluid would stop flowing, and the operating field would get murky.

DeHaven also noticed a difference in how Jackson's team positioned the patient. If they wanted to look in the back of a knee, they kept the leg straight. But the Cleveland team put the knee at a 90-degree angle. "I went back to Cleveland," DeHaven recalls, "and I said to Dr. Collins, 'Roy, you can't believe how close we were'" to doing successful arthroscopy. "I showed him what I'd learned in Toronto, and from that moment on, the two of us were able to do it."

Soon, Collins and DeHaven had progressed from doing diagnostic arthroscopy to putting a probe in the knee so they "could touch the tissues . . . as well as look at them," DeHaven says. "That just made the diagnostic part of things more complete, more accurate." By 1975, DeHaven was doing meniscus repairs arthroscopically.

While arthroscopic surgeons were perfecting their technique, medical equipment companies were perfecting miniature instruments and cameras. By 1980, tiny light-sensitive cameras could project images



JEAN DEHAVEN

DeHaven, a pioneer in arthroscopy, has served as the president of three major societies.

from inside the joint on video monitors so everybody in the OR, including the patient, could see what was going on.

But despite the progress, arthroscopy "wasn't welcomed with open arms by established knee surgeons," says DeHaven, "especially the sports knee surgeons. . . . They thought it was a passing fad [and said], 'Why look through a keyhole when you can open the door and walk right in—with a big incision.'"

DeHaven used diplomacy to persuade recalcitrant surgeons. "I was still a young pup in the field, and I was giving talks about it," he recalls. So he'd praise senior surgeons' skill and experience with tricky knee injuries, then add that arthroscopy allowed

him to be as accurate as they were. "And then," he chuckles, "I would say, 'But I think if you did learn [arthroscopy], you'd be even better.'"

It took a high-profile case to really grab the attention of the non-believers. A professional football player who had had a torn meniscus repaired arthroscopically "played five days later and played well," says DeHaven. "That hit the press like gangbusters. . . . Then the people who hadn't bothered to learn [arthroscopy] wanted to instantly" become proficient in the technique.

When Evarts was recruited to chair orthopaedics at the University of Rochester, he took DeHaven along to establish a sports medicine division there. DeHaven soon became a leader in the field and built up a corps of physicians, physical therapists, and athletic trainers who worked with high school, college, and professional athletes. He himself was the team physician for the Rochester Rhinos professional soccer team and the Rochester Red Wings minor league baseball team. He saved many an athlete's career, published papers on his clinical research, and mentored young surgeons. In 2006, he was elected to the prestigious Sports Hall of Fame of the American Orthopaedic Society for Sports Medicine.

He's semiretired now but still serves as Rochester's senior associate dean for clinical affairs and practices part-time. He also has some new "patients"—antique pendulum clocks. The dexterity he honed doing arthroscopic surgery comes in handy as he now tinkers with clocks' tiny gears. And who knows: If he learns to repair clocks through their keyholes, he might end up revolutionizing that field, too. ■