

Surgical lifestyles

Fellow fully realizes the art of surgery



Like most artists, Janice F. Lalikos, MD, FACS, has an exquisite sense of perception, noticing how shafts of light illuminate hairline ridges and crevices as they glint off the surface of a leaf and how shadows play along the ground as the wind rustles the branches of a tree. That sensitivity to color and form heighten her appreciation of the processes of pathology: the ways disease and injury alter underlying anatomy and architecture and mottle the topical landscape.

“Artists continually analyze not only what they see but why they see something a certain way,” Dr. Lalikos said. “The Pointillism movement came out of the desire to make light fractal, to figure out why a leaf looks this way at this time of day, what colors generate that picture on our retina.”

A medical illustrator and associate professor of plastic surgery at the University of Massachusetts Memorial Health Care, Worcester, Dr. Lalikos has always looked below the surface to find out why patients have certain physical features. Even in medical school at Johns Hopkins Medical School, Baltimore, MD, when she was still learning the names of specific diseases and trying to keep biochemistry formulas from flying out of her head as soon as she finished an exam, Dr. Lalikos easily recognized the manifestations of disease: concavities where softly swelling muscles should be,

by Karen Sandrick, Chicago, IL

Left: Dr. Lalikos. Background art: 1998 drawing by Dr. Lalikos for a manuscript.

protrusions in the place of long flat bones, webs of petechiae on otherwise smooth, clear skin.

While all medical students eventually hone their attention to physical nuances, Dr. Lalikos had an almost intuitive sense about patients because of her artistic eye and her training as a medical illustrator. "Having observed and drawn the human form in life drawing classes for upwards of five years, I knew when a patient's color wasn't right, when the skin wasn't hanging right, when the veins weren't where they were supposed to be," she said.

Specializing in plastic surgery was a natural fit because of its appreciation of spatial relationships and esthetics, technical skill, and variety. "Plastic surgery is the most creative of the surgical specialties, where you have guidelines and rules and anatomy as your core, but also variability. In plastic surgery, you can do six different things depending on the problem and the patient," she said.

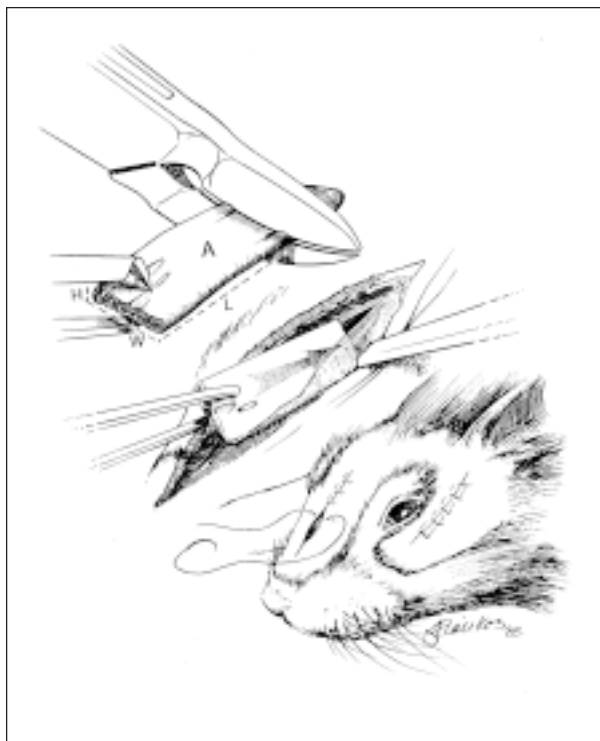
Dr. Lalikos now brings her illustrator's talents to her patients and her research. "Every day, I draw for my patients. If I'm repairing a facial fracture, I draw the skull in front of the patient and the family to show them where all the bone plates are," she said. She also does the illustrations for the papers she has published on such topics as the healing of surgical scars and bony reconstruction.

Two lifelong interests

Dr. Lalikos has been "bouncing back and forth" between the biological sciences and the biological arts since college. At the time she was graduating from high school, she had difficulty deciding whether to attend a fine arts college or a liberal arts institution. She ultimately enrolled at Case Western Reserve University in Cleveland, OH, as a biology major, but in her sophomore year, she learned that the Cleveland Institute of Art, on Case Western Reserve's campus, was graduating bachelors of fine arts in medical illustration.

More interested in life drawing, sculpture, and basic design than fabric and jewelry making, which were essential courses in the fine arts curriculum, Dr. Lalikos tailored a bachelor's degree course of study more to her liking, focusing on medical illustration and biological sciences and graduating with a degree in medical illustration in 1984.

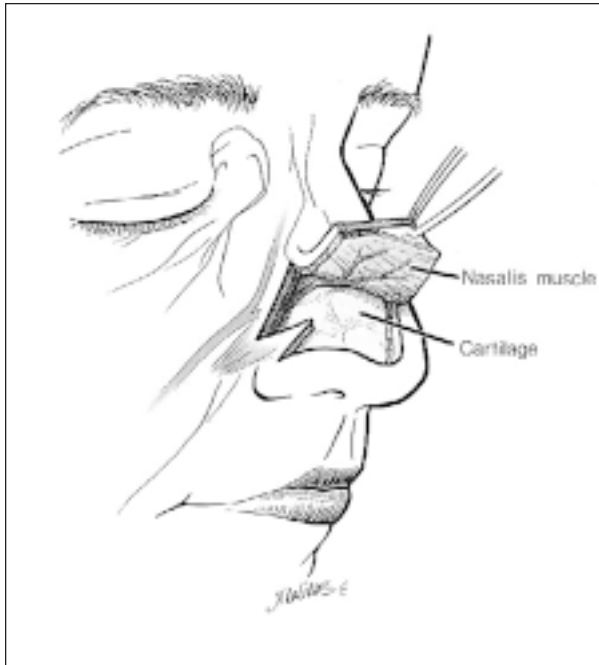
After two years of college, she started



Dr. Lalikos's 1988 drawing of a rabbit head, done for her thesis.

freelancing as a medical and biological illustrator for an orthopaedic surgeon who wanted stand-alone pieces of art on adhesive capsulitis. She made a series of drawings of the anatomy of the shoulder, diagrams of the surgical correction, and sketches of the rehabilitation process. "Every time I came back with sketches, I would have a litany of questions that had nothing to do with the art: how the surgeon decides whom to operate on, whom to follow, and so on. Finally he said to me, 'Lady, I need you to color the arteries in red and the veins in blue. To get the answers to all those other questions, you need to go to medical school.'"

So, at the eleventh hour, the summer before her senior year in college, Dr. Lalikos decided to go to medical school. The summer between her junior and senior years, she crash-coursed physics and physics lab, took the MCAT the last time



1992 drawing of a nasal flap, done in 1992 by Dr. Lalikos.

it was offered that year, and was accepted at Johns Hopkins the following summer.

While taking anatomy in medical school, Dr. Lalikos became acquainted with master's degree students in medical illustration. "I started talking to them about their curriculum and found there was a great deal of overlap, especially in the scientific courses, with what they were doing and what we were doing as medical students in the first two years."

Making another connection with art, Dr. Lalikos arranged with Johns Hopkins School of Medicine to substitute some courses in medical illustration as electives and allow her to pursue a master's degree in medical illustration. After match day, while other medical students were vacationing until the start of their internships in July, she was preparing her master's thesis on animal studies of the treatment of traumatic fractures of the face with bone grafts from other parts of the body.

Working with Paul Manson, MD, FACS, now

chair of plastic surgery at Johns Hopkins, Dr. Lalikos created onlay bone grafts from the tibia and the cheekbone and placed them on the calvarium in rabbits. For her thesis, Dr. Lalikos not only performed the bone grafts and examined them under the microscope, she also made drawings of the operation, stained the bone, and generated graphs of the findings, comparing endochondral and membranous bone grafts.

After graduating with a master's degree in medical illustration and an MD, Dr. Lalikos had to decide whether to become a full-time illustrator or move on to internship and residency, and she consulted surgeons who were also artists. As she recalls, heart surgeon and watercolorist Vincent Gott, MD, FACS, advised, "If you at all think you want to be a surgeon, you have to do it now. Your art will always be with you; it will be your joy and your avocation, and even a source of a freelance career. But if you want to be a surgeon, you have to do your training now, because you won't have the stamina for it later."

Dr. Lalikos went on to a general surgery residency at Vanderbilt University, Nashville, TN, a research fellowship at the University of Pittsburgh, PA, and a plastic surgery residency at the University of Massachusetts. All the while, she continued her art, doing commissioned portraits for surgeons and their wives and families, sketches for her patients, line drawings for her clinical papers.

Similar yet different

Although medical illustration and plastic surgery fit like hands in gloves in many respects, the two pursuits are decidedly different. "If I'm doing a painting or a drawing or a sketch and it's just not working, I can stop, go away for a while, drink a cup of coffee, take a walk, and clear my head. Nine times out of ten when I come back, it'll pop into my mind: 'That's why it's not working.'"

"But in surgery, when you are operating on a patient with a head injury, the patient is on the table, and his nose is bare, you can't leave and come back tomorrow. You have to finish, and it has to be perfect." □

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