

A 40-Year Retrospective

Look how far we have advanced in four decades.

BY PAUL KESSELMAN, DPM

Since 1977, when the ICPM class of 1981 began its medical training, the world has changed in far too many ways to recount, as has the practice of every medical specialty. Daily discussions on a variety of healthcare-focused topics with colleagues, family and friends and our industry partners have changed all our views on medical careers. For this last issue of 2023, let's review some highlights of medical training from 1977-1981, including some discussion about how management of various pathologies, diagnostic tools, treatments, and available technologies—from the diabetic foot to pain medications to onychomycosis therapy, from orthotic casting to automatic xray processors to coronary artery bypass grafts—have changed—sometimes drastically—since that time.

Looking back, for instance, at the anatomy courses taken during the first three semesters, much has changed how this is taught, but the insertions of the muscles into the twenty-six-foot bones has not. Most seasoned podiatric practitioners would be unable to remember each branch of the Circle of Willis. But then again, most neurosurgeons could be hard pressed to name all twenty-six-foot bones.

Four decades ago, pharmacology was taught with only a few days dedicated to the management of diabetes. There were two or three oral diabetes medications and primarily two insulin (beef or pork) products, some short and others long acting. Beef and pork-based insulin have mostly disappeared, leaving human-based (Humulin) products with various durations of action. Adding to the myriad of medications for diabetes are oral agents (some combinations of multiple agents) along with insulin-boosting injectables and orals.

Today, it could take more than a few days or weeks to teach the brand and generic names, mechanisms of action, and the potential interaction of all diabetic management medications with other pharmaceuticals. The same can be true of hypertension management medications, where furosemide and hydrochlorothiazide (HCTZ) once ruled the marketplace long before the popularity of the large number of currently available angiotensin agents. In the “good old days” patients were educated on their medications from

our patients' toenails with nippers and curettes without gloves, as those were reserved for sterile surgical procedures. How much nail dust did we inhale during our formative years of practice? Do you now cringe at the thought of administering steroid injections or performing vein punctures gloveless?

MRSA was primarily hospital-acquired and was a big deal back in the mid-1970s when Pen VK was quite an effective drug even for moderate skin and soft tissue infections. Today, many patients are colonized

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paper prescriptions and handouts from the doctor and pharmacist. Today, they often come to the office asking if the advertised medications they have heard about are appropriate for them.

There were only a few anti-inflammatory agents, such as phenylbutazone, indomethacin, and aspirin, which ruled this market. Ibuprofen and naproxen had been approved in the mid-1970s, and these too were considered a wonder drug for many arthritic ailments. The effects of NSAIDs on diabetics and specifically on their renal function were not well understood until the early 1980s. Allopurinol, colchicine, steroid injections, and butazolidin were available for gout. Today, there are many NSAID medications, with many available OTC. There are also a number of biologic agents now available for RA, gout, and other autoimmune disorders.

Microbiology classes taught about the multitude of bacteria, virus and fungus among us, but there was no HIV, hepatitis C, D, or E. We dug into

with nasal MRSA, and many physicians assume their patients have MRSA when prescribing for empiric infection treatment prior to definitive results. In 1977 we were taught to beware of the high incidence of crossover allergy to penicillin with Keflex.

Today, most ID specialists will say that is just not so. The first quinolones were patented around 1978 and were a breakthrough in treating gram negative infections such as pseudomonas. Today, the newer generation quinolones have a wider spectrum of activity and improved pharmacokinetics than their first-generation ancestors. However, they are not without their potential musculoskeletal side-effects. There is PCR testing for microbiological analysis with results sometimes available faster than the routine 48 hour culture/sensitivity testing. And oral onychomycosis therapy? The treatment in 1977 was way more toxic than the disease. Today, there are several safe

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oral and topical antifungal medications, although they are far from as effective as most antibacterial agents.

Many diabetic patients lost limbs due to the inaccessibility to office-based vascular testing and lack of advanced surgical techniques to bypass smaller vessels.

Fiberglass casting material was first offered in 1980 and had to be cured with a special UV light, with patient and practitioner wearing protective eyewear. Heavy plaster casts were the norm in the pediatric clinics for metatarsus adductus and internal tibial torsion. Braces, including the Denis-Browne Bar, were not very popular and the thermal plastic braces used today were but a pipe dream back then.

In the good old days, plaster total contact casts took even longer to apply and dry than their modern fiberglass models, with plaster weighing significantly more. All this made for a tedious messy job and making most patients balk at repeated applications. And the cast saws scared off many patients young and old alike.

Plastic CAM Walkers were not widely available and the thermal plastic AFOs were just coming into play. Heavy metal bracing was still quite popular with the older polio patients.

Prior to inexpensive automatic processors, x-ray hand tanks were normal as were many ruined jackets and ties. CT and nuclear scanning were becoming popular for providing additional differentiation of osteomyelitis from Charcot. WBC scanning to accurately differentiate infection from inflammation wasn't widely available until after the early 1980s. While MRI was technically invented in 1977, it was used only in research laboratories until becoming somewhat more practical in the mid-1980s for most clinical applications.

During the late 1970s, cardiac bypass was available in only a few highly specialized hospitals. Not only is a coronary artery bypass graft (CABG) now standard in most tertiary care centers, but open cardiac and limb bypass surgery has also been largely replaced by endoscopic-placed stents. In the next few years, as more cardiac procedures become ASC or ASU-based, it will only be a matter of time before robotic-guid-

ed limb angioplasties will be able to bypass even the smaller pedal arteries.

The diabetic shoe bill now provides diabetic patients access to a Medicare program covering the costs of off-loading shoes.

Anything linked to a PC was not available until the later part of the 1980s with DOS providing the first versions of EHR/EMR programs. Later, with Windows-based programs came office-based computerized dictation systems linked to EHR/EMR, gov't incentivized programs to computerize, paperless diagnostic testing, including but not limited to MSK ultrasound, vascular imaging, in-shoe gait analysis, digital x-rays, and more. Today, there

along with many other techniques; this has eliminated the risk associated with autografts for many patients. With "smart" surgical dressings on the horizon, wound care has become more complex than wet to dry sterile saline dressings and has come into its own as a diverse needed specialty, enabling more patients to retain their native limbs mostly intact.

In the mid-1970s, foot orthotics were mostly made of cork and leather or Rohadur, until the latter was discovered to be carcinogenic to the fabricator and was replaced by other plastics. Plaster casting was far more popular than foam. Scanning was not even on the horizon! Root theory was

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are also remote patient monitoring (RPM) and needle-free programs warning patients of elevated blood glucose and elevated peak plantar pressure. Continuous glucose monitoring has become more popular along with insulin pumps, providing patients with more accurate data enabling them and their physicians to improve blood glucose levels. A1C testing was available in the late 1970s but not too popular. Today, patients can purchase in-home A1C testing kits, though their reliability may be contested.

Standard wound care was wet to dry dressings. Reviewing the surgical dressings LCD from your DME MAC today will reveal hundreds if not thousands of surgical dressing selections. NPWT, HBO, topical oxygen, specialty multilayer compression dressings, electrical stimulation of wounds, and ultrasonic mist therapy with or without oxygen were either not available at all or were research tools or simply not practical for the outpatient setting.

Autologous skin grafts were the norm but were not often utilized in the 1980s because of the creation of a second surgical site in an already immunocompromised patient. There are more than 200 or more cellular tissue products on the market today

taught in all podiatry schools and reinforced in residency. Today, there are numerous biomechanical theories, all with their adherents. And what has happened to podiatric biomechanics? During the 1970s, it was taught in sophomore year and reinforced in just about every surgical rotation.

The field of orthotics and prosthetics has been revolutionized by new plastics, 3D printing, and digitalization, with additive manufacturing allowing for far superior custom fabricated devices and less waste. This has provided many patients with musculoskeletal and neurological diseases with the ability to continue to live somewhat normal lives.

Surgical implants, screws, plates, may have been available in the late 1970s but not in all the forms both permanent and dissolvable available today. Bone stimulators and home pneumatic compression devices certainly were not available in their current forms.

The advances in medicine have made saving limbs and performing office surgery much easier and have provided podiatrists in many practice settings equal "footing" with their allopathic colleagues. However, it has come at a tremendous cost for all. Physician

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burn-out, depression, and suicide are at an all-time high. Many physicians don't recommend medicine to their children and grandchildren. Physicians are spending an inordinate amount of time tied to their computers. According to Beckers, some physicians are spending more than 10 hours a week just on prior authorizations with additional hours on other administrative duties.

Patients complain that their doctors don't listen to them as their eyes are glued to the computer screen instead of speaking to them. Physician encounters with patients during visits are often limited to no more than 10 visits with medical assistants and physician extenders such as PAs and NPs providing the bulk of care. Providers are often not available to patients after 5:00 PM, necessitating ER or Urgent Care visits with providers not familiar with their medical history.

In 1981, residency programs were

not available to all and mostly were granted based on who you knew as opposed to what you knew. If you were lucky to get one, it was for one year. Today, there are standard three-year programs, and hospitals that did not allow podiatrists to even perform bedside C&Cs now have three-year surgical residencies and post-graduate fellowships for limb salvage open to podiatrists. Allopathic, osteopathic, and podiatry students have grown up together and thus have gained a mutual respect with a better understanding of the team they play for. While professional prejudice is still problematic and there are payment disparities between MDs/DOs and DPMs, the problems we face today are far different and far more complex.

In 1977, an office encounter was approximately \$25 and recorded on an index card requiring perhaps one medical assistant per physician. Today, we have an infrastructure of a minimum of three or more administrative staff per physician with each

chart entry consisting of multiple pages of notes. Let's not forget that with inflation, the \$25 in 1977 is now valued at 5X that value (\$125).

Perhaps we have all become nothing more than sophisticated assembly line workers. Is it too late to turn the clock back on some of this madness? That is a question requiring each of us to answer and each of us to play a role in changing before the system collapses! **PM**



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