

## HISTORIAN'S CORNER

# An Early Hub of Innovation in Plastic and Reconstructive Surgery: Eastern Virginia Medical School in Norfolk Virginia, A Historical Perspective

Co-authored by



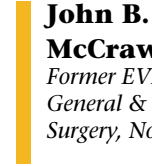
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*“No sir, Richmond is no place to furnish subjects for clinical lectures. I have always had Norfolk in view for this purpose. The climate and Pontine country around Norfolk render it truly sickly in itself.”*

– Thomas Jefferson 1824<sup>1</sup>

Jefferson was certainly right about Norfolk, and when Eastern Virginia Medical School (EVMS) opened its doors in 1973, it had one of the only free-standing Departments of Plastic Surgery in the country, with one of the largest compliments of faculty. Among the early faculty at EVMS were Drs. Charles Horton (Founder Physicians for Peace) (Figure 1), James Carraway, Richard Mladick, Jerome Adamson (Figure 2), and John McCraw, all of whom had significant contributions to plastic

surgery and held leadership roles in societies/conferences and journals.

Horton obtained his medical degree from the University of Virginia, trained during the Korean War at the US Naval Medical Center in Bethesda, and at Duke. When he moved to Norfolk in 1955, he was the region’s first plastic surgeon, and one of only about 150 nationwide. Even during the medical school’s infancy, the plastic surgery legacy in Norfolk was building. Leonard Sharzer and Jay Hayhurst were the first to perform a free flap in Norfolk in 1974 as residents in the plastic surgery program. This was soon after the first free flap

was reported by Rollin Daniel and Ian Taylor in 1973.<sup>2,3</sup> Both Sharzer and Hayhurst had worked with Bernard “Bernie” O’Brien in Australia prior to their time in Norfolk. Dr. Horton was the first Chair of the Department, and he became a pioneer in genitourinary



*Figure 3: Ian McGregor, a giant in plastic surgery, frequented Norfolk, Virginia to visit his colleagues in the Department of Plastic Surgery.*



*Figure 1: Charlie E Horton, Sr., Chair of Department of Plastic Surgery at Eastern Virginia Medical School and Founder of Physicians for Peace, lecturing to plastic surgery residents.*



*Figure 2: Jerome Adamson, past president of American Society of Plastic and Reconstructive Surgery (now ASPS) and one of the early faculty members at EVMS.*

reconstruction and also specialized in correcting congenital deformities. His leadership roles included past president of SESPRS, ASAPS, PSF and he was Chairman of ABPS. He was also Founder of Physicians for Peace. Dr. Carraway trained with Drs. Jack Mustardé and Ian McGregor (Figure 3) in Canniesburn Scotland and when joining EVMS, was one of the preeminent eyelid surgeons and facial reconstructive and aesthetic surgeons in the world. He also served as a senior scientific editor of the *Aesthetic Surgery Journal*. Richard Mladick was an expert

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Figure 4: John McCraw, past president of AAPS and an icon in plastic surgery, pioneer in myocutaneous flaps, was one of the core faculty members at EVMS for 20 years.

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in head and neck malignancies and reconstruction. Early on he traveled to Paris, France to visit Dr. Yves-Gerard Illouz and was one of the earliest adopters of liposuction techniques.

Perhaps one of the most influential of the early faculty with regards to reconstructive and flap surgery was John McCraw (Figure 4). McCraw had become very familiar with muscle anatomy and physiology as an orthopedic resident under the tutelage of Dr. Leonard Goldner at Duke. When he decided to switch to plastic surgery, he went to the University of Florida in Gainesville, hoping to train there under Dr. Josh Jurkiewicz (Figure 5), who unexpectedly moved to Emory. A year later, McCraw transferred to Emory for his second year of plastic surgery where he trained with Drs. Carl Hartrampf (Figure 6) and Luis Vasconez, and began learning and dissecting a variety of myocutaneous flaps. When McCraw joined EVMS, his interest

in microsurgery and flap anatomy continued to grow. His practice covered all aspects of reconstructive surgery,<sup>4-8</sup> and he had one of the largest series reported on vaginal reconstruction with flaps. Although in separate geographic locations, John McCraw (Norfolk) and PG Arnold (Rochester, MN) were good friends and recorded their dissections, leading to the publication of their remarkable editions of McCraw and Arnold's Atlas of Muscle and Musculocutaneous Flaps in 1986. It was the first colored atlas of its kind. McCraw also spearheaded an annual flap course at Eastern Virginia Medical School for 19 years, 1977 to 1995. The first course in 1977 featured world experts in plastic surgery including Buncke, Furlow, Littler, O'Brien, Acland, Mathes, McCraw, McCarthy and Shaw among others (Figure 7). At the first flap course, Bob Acland (Figure 8) and Bernie O'Brien performed a

toe to thumb transplant, live on monkeys. Course attendees could then recapitulate this on cadavers. This flap course continued for 19 years and was the first plastic surgery educational course on reconstruction. It was an important advance in the study of surgical anatomy and the precursor of the Duke and Penn Flap courses.

McCraw served as the program director at EVMS for 9 years. During his overall time at EVMS (1975-1995), his roles included

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Figure 5: Josh Jurkiewicz (1923-2011) had a remarkable career with extraordinary contributions in plastic surgery, was past president of the American College of Surgeons, and a mentor to John McCraw.

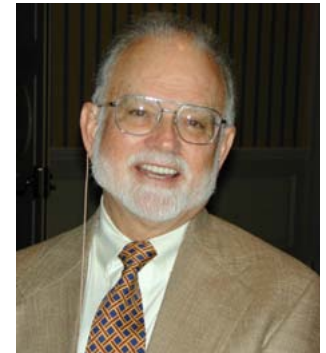
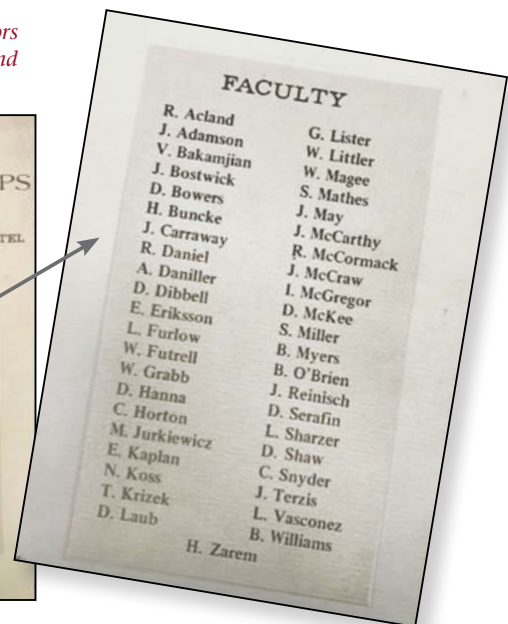


Figure 6: Carl Hartrampf, credited with the creation and use of the transverse rectus abdominus myocutaneous flap, published his book entitled "Breast Reconstruction with Living Tissue" in Norfolk, VA, given his close relationship with John McCraw.

Figure 7: First flap course held in Norfolk, VA with a list of instructors that included pioneers in plastic and reconstructive surgery.



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Figure 8: Robert "Bob" Ackland, a pioneer in plastic and reconstructive surgery who had a profound impact on microsurgery, performed toe to thumb demonstrations on live Monkeys at the first flap course in Norfolk, VA.

### EVMS: A HISTORICAL PERSPECTIVE *Continued from page 13*

head of hand surgery, breast surgery, and cleft lip/palate clinic. He ran the cleft clinic until Dr. Magee (Founder and CEO of Operation Smile) joined the group. Dr. Magee had traveled overseas and worked with Dr. Paul Tessier for 6 months. Dr. Tessier visited Norfolk, VA to operate for 3 weeks every year for 10 years.

McCraw recruited Julia Terzis (Figure 9) from Canada during one of his visiting professorships. She was a pioneer in peripheral nerve surgery and had worked with Rollin Daniel, co-authoring *Microvascular and Neural Microsurgery*. At that time Rollin Daniel was Chief of Plastic Surgery at Royal Victoria Hospital, Montreal, and Terzis was part of the Faculty of Medicine at Dalhousie University, Halifax. Terzis joined the faculty in Norfolk and established the International Institute for Reconstructive Microsurgery where she stayed until 2011, and she also ran the microsurgery program which started in 1981 with 1-2 fellows per year, including past fellows David Chuang (Chang Gung) and Magnus Noah. She had an incredi-



Figure 9: Julia Terzis, a pioneer in nerve and microsurgery, ran the microsurgery program at EVMS for several decades and was past president of ASPN, ASRM, and PSRC. Dr. Terzis is pictured here performing microsurgical dissections in her laboratory.

bly productive animal lab, with 2-3 microscopes, where she studied all aspects of nerve repair and regeneration. She was first woman in the last century to become the Chair of the Plastic Research Council in 1986, a founding member and president of ASRM, and the first woman to receive the prestigious James Barrett Brown Award from the American Association of Plastic Surgeons twice. She published the text, *History of Microsurgery*, just prior to retiring and leaving Norfolk.

McCraw recruited Patrick Maxwell to Norfolk, as well. They wrote up one of the early series of latissimus dorsi flaps for breast reconstruction soon after the paper published by Bostwick, Nahai, Wallace, and Vasconez in 1979.<sup>9</sup> In 1980, McCraw, Maxwell and Horton reported on the reconstruction of the breast following mastectomy, an experience of an impressive 300 reconstructions over a ten year period, with the whole reconstruction performed in one stage, including latissimus dorsi flap, volume replacement with prosthesis, and nipple areola reconstruction.<sup>10</sup>

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## EVMS

Eastern Virginia Medical School

### Plastic Surgery Organizations and Past Leaders from Eastern Virginia Medical School

#### AAPS Icons

John McCraw  
Julia Terzis

#### AAPS President

John McCraw

#### ABPS Directors

Charles Horton  
Lawrence Colen

#### ASAPS President

Charles Horton

#### ASPN President

Julia Terzis

#### ASPS/ASPRS President

Jerome Adamson

#### ASMS President

Jon Jacobs

#### ASRM President

Julia Terzis  
Lawrence Colen

#### EURAPS President

Julia Terzis

#### Godina Fellow

Lawrence Colen

#### PSRC Chair

Julia Terzis

#### PSF President

Charles Horton

#### SESPRS President

Charles Horton  
Jerome Adamson  
James Carraway

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David Gilbert established the center for gender reassignment in 1984 at EVMS, with world class urologists, gynecologists, psychologists, and endocrinologists (Figure 10). Prior to this, the Norfolk experience in genital and urinary reconstruction dated back nearly twenty years, largely in congenital and traumatic genital deformities.<sup>11</sup> In fact, the first phalloplasty performed in Norfolk was by Drs. Gilbert and Maxwell, in a 4 year old using a saphenous flap. Many of the techniques used to reconstruct male and female genitalia were popularized in Norfolk,



*Figure 10: David Gilbert (photo left), one of the early faculty members at EVMS and world renowned for his contributions to genitourinary reconstruction and gender affirming surgery, and Julia Terzis.*



*Figure 11: Dr. Horton (center), Lawrence "Larry" Colen, and Zoran Potparic (left) doing a complex micro GU case together. Zoran was our microfellow in 1993. Zoran was a fully trained plastic surgeon from Sarajevo and was trained by Marko Godina.*



*Figure 12: Larry Colen is the current program director at EVMS, was the first to receive the prestigious Godina Fellowship award from the American Society for Reconstructive Microsurgery (ASRM) and is a past president of ASRM.*

utilizing microsurgical techniques. The gender affirming portion of cases was equally distributed male to female and female to male. Some of the early cases included using the sigmoid color as a donor source for the vaginoplasties, radial forearm free flaps for phalloplasty and then transitioning to ulnar forearm flaps as there is less hair growth on the ulnar aspect of the forearm. By 1992, Dr. Gilbert and colleagues had performed more than fifty microsurgical phalloplasty reconstructions in the gender patients, one of the largest series in the world.

Jonathon Jacobs completed general surgery in 1979 and then plastic surgery at EVMS and directed the craniomaxillofacial (CMF) fellowship there. Prior to coming to EVMS, he was acting chairman in the Department of Oral and Maxillofacial Surgery at Vanderbilt. He brought in international fellows to EVMS and partnered with Magee in the formation of Operation smile. Jacobs was past president of the American Society of Maxillofacial Surgery.

Larry Colen was recruited to Eastern Virginia by Dr. Horton

from Dartmouth in 1990 to be the program director (Figure 11). Dr. Colen was one of Dr. Harry Buncke's first fellows, and was the first to receive the prestigious Godina Fellowship award by the ASRM. Dr. Colen had developed a passion for limb salvage surgery, largely related to his experience with the diabetic and dysvascular limb, and has been active in the ASRM since 1984. When he first got to Norfolk, he was revascularizing lower extremities with the vascular surgery service, bypassing into pedal vessels and performing free tissue transfer to the foot and ankle. Colen and McCraw worked together utilizing numerous free flap donor sites for autologous breast reconstruction averaging two to three breast free flap reconstructions per week, using muscle-sparing free TRAM, DIEP, IGAP, SGAP, lateral transverse thigh, and DCIA perforator flaps. Colen was also past president of ASRM and a director of the American Board of Plastic Surgery. He is the current program director of the brand-new integrated plastic surgery program at EVMS (Figure 12).

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