

Center for Facial Appearances

newsletter

INNOVATION: Fluid Waves

By John McCann, MD, PhD



Before and after correction of Eyelid Retraction with Fluid Waves.

Most large national medical conferences have areas dedicated to sales associates displaying various surgical instruments and different techniques. Often times, it is the same techniques and tools from the past. On rare occasions there is a “game changer”. A new innovative idea which can help improve the results of surgery. This article is about a “game changer” developed at my practice which has improved both the surgical experience and surgical results of patients. The technique is so simple and ubiquitous that it surprises me it took so long to be discovered.

Most innovations are new applications of old ideas, which was the case in this situation. About 25 years ago while learning to do cataract surgery I was taught the technique of hydrodissection. This is a time tested technique used to gently separate delicate layers of the intraocular lens by injecting a wave of fluid between two layers of the lens. Even though I no longer perform cataract surgery the techniques which my professors and colleagues shared with me still shape what I do today.

For the first 9 years out of training while working at the Jules Stein Eye institute on the UCLA campus, my primary focus was eyelid orbit and tear drain surgeries. In this position, I cared for many patients with Graves’ Disease, a condition which can cause the lids to retract so that they will not close. To fix the eyelid closure problem, these patients required a surgery to remove a microscopic eyelid muscle called Mueller’s muscle. This surgery was extremely difficult because the Mueller’s muscle is very small and firmly adherent to easily damaged adjacent structures. This kind of delicate surgery is often accomplished with advanced technology such as a laser. However, it is not possible to use lasers with this procedure as heat generated by the laser would spread and damage the adjacent structures. This has remained a problem without a solution for many years. By using the same fluid wave technique I was taught to use for cataract surgery many years prior, I began to inject numbing medication in the plane between the Mueller’s muscle and the delicate tissue to create a gentle separation. The technique does not

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**take a look
INSIDE:**

Improving Care
Through Technology

Giving
Back

The
Fellows

Fellowship

Fellowships are a period of apprenticeship that a select group of surgeons undertake after completing a surgical residency and becoming board certified or board eligible. Dr. McCann's extremely competitive fellowship is considered one of the best in the country. Every few years, he receives over 60 applications from doctors all over the world vying for the opportunity to be chosen as the fellow. Dr. McCann and the fellow spend more time together than they spend with their family so he takes the time to narrow the list to a few applicants. Each applicant travels to Salt Lake City for an interview with Dr. McCann and his wife, with the most compatible applicant being offered the position at the Center for Facial Appearances. The fellow is an important part of patient care at the Center for Facial Appearances assisting with patients in clinic, all surgeries performed, and taking the majority of calls for the practice. If you call after hours you have your call answered by a board certified or eligible surgeon and that adds great value to the Center. The fellows also provide a tremendous amount of charity care to patients who are victims of trauma.



Dr. Jonathan Pargament

Dr. Jonathan Pargament, our current fellow, has been working with Dr. McCann for the past 3 years and feels Dr. McCann has been a generous and patient teacher. "He has so much knowledge to impart; I'm pretty sure I could stay another 3 years and just scratch the surface." He will be leaving in May to pursue his career at the Cincinnati Eye Institute and is excited to build his own practice and grow the aesthetic division at The Face and Eye Center. He is planning on using the most modern facial plastic surgery techniques, which he learned from Dr. McCann during his fellowship. Dr. Pargament will also be mentoring and teaching medical students and resident physicians as an assistant professor at the University of Cincinnati. Dr. McCann has trained many fellows and Dr. Pargament is clearly a favorite. Dr. McCann, the staff, and patients at the Center for Facial Appearances will miss Dr. Pargament.

As Dr. Pargament leaves us this May, the Center for Facial Appearances will be gaining a new fellow, Dr. Maria Choudhary. Dr. Choudhary is coming to the Center for Facial Appearances from the Cole Eye Institute in Cleveland, OH after completing a surgical residency. She has also completed an internal medicine residency at the Cleveland Clinic Foundation prior to pursuing her surgical residency. When they move to Utah, Dr. Choudhary's husband, Dr. Saeed, will be taking a position at Ogden Regional Medical Center as an Infectious Disease Physician. Maria has a 4-year-old son and loves spending time with him and her husband. Along with her talents as a physician she is learning to play the violin. We are excited to welcome her to the Center for Facial Appearances and anticipate her to be yet another superstar in the making.



Dr. Maria Choudhary



INNOVATIONS: Utilizing Information Technology To Improve Patient Care

Government healthcare regulations mandate that physicians increase the use of electronic information systems. My medical practice was an early adopter of information systems. I personally designed and coded an entirely paperless medical record system and implemented it at UCLA in 1999. I am enthusiastic about the use of electronic Information systems to improve patient care. However, a poorly designed information system can be detrimental to patient care and make the job of delivering healthcare less enjoyable. One of my early jobs in medicine was running a department in a Veterans Affairs Medical Center. The federal government had pushed the VA in the 1990's to implement electronic health records. A political decision was made to implement a medical record system at the VA prior to the system being ready for use. The end result was a 30% reduction in the number of patients our clinic was able to care for. The backlog of patients at the VA is now a national story and several years after the system implementation the department still had not returned to its former level of productivity. It was not just the quantity of care delivered which was harmed; the quality of patient records and patient care was also harmed. In recent years I have seen many other hospital systems and medical practices make the same mistakes.

The lesson I learned from this experience is that before implementing an electronic medical record system, first look at how each process involved in patient care is being performed on paper. Do not implement any individual process electronically until the electronic version of the process is an improvement over the time tested paper process. Before beginning to write software that helps each member of the healthcare team be more effective, many conversations, workflow review, and collaboration with team members is required. It takes time to understand how each person does their job. Electronic systems affect all team members including physicians, the billing department, practice managers, receptionists, technicians, surgery schedulers, and most importantly, the patients.

Following the rule of demanding an improvement in the time tested paper process before implementing any digital process takes discipline and patience. I started developing my own medical records system in 1995 and this rule was an important part of making the program successful. It took 4 years to develop and was not installed until 1999. Over the last 18 years many new things have been added to the system and each time something was added there was always a clear cut improvement over what we formerly did on paper. In recent years there have also been many additions to the software which allow us to deliver services not formerly possible in a paper based system. The end result is a system which custom fits the practice and allows delivery of superior patient care in a time and cost effective manner.

By John McCann, MD, PhD

Some examples of things the Center for Facial Appearances uses electronic health care systems for are:

- 1) Appointments booked into an electronic calendar in a fashion which improves patient flow and reduces patient wait time.
- 2) The system sends patients email, text, and/or voice messages to remind them of their appointment time and date. A common reason doctors keep patients waiting in clinic is that patients do not show at the proper time for office visits. The software helps keep everyone in synch by reminding patients of their actual appointment time.
- 3) All paperwork received on each patient is scanned into their chart eliminating the need to keep paper copies.
- 4) All medical records are kept electronically, improving the quality, availability, and legibility of records. It allows the receptionists, the surgery schedulers, medical billers, and physicians to all have access to the same chart simultaneously.
- 5) The system allows much of the exam to be dictated while the patient is in the exam room making it possible for the doctor to communicate with the patient, the referring doctor, the insurance company, and the chart simultaneously.
- 6) During an exam, the software contains anatomical images which help the doctor explain both disease and treatment to patients.
- 7) There are a number of patient photos which can be used to demonstrate to patients the results others (who have given written permission) have achieved.
- 8) The software generates legible reports with images that can be sent to the patient and other physicians involved in their care to improve communication between our office, the patient, and their other treating physicians.
- 9) The system also generates legible prescriptions while keeping a record of the request.
- 10) The software assists in obtaining preauthorization. It produces reports required by the insurance companies for review and tracks all conversations with them concerning the preauthorization process.
- 11) The software helps prepare patients for surgery by sending movies about preparing and recovering from surgery. Customized written instruction on recovering from surgery are also generated by the system to help patients and their families understand what they will need to do to care for themselves after surgery.
- 12) The software assists patients during their recovery by sending regular messages about how the recovery process should be proceeding so they know what is normal and to give our office a call if anything seems out of the ordinary.
- 13) The software keeps a visual record of the patient's recovery, demonstrating to the patient through their own photos, that they are recovering. After recovery a report is then prepared by the system including before and after photos so patients can see the improvement they achieve.
- 14) All phone conversations with patients, physicians, facilities, and insurance companies are summarized in the medical records. This allows all members of the practice to review and understand what each patient's current situation and medical care plan is.
- 15) A practice Wiki is built into the software allowing all staff members to look up answers to commonly asked questions by patients, making it less likely the patient will need to be transferred, cutting down on patient hold time and call backs. This also assures uniform and correct information is given to patients while facilitating training office staff.

16) The software sends out practice evaluations to our patients, giving them an opportunity to let us know what we are doing right and what we can improve on.

7) It also tracks successful completion of various tasks assigned to each employee; helping prioritize completion of work and automating practice management. This assures important patient care tasks are completed in a timely fashion.

18) Secure networked communication allows the doctors to access medical records when not at the office improving patient care at night and on the weekends.

New implementations for 2017 at the Center for Facial Appearances:

1) Electronic delivery of prescriptions to the pharmacy

2) Opening a patient portal into the electronic information system to improve electronic communication with patients.

At a recent tour of a major university department I had a chance to ask each physician I met what they liked most and like least about their job. They all had different reasons for liking their job but they were nearly universal in saying what they disliked. It was the electronic information system that the university mandated they use. It made their job less enjoyable, less productive, reduced time available to have discussions with patients, and most felt it did not improve patient care. In fact, many physicians and employees across America dislike the information system they use and few think the electronic system offers an improvement for the patients. Most systems are implemented and used primarily to meet government mandates, and unfortunately meeting those mandates results in minimal perceptible improvement in patient care. The Center for Facial Appearances has not focused on meeting mandates. We have focused on developing a system which improves patient care.

Physicians and employees at the Center for Facial Appearances realize our unique system helps us deliver superior care. Each employee is able to take an active role by making suggestions on how to further improve the software; allowing us to leverage information technology to continually do a better job of caring for our patients. Developing the system used today at the Center for Facial Appearances has taken thousands of hours, but each time a patient notes how cohesive, and well run the practice is, I recognize the time spent developing and improving the system is well worth it.



**Ongoing
Practice
Improvement**



Women On The Move Luncheon and Fashion Show

The annual Women on the Move luncheon and fashion show, hosted by the National MS Society Utah-Southern Idaho Chapter, has been raising funds for MS research, programs, and services for the past 18 years. This year the event was held March 4, 2017 at the Grand America in downtown Salt Lake City. Each year, Dr. McCann and wife Rachel generously donate their time and talents, as well as product and procedures from the Center for Facial Appearances to the event to help make the event successful. Being able to contribute and support the research and treatment of Multiple Sclerosis is a wonderful opportunity they continue to look forward to supporting each year. For more information on multiple sclerosis and how you can help, visit their website at www.nationalmssociety.org.



expose the delicate tissue to either heat or blunt trauma, and reduces bleeding. I continue to use this process to separate delicate tissues when correcting the eyelid problems caused by Graves' disease. This technique reduces the patient's recovery time and improves the final result.

About 15 years ago I added facial plastic procedures such as forehead lifts, mid-face lifts, facelifts, and neck lifts to an already strong practice of cosmetic and reconstructive eyelid surgery. One of the most common of these cosmetic procedures is the endoscopic forehead lift. This is a technique where the skin and other soft tissue of the forehead is first separated from the bone of the skull, and then fixed in a higher position using invisible small incisions hidden behind the hairline. When I first learned this technique, stainless steel surgical instruments were used to separate the skin from the bone resulting in a fair amount of bleeding. Even in the best hands this was somewhat traumatic to the soft tissue. For a number of years I contemplated better ways of separating the bone and the soft tissue.

About 5 years ago my team had an operating room delay just prior to starting an endoscopic forehead lift surgery. To kill some time, I went to the doctor's lounge to get a bite to eat and read the newspaper. There was an article in the newspaper about a new revolution in the energy industry called fracking. This technique involves injecting fluid under pressure into the earth layers to force oil to a location where it may be pumped to the surface. The article about fracking got me thinking about the power of using fluid under pressure in surgery. I wondered if injecting fluid into the forehead under pressure could separate the soft tissue from the bone of the forehead. Knowing I could not generate the force required



Before and after Endoscopic Forehead Lift with Fluid Waves.

with just a syringe I began researching the subject and found there was a surgical pump which had been invented by a dermatology colleague that could generate the fluid pressure required.

After obtaining the surgical pump I began injecting numbing fluid under pressure in the space between the bone and soft tissue. The fluid under pressure separated the soft tissue from the bone so I could complete most of the surgery before even making an incision. This worked great the first time and even better with repetition. I quickly realized that using fluid waves instead of stainless steel surgical instruments resulted in less trauma to the soft tissue of the forehead and did not cause bleeding. The fluid waves also reduced the time required under anesthesia, and injecting the numbing medication in this plane resulted in the patient awaking pain free. This of course results in a more pleasant and more rapid recovery for the patient. For the last 5 years I have used this innovative technique each time I perform an endoscopic forehead lift.

The use of fluid waves has proven to be a valuable surgical technique in the eyelid and forehead as well as the midface, lower face, and neck. The use of fluid waves to facilitate facial plastic surgery has been added to the bag of techniques I bring along each time I enter the operating room. It is a "game changer" technique because it improves my patient's surgical experience and their surgical results.



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