PIONEER

Sydney Coleman, MD

Did you ever consider a different career than Plastic surgery?

I'm from a ranching family in West Texas, and never thought I would be a physician, let alone a plastic surgeon. When I was 18 years old, after two semesters at the University of Texas in Austin, I took the Medical College Admissions Test because I knew I wanted to go into scientific research, and this was the least expensive test ($25 at the time).

An advisor at the school called me in and told me that I had scored a very high score on my exam, and I might be able to get into medical school even though I was only 18 years old. I applied and was accepted.

In Medical School, my first advisors were Ted Huang, a plastic surgeon, and Mary Knudson, an anthropologist. They talked me into working with them on my first research project, interviewing 13 to 16 year olds who had disfiguring facial and hand burns. When I started, I really and truly thought the kids should be allowed to die—I was 20 years old and that was my gut reaction.

As I got to know the disfigured adolescents, their siblings and their parents, I realized that there were amazing and important people behind those masks of scars on their faces. I became obsessed with the importance of the appearance of the face and body in relating to the outside world.

If yes, what other options were you considering and what made you finalize your selection?

My only career path in medicine that deviated from plastic surgery was pediatric surgery. However, as much as I loved pediatric surgery I saw too many children die when I was training. I realized that I didn't want to see so many children die. And I especially did not want to have to tell another parent that their child had died.

On the other hand, when you're dealing with plastic surgery patients, you're making them more productive people who can interface with the world in a way that makes it easier for them to express their emotions and conditions as well as feel better about themselves.

You are a visionary: did you ever have doubts that the break-through for your pioneer work will come?

Fat grafting has been a natural progression for me. I was in my residency when liposuction arrived in the US from France in 1982. By the time I moved to NYC in 1985 for a 6-month fellowship at MEETH and NYU, I began seeing subtle as well as remarkable iatrogenic liposuction deformities. So when I began practicing in New York in 1986, some of the first problems I encountered were liposuction deformities in women's thighs and arms.

Iatrogenic liposuction deformity was a new problem that the world of plastic and reconstructive surgery had not faced before. I asked all of the new "experts" on fat suctioning about grafting liposuctioned fat, and most of them told me that it would not work or it would not last any longer than injectable collagen.

With that information, I approached the correction of the first liposuction deformities with the idea that the grafted fat might only last a few months. However, taking specific

photographic images before and months after surgery, I found that the fat seemed to last a long time. In fact, even my very first fat graft procedures had every indication of permanence.

I listened to my patients as they asked me next to place fat grafts into the face. In the mid 1980's, injectable silicone was commonly used in the face as a filler, and many patients were skeptical. However, they witnessed in their friends that fullness in the lips, cheeks, temples, nose, et cetera had a remarkable rejuvenating effect. First, the women in whom I had corrected liposuction deformities asked me why I did not use fat instead of silicone in their faces. Then, their friends found out about the possibility of fat grafting to attain fullness in the face. Patients pointed out the areas, and I listened. I started first with nasolabial folds and marionettes, then lips, temples and brows. Next, they asked me to place fat into the lower eyelids and even the nose. A big leap from filling lines and folds was to understand how fat could be used in the lower face to restore a strong jawline and chin and improve the cervical-mental angle.

Even in the late 1980's, I began to notice the remarkable improvement in the quality of the skin overlying areas of fat grafting. It was with that in mind that I began grafting fat into the dorsum of the hands: to restore not just fullness, but also to improve the quality of the sun-damaged, aging skin.

Then my patients started asking me about enhancing the body with fat grafting: the calves, buttocks and chest. Eventually, many patients asked why I wasn't doing breasts, and in 1995, after the silicone implant crisis was spreading throughout the US, I advanced to using fat grafting in the breast.

The progression of discoveries for me has always been patient-driven: patients asked me to do something, and I cautiously did it, with the patient understanding that it was the first time. And it often worked. In recent years, the challenges have come more and more often from other physicians seeking solutions for their patients with difficult problems.

Did you feel disappointed or discouraged about the skepticism which the majority of plastic surgeons showed towards fat grafting for a long time?

I was alone in the woods for so long that I became used to it. It is amazing to me that the same plastic surgeons who were vehement disbelievers in the past are now "experts" in fat grafting, claiming 10 or 20 years of "positive results," seeming to use fat on almost every case they do.

Some disappointing moments during your professional life?

When plastic surgery "friends" who were bad-mouthing fat grafting just a few years ago, were quoted in news articles as having claimed to "invent" LipoStructure or fat grafting.

Is there something you regret not having pursued?

I wish I had devoted more time to studying languages and maintaining those that I have studied. I studied German, French and Spanish, but only really keep up a little with the Spanish.

In research: did you focus on fat tissue from the beginning? Which results of your research projects do you consider to be most important?

The research in which I have been involved has focused on either anatomy or fat grafting. The most important projects have shown that the method by which fat influences the area into which it is placed is by improving the vascularity and reducing scarring.

Briefly describe your current position and the variety of patients you treat on a daily basis.

I am in a private practice in TriBeCa in downtown New York City. I hold two academic appointments: one at New York University Medical Center and one at the University of Pittsburgh Medical Center.

For several years, I have been travelling to Pittsburgh every month or every other month to work on three research projects with Peter Rubin, one of our greatest plastic surgery scientists. One project focuses on understanding how fat grafting can be used in cranial and facial combat injuries. A second project involves the use of fat in cranial and facial combat injuries as well, but is a controlled study in which stromal vascular fraction is added. The newest project examines the use of fat grafting in treating painful amputations. These three projects are funded by the Department of Defense.

My practice is about 60% aesthetic in nature, although much of the aesthetic procedures might be considered reconstructive since they often involve correction of complications caused by other surgeons. Most of my practice is fat grafting based.

The best part of my practice is when I sit down with someone and figure out how to make them look like they think they should look. The second best thing is sitting down with them a year or more later, looking at the pictures, and making sure they are happy and we've done all the things we were supposed to do.

What are your goals for the next few years?

My biggest goal is to unravel the mysteries of adipose tissue and stromal vascular fraction. There is much that we don't know, and I believe there is enormous potential in fatty tissue.

Explain what ISPRES means, why it was founded, how it developed and what you expect from the next ISPRES congress in Berlin.

ISPRES is the International Society of Plastic Regenerative Surgery. ISPRES is an organization whose primary goal is the education of Plastic Surgeons and clinicians regarding fat grafting and emerging technologies based

on the regenerative properties inherent in grafted fat.
ISPRES is a forum for sharing observations and research about the applications of fat grafting, stromal vascular fraction (SVF), adipose derived stem cells (ADSC), and growth factors (GF) in plastic surgery. We emphasize the functional qualities of grafted fat, particularly the recently recognized role of fat tissue as a repair organ, and how it can aid us in reconstruction and rejuvenation.
We also explore the clinical uses of fat grafts for creating or restoring fullness in order to improve our aesthetic and reconstructive procedures. Along those lines, we review both research and clinical experiences that help us determine how to maximize fat graft survival.
The March 2012, ISPRES Congress in Rome had 90 speakers and attendees from 55 countries. We turned away over 200 people who tried to register. There were over 150 abstracts submitted from all over the world. We used these abstract submissions to create a fresh, vibrant meeting in which much new information was presented. We mingled invited speakers (often in panels) with speakers who had submitted abstracts.
Much of the information was heard for the very first time in an international forum. This worldwide participation of new presentations, made possible by the abstracts, rendered our first ISPRES Congress different from most other conferences, and more exciting for the attendees and participants alike.

The vision of ISPRES Berlin 2013 Congress

For the next Congress in Berlin, we will maintain the fresh approach of our first Congress in Rome. The invited faculty will present their latest observations, discoveries and research. The scientific and organizing committees have worked together to develop a program in which innovative abstract submissions will complement the panels and invited lectures.
ISPRES Rome 2012 had many pleasant surprises for those who attended. It is difficult to comprehend the changes that have occurred in the last year alone. I promise you that ISPRES Berlin 2013 will have many more surprises than you can imagine.
The exchange of ideas about fat grafting, SVF and tissue engineering will occur not just during the sessions, but on the Congress floor and during the evenings. The attendees will have opportunities to befriend scientists and surgeons from every corner of the world. There will be many pleasant surprises every day and night of the congress. That exchange of ideas will change the world we live in immeasurably over the next decades.

What is the future of Plastic surgery in the US?

Plastic surgery is moving toward minimizing procedures, performing prophylactic treatments and, most importantly, regenerative surgery. Regenerative surgery involves the use of the patient's own body and tissues to treat maladies instead of performing larger surgeries and/or using implants and medications. This is obvious at every meeting in plastic surgery in the world. Fat grafting and related regeneration are now the topic of the present and the future.

What do you like to do in your free time; hobbies/ sports?

I love to ski, do aerobics and weight lifting.