



## **Medical Innovation: A History of Struggle**

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*“I’m not sure we understand everything we know about this.” —Charles M Abernathy, Sr.*

*From the opening page of “Surgical Secrets” edited by the famous surgeon, Charles M Abernathy, MD.*

During my third year of post graduate training while at Brooke Army Medical Center, in the midst of my general surgery residency, I remember standing in the surgical intensive care unit with the chief resident looking over a multiple gunshot wound victim who we had operated on for over 9 hours one week previously. The patient had initially appeared to do well post surgically, but then complications begin arising due to the patient’s history of IDDM and poor underlying nutritional health evidenced by malnourishment. As the intubated, post traumatic, respirator dependent, young diabetic patient drifted closer and closer to multi-system organ failure, with the residual third spacing of fluid having still not resolved post surgery, the question arose regarding the choice of fluid being administered as well as the use of corticosteroids to help him in this period of extreme physiological stress.

I remember bringing up the subject of TOMs (toxic oxygen metabolites) that even back then, in 1994, were well established in the surgical literature and the subject of some of our more interesting grand rounds. I brought up the issue of perhaps changing the selection of fluid being used in this patient to potentially help diffuse the TOM effect as well as possibly compensate for the third spacing, considering the decreasing urinary output. My chief resident suddenly turned to me with a look of incredulousness and emphatically stated “NO.” After a few moments hesitation, I asked him, “Why not?” Little did I realize that the answer he gave me would be the same one I would hear over and over again, and indicative of a similar attitude I would repeatedly experience, regardless of the field of medicine in question: “Because we’ve always done it this way.” There was no other reason. Later that same year, while at a visiting rotation at Ben Taub Hospital (part of the Baylor system) in Houston, Texas, the world famous trauma surgeon and chief of the Department of Surgery at Ben Taub, Dr. Ken Mattox, presented a one hour grand round lecture regarding the importance of TOMs in post-surgical care and the clinical implications on current treatment I remember feeling a sense of vindication as well as pride that I had not succumbed to the same complacent thought process that my chief resident had obviously found comforting.

But that comforting “darkness” that the vast majority of our profession seems to revel in seems to be accelerating in the wrong direction, at least when we are discussing chronic disease and aging. When it comes to acute medicine and surgical advancements, we have made leaps and

bounds that stagger the mind. But the incidence of chronic insidious disease processes has risen exponentially faster than our population growth, yet conveniently attributed to the aging process. However, it is not necessary to look at the current state of medical innovation, or perhaps more appropriately, the lack thereof, for us to realize the recurrent narrow-mindedness inherent in our medical profession.

The story of the fascinating life and tragic death of Dr. Ignaz Semmelweis, a medical pioneer who was shunned, driven mad, and finally killed because he insisted on following his conscience as a doctor and a scientist, should be an example of what doctors aspire to become. But instead, his ultimate demise seems not only to prevent most from following in his steps of innovation, but even more disturbingly, to almost forget his story or what such a story represents. After reading the story of Dr. Semmelweis, one may be tempted to think that such persecution could certainly never take place in the world today—especially not in the United States. The disturbing fact, however, is that even today the act of challenging the medical status quo leaves the challenger vulnerable to attack, “sometimes on the most flimsy of pretenses” per Jim Biddle, M.D., an internist and integrative physician in Ashville, NC.

Dr. Biddle sits on the steering committee for the North Carolina Integrative Medical Society, of which I am president. Dr. Biddle and I, along with a handful of other physicians, were singled out for our type of practice by the North Carolina Medical Board. After a few years of battling on various issues independently, none of which had a patient complaint or concern at the source, we realized that we were being singled out due to our common philosophies, in this particular case, the importance of metal toxicity in chronic disease and necessity to remove these highly oxidative substances from the biological system. This ultimately culminated in Superior Court and other legal actions, as well as legislative reform, where we were victorious. But the sad thing was that we were singled out ONLY because we were “medically innovative” and achieving extraordinary clinical success in our patients, most of whom had failed conventional treatments. (For more information, see <http://charlotte.creativeloafing.com/newsstand/current/newscover.html>)

Dr. Biddle wrote a great article entitled “The Heavy Price of Medical Innovation” from which I will take the liberty of extracting a great example in the story of Dr. Ignaz Semmelweis. (For the complete article by Dr. Biddle, go to his Web site at [www.integrative-med.com](http://www.integrative-med.com).)

On August 13, 1865, 47-year-old Dr. Ignaz Semmelweis died what can only be described as a horrible, lonely death. Dr. Semmelweis, a gifted medical researcher and physician, expired in a Viennese insane asylum from internal injuries he received from guards at the asylum. At the time of his death, 15 days after the beating, he was reportedly weak from sleep deprivation, covered with boils, suffering from gangrene, delirious, and strapped into a straitjacket in a darkened room. He had been “treated” repeatedly with cold water dousing and doses of castor oil. No priest was called to administer the last rites, despite the fact that the medical records at the asylum clearly indicated that he was Roman Catholic. Most of his colleagues in medicine declined to attend his funeral, as did his wife and children. No one at the asylum was held accountable for the staggering abuse to which Semmelweis had been subjected. What was it that this man had done to brand him a lunatic and cost him his livelihood, his professional reputation,

and even his life? What offense did this highly educated, compassionate, painstaking researcher and scientist commit?

It was quite simple, really: He suggested that obstetricians should disinfect their hands before moving from a cadaver dissection to a pelvic exam on a live patient. That may sound reasonable by modern standards, but at the time, his fellow obstetricians were outraged. Then, as now, proponents of the ruling medical paradigm were bitterly opposed to anything that did not fit within the boundaries of their limited experience. In Semmelweis's case, the opposition to change was fueled by national politics, professional jealousies, and, finally, his own outrage at the system.

His struggle began when, on his 28th birthday, he became an assistant to Dr. Johannes Klein, the head of the Viennese General Hospital's maternity clinic. Semmelweis, who held a medical degree from the University of Vienna as well as a master's degree in midwifery, was appalled at the mortality rate in the clinic. It was so bad, in fact, that expectant mothers actually begged to be discharged so that they could have their babies in another facility or even in the street. Some of them, if they had the strength and the mental resources, simply escaped. At one point in the clinic's shameful history, 11 of 12 maternity patients perished from what was then called "childbed fever." Dr. Semmelweis, a relative newcomer to the medical field, had entered a world that sorely needed him. There were many theories regarding what was behind the high incidence of childbed fever. Suspected causes included inadequate ventilation, poor circulation, protracted labor, injuries to the uterus during delivery, the tightness of petticoats, strong liquor, and even crowded rooms. Unsatisfied with any of the current explanations, Semmelweis began investigating the deadly disease on his own.

His research brought him to the conclusion that the disease was caused primarily by decaying particles of flesh carried on the hands of the physicians attending the doomed patients. In those days, it was standard procedure for a doctor to go directly from the dissection of a cadaver to an examination of a live patient. Some of the more progressive doctors washed their hands in water, some even used soap. However, Semmelweis discovered that mere soap and water would not kill the bacteria that were causing childbed fever. He developed a chloride of lime solution and insisted that the physicians in his section wash with it thoroughly before working on a live patient. The mortality rate in his section dropped to almost zero.

At this point, it seems as though the medical community would have hoisted Semmelweis on their shoulders and honored him for the many thousands of lives his discovery would save. Such was not the case. Instead of being proclaimed a hero, this brilliant doctor found himself in the middle of a firestorm of resentment and political intrigue. Rather than embracing Semmelweis's solution, many doctors actively tried to discredit him. One prominent physician published a condemnation of chlorine washing, arguing that the amount of infective material around a fingernail would not possibly be enough to kill a person. Another well-known doctor let it be known that he had used chlorine washing—but to no advantage. Later, one of his students revealed that his "washings" were little more than the dunking of the ends of one's fingers into fluid that had not been changed for many days and was itself full of harmful material. Still another noted physician funded a graduate student's examination of Semmelweis's findings. He was greatly disappointed when the student doctor's reports closely resembled those of

Semmelweis. The student's work, although sound in method and presentation, was never widely circulated.

Even though his findings were grossly misinterpreted by the medical establishment and rejected by many prominent physicians, Semmelweis continued to achieve dramatic success in surgical procedures considered to be extremely dangerous by even the most skilled of his contemporaries. This made no impression on the protectors of the status quo. In 1856, the editor of a Viennese medical journal added the following words to the end of an otherwise favorable report on chlorine washing by one of Semmelweis's assistants: "We believe that this chlorine washing theory has long outlived its usefulness—It is time we are no longer to be deceived by this theory." Eventually, embittered by his rejections and full of despair over the lives lost to childbed fever, Semmelweis began to deteriorate. He started drinking heavily and spending time in the company of prostitutes. He published angry open letters denouncing prominent obstetricians as irresponsible murderers. An embarrassment to his colleagues and his family, Semmelweis was finally lured by a trusted friend to the insane asylum and held there against his will. When he discovered that he was being committed to the asylum he attempted to escape, got in a fight with the guards, and received the beating from which he would die two weeks later. Ironically, the disease that killed him, blood poisoning—was one of the maladies that had ended so many lives in the Viennese maternity ward where his struggles had begun.

Not long after his death, the medical community began to come around to his way of thinking. Today, he is honored as a medical pioneer. His childhood home has been turned into a museum of medical history, a hospital bears his name, and his views have been accepted as common knowledge among modern healers. As disturbing as the Semmelweis story is, the appalling truth is that on a fundamental level little has changed for the better in the medical establishment. Certainly, surgical hygiene has improved greatly and the technology of medicine has developed at an astonishing rate. But what about the attitude of medicine? What about our objectivity and our ability to embrace new ideas? Are physicians today any more willing to admit error or even open themselves up to new possibilities than they were in the days of Ignaz Semmelweis?

The cost to pioneering physicians is appalling, but what of the cost to consumers of medical services? When pioneers and innovators are punished for their efforts, the quality of medicine must certainly suffer. The case of Dr. Ignaz Semmelweis is a profound example. Literally thousands of women died simply because physicians were unwilling to wash their hands properly. Sadly, attitudes toward medical innovators and free-thinkers have not changed much in the current century. Despite encouraging developments in alternative and integrative medicine, there is still much room for improvement.

It has been known for over 20 years, for example, that certain combinations of antibiotics could cure peptic ulcers, which are caused by chronic infection in most cases (see <http://www.helico.com>).

Nevertheless, doctors all over the country continue to treat this painful, dangerous condition simply with acid blockers, either because they are resistant to shifting their paradigm or because they have simply not learned of the new and better way of treating ulcers. Either way, the patient loses. Rheumatoid arthritis is another widespread malady that can often be helped with antibiotics (see <http://www.roadback.org>). During WWII, Dr. Thomas McPherson Brown

isolated an infectious organism that seemed to be the culprit in most cases of RA. However, for 50 years he was ostracized and attacked by his colleagues rather than acclaimed for his success in “curing” thousands of arthritis patients. Again, the patient loses. Dr. Kilmer McCully proposed in 1969 that abnormal levels of an amino acid called homocysteine can contribute to heart disease, but he was ridiculed for almost 30 years because he was not on the “cholesterol bandwagon” theory of heart disease. JAMA finally published his work in 1998. How many tens of thousands of Americans died prematurely because this simple test was withheld?

Reluctance to accept innovation has long plagued the medical profession. In 1928, Dr. George Papanicolaou and his wife-assistant Mary presented the world with “The Pap Smear,” a gift that reduced the death rate from cervical cancer by 74% and eventually saved the lives of millions of women. Nevertheless it took almost 30 years for the procedure to become routine. How many women lost their lives in the interim? You may be carrying around in your mouth another example of this medical malaise—something called “amalgams.” This combination of silver, tin, and mercury was first introduced in the 1830s as a new material to fill teeth. The fact that the amalgam contained the toxic substance mercury prompted the American Society of Dental Surgeons to suspend several members of their organization for “malpractice for using mercury fillings.” Today, deadly poisonous ingredients notwithstanding, the American Dental Association (ADA) whole-heartedly endorses amalgams as a G.R.A.S. (generally recognized as safe) material for filling teeth. This, despite abundant research showing that mercury is highly toxic, highly volatile, and clearly dangerous.

The list, of course, goes on and on. The basic message is this: Data that does not fit the ruling medical paradigm will be ignored. This means that patients have to become better and better at choosing their health care. The horrible truth is that when it comes down to balancing your health against corporate financial interests or physician liability, “let the buyer beware.” Case in point is an article published online in the very e-Journal you are now reading, where this same type of mediocre medical mentality (what I refer to as M3) is unfortunately evidenced. The author condemns a statement from a product brochure that asks if it is possible to “actually feel better and live a longer life” and the importance of not only attempting to “extend life, but perhaps improving the quality of that extended life.” The author of the article states, “This is pseudo-science at its best, designed to mislead the public, and has no substantiation in the scientific literature whatsoever. The truth is, we cannot yet delay or reverse the aging process.” The author continues, “It is truly not necessary to cure anything, but if we can delay the onset as long as possible and focus on quality of life issues, our goals will have been achieved.”

A commentary on each point above unfortunately is not possible in this venue due to limited time and space, but it is highly disturbing to me that any individual, especially a physician, would start from a foundation with a platform where they believe “it is truly not necessary to cure anything.” However, this type of statement indicates the basis of a thought process which has historically plagued the medical profession and has led to the great opposition against any significant advance in medicine. It is this very type of commentary that has been historically indicative of the majority of the medical profession’s reluctance to open up to the vast new possibilities, instead reveling in the misguided pretense that what they know is all that there is to know. They have not experienced the old adage, “The more I learn, the more I realize I don’t know.”

This same article included a discussion of IGF-1 and Growth Hormone in which the author stated, “It is a widely known and a well-established fact that if you increase growth hormone, you increase IGF. There is no evidence that if you increase growth hormone by any means whatsoever that IGF does anything but go up.” And yet, not only is there evidence, the evidence is overwhelming—but more importantly, the correlation between IGF-1 and cancer and their interrelationship is of paramount importance, yet completely ignored. Although space limitations again don’t permit a long discussion of this subject, I can’t help but leave readers with one small quote from the Journal of the National Cancer Institute (Sept 20, 2000, Vol. 92, No. 18]: “IGF’s are related to increased cell proliferation, suppression of apoptosis and increased cancer risk in (over 30] different types of cancer.” (Editor’s note: Dr. Buttar will be lecturing at the May 2005 **Integrative Medicine for Anti-Aging Conference on the topic Interrelationship of GH and IGF-1: The Correlation with Cancer.**]

Although there is almost an apologetic mention of nutrition, supplementation and exercise, what about the most fundamental issues with aging and chronic disease? There is absolutely no mention of oxidation, the fundamental cause of aging and chronic disease. More importantly, there is no mention of how to prevent oxidative stress, or for that matter, even what oxidative stress is, and even more essentially, how to eliminate it. There is absolutely no mention of detoxification. How can one consider prolonging life without addressing detoxification? You have to put the fire out before you start rebuilding a house. The issues of methylation or glycosylation are not even considered. Only hormone manipulation and testing is mentioned. I can assure you of one thing, and that is hormonal manipulation and testing alone will never result in any improvement of quality of life or increased lifespan.

Now I ask you, the reader, a simple question: How can one optimize the potential for life, which I agree is 120 years or so, by ignoring the biological, metallic and organic toxicities that are the etiology or the initiating triggers of all disease processes? How can one consider any solution to slowing down the aging process without considering oxidative stress? To do so would be like trying to stop the flooding of a tsunami with a plastic bucket. To even consider this is not only archaic, but it is following down the same narrow-minded pathway that doctors have traditionally chosen, either due to fear (of being ridiculed by peers), persecution (by various regulatory authorities), but probably most often, due to ego doused with pure and unadulterated ignorance. It was exactly this ego and ignorance that led the medical establishment against Galileo, resulting in his dying in a prison due to his beliefs, only to be followed by his vindication hundreds of years after his death. It is exactly this ego and ignorance that created the horrendous problems for such medical innovators and visionaries as Dr. Gaston Nassens, Dr. William Koch, Dr. John Hoxsey, Dr. Royal Rife, and Dr. Ignaz Semmelweis, to name just a handful. This list is very long, and there are some doctors today in similar situations despite having good to excellent clinical outcomes, their only crime being one of going out of the box to help their patients.

Those choosing convention rather than innovation will always have the luxury of sitting back and supporting themselves with statements such as “no substantiation in the scientific literature whatsoever” even though often there may be, or “findings do not meet the prevailing evidence-based medical criteria.” What does that mean? “Evidence-based.” When I read that term, to me it

means something based on evidence. Yet, those that follow convention have taken “evidence-based” and contorted and manipulated it into meaning something completely different from what the intention of the phrase was meant to be or what the actual words themselves mean. “Evidence-based” no longer means “based on evidence” as was the original intention, but rather based on the prevailing double blind, placebo controlled method of evaluation. The best way to perhaps explain the deficiencies of this misinterpretation of “evidence-based” is by using the quote from Jules Henri Poincaré, who once said, “Science is facts; just as houses are made of stones, so is science made of facts; but a pile of stones is not a house and a collection of facts is not necessarily science.” You may collect a lot of facts using double blind, placebo controlled, multi-centered, cross-over trials, and even I have been involved with a number of such trials. However, the data gathered is nothing more than the piles of stones. To construct a house from these stones however is a completely different matter. This construction of a house is science, not the simple collection of facts. Remember that innovation is greater than convention, although most individuals choose to go the route of convention.

Don't let innovation walk past you. My advice to any physician who wishes to make sure they take full advantage of the medical innovation which surrounds us is to learn the facts, and then come to your own conclusions. God gave each of us a brain for a purpose. It is an insult to the creator if we don't use our own brains, and instead let someone else do the thinking for us. Furthermore, if you're going to listen to someone else's opinion, especially in the arena where it will affect the health of other individuals, make sure the person whose advice you are seeking has the experience of having treated patients in that area of medicine. For those that are not doctors and are seeking medical advice, before you start to get medical advice from anyone, do the following things: 1) Make sure the person you are dealing with has a license to practice medicine. It is amazing how many doctors are giving advice and yet do not have a license to practice medicine themselves. 2) Make sure the doctor has some actual knowledge and experience based on having taken care of real patients as opposed to having read things in text books. I know of doctors giving medical advice on specific treatments who have no license to prescribe and/or have never treated a single patient in their life. Even their training was in fields such as epidemiology or radiology so they have never seen a patient since being a medical student. 3) Make sure the treatment being prescribed makes sense to you from a logical standpoint. Ask questions. If it doesn't make sense from a physiological standpoint, my suggestion is, get a second opinion from another doctor, preferably from a different practice. Finally, 4) Always let your intuition be your guide. Open up to the universe and the answer will usually present itself in short order.

Those of you who are innovative and are striving to improve the science of medicine and contributing to the continuation of advances in medical science, I applaud you. Those that are intent on showing deficiencies rather than solving deficiencies, or spend more time and energy in creating issues for these innovators, who themselves have never had an original thought or a new idea, remember that if you are not a part of the solution, you are part of the problem. Moving forward is always greater and takes more effort than sitting back in the same seat. Remember that where growth stops, decay sets in. And this decay is overly abundant and prevalent not only in the current state of medicine, but appears to be a characteristic of all innovation in medicine historically. We, as a profession, are obligated to find those few medical innovators among us,

embrace them, and find out how we can help them to further the science of medicine to help not only our patients, but our future generations as well.

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