

U.S. NAVY MEDICAL DEPARTMENT ORAL HISTORY PROGRAM

ORAL HISTORY WITH CAPT MARLENE DeMAIO, MC, USN

CONDUCTED BY  
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**Interviewee/Narrator:** CAPT Marlene DeMaio, MC, USN

**Interviewer:** André Baden Sobocinski

**Date of interview:** 29 February 2012

**Location:** Library at NMC Portsmouth, VA

**Abstract:**

CAPT Marlene DeMaio was born in Philadelphia second-generation Italian and grew up in the multicultural melting pot of Vineland, NJ. Her father was a pulmonologist and her mother was a homemaker. From an early age, Dr. DeMaio had many interests and excelled in many pursuits. She loved science, math and the liberal arts almost from the beginning. In High School she was active in academic pursuits, music, and sports. She attended Vineland Senior High School in Vineland, NJ graduating in 1977. She was 4<sup>th</sup> in a class of 747 and served as the Student Council President as well as the Editor in Chief of the newspaper, *HiSpots*. She was a National Honor Student, National Athletic Scholar (tennis team, swim team manager) and won the Daughters of the American Revolution Leadership Award, the Italian Club Award, and Chemistry Award. Her other activities included the Math Club and Spirit Club. In 1977, she was one of two students from Vineland Senior High School to be accepted at Brown University. She graduated with Honors from Brown University in a BS in Biology (1981). Following undergraduate study, she followed in her father's footsteps attending Hahnemann Medical College (MD, Honors, Alpha Omega Alpha, 1985) where she was named the Elizabeth Blackwell most outstanding female senior and earned 5 letters of commendation. She then completed a general internship (1985-86) and an orthopedic surgery residency (1986-1990) at Yale University and a sports medicine fellowship at Louisiana State University (1990-1991) and at Cincinnati Sports Medicine and Orthopaedic Center (1991-1992). In 1992, Dr. DeMaio entered the U.S. Navy serving first at the Department of Orthopedic Surgery at Naval Hospital Oakland, CA (1992-1995). She set up the Biomechanics Lab at Naval Postgraduate School, Monterey, CA with the Department of Mechanical Engineering. Assisting in the effort to close Naval Hospital Oakland down following its BRAC, she coordinated the last orthopaedic surgery research symposium. She then served at the Department of Orthopedic Surgery at the National Naval Medical Center, Bethesda, MD (NNMC, 1995-2004) and concurrently at the

Department of Orthopedic Pathology and Ballistics Laboratory, at the Armed Forces Institute of Pathology (AFIP, 1998-2001) where she reopened the Ballistics Lab and helped pioneer new design for body armor for the Department of Defense in combat zones. While at National Naval Medical Center, she was the Assistant Department Head, Orthopaedic Surgery Director of , and Vice Chairman of the IRB (1995-1998). 1997, while serving at NNMC, she was selected to repair President Bill Clinton's quadriceps tendon tear along with CDR David Adkison, MC USN. Afterwards, Dr. DeMaio was called upon by Press Secretary Mike McCurry to hold an impromptu press conference on the president's health in the White House Briefing Room. From 2001 to 2004, CAPT DeMaio served in the Department of Orthopedic Surgery, Sports Medicine and Podiatry at the Naval Hospital Annapolis, MD. She was the first female department head at the clinic and Head Team Physician at the USNA. She instituted new injury screening during induction day and preseason and postseason injury surveillance. CAPT DeMaio was also the first female orthopaedic consultant to the Office of the Attending Physician. She was a consultant to the Pentagon and cared for junior enlisted as well as two Secretaries of Defense, two Secretaries of the Navy, four CNOs, three Commandants of the Marine Corps, and numerous flag officers. From 2004 to 2012, CAPT DeMaio served in the Department of Orthopedic Surgery at Naval Medical Center Portsmouth, VA. As the Director of Research, she increased the funding from \$60K to \$4M and the number of active protocols from 12 to 38. She personally initiated and oversaw MOUs with the Naval Medical Research Command, the USMC, and the SEALs as well as CRADAs with Old Dominion University and the University of Pittsburgh. In 2010, she was named the Command Excellence in Research Officer to facilitate research command wide. She is the recipient of numerous individual honors and professional awards including *Military Healthcare System Senior Female Physician Leadership Award (inaugural award)*, for the most outstanding female physician in the Dept of Defense and Veteran's Affairs (clinical care, teaching, research). She was the first military officer to win the Excellence in Research Award, presented by the American Orthopaedic Society for Sports Medicine in 1997. In 2004 she was the first female to win the Berry Award presented by US Medical and Delta Dental for her work on body armor.

CAPT DeMaio also served as Orthopaedic Surgery Department Head for the USNS *Mercy* (1992-1995) and the USNS *Comfort* (1995-1998), Director of Surgical Services for EMF Kuwait-Camp Pendleton Detachment (2005-2006), and staff surgeon at Guantanamo Bay.

**Background:**

**Born:** 18 December 1958 in Philadelphia, PA

**Parents:** Grace Marlene Landrum and Frank Joseph DeMaio

**Siblings:** Two brothers (*Francesco DeMaio, Frank Nicholas DeMaio*)

**Education:** Vineland Senior High School in Vineland, NJ (diploma, 1977); Brown University (BS, Biology, Honors, 1981), Hahnemann Medical College (MD, Honors, Alpha Omega Alpha 1985), General Internship (1985-86) and an Orthopedic Surgery Residency (1986-1990) at Yale University; Sports Medicine Fellowship at Louisiana State University (1990-1991) and Cincinnati Sports Medicine and Orthopaedic Center (1991-1992)

**Certifications:** Diplomate, National Board of Medical Examiners (1986); Diplomate, American Board of Orthopedic Surgery (Part I: July 1991 and Part II: 15 July 1994 until December 2004); Re-certification, American Board of Orthopedic Surgery (1 January 2005 until 31 December 2014); Certificate of Added Qualification, Sports Medicine, American Board of Orthopedic Surgery (January 2010); Combat Extremity Surgery Course

**Hobbies:** Gardening, cooking, swimming, cycling, reading, being with friends and family, music, ballroom and social dance

**Key Topics:**

*Armed Forces Institute for Pathology (AFIP)*

*Bio-mechanics Laboratory, Monterey, CA*

*Brown University, Providence, RI*

*Hahnemann University, Philadelphia, PA*

*National Naval Medical Center, Bethesda, MD*

*Naval Clinic Annapolis, MD*

*Naval Hospital Oakland, CA*

*Orthopedic Surgery*

*Philadelphia, PA*

*President Bill Clinton*

*Saraniero, Gioconda -First female Captain in the U.S. Navy  
Medical Corps*

*September 11<sup>th</sup>*

*Vineland, NJ*

*Yale University, New Haven, CT*

The date is 29 February 2012. We have the great privilege of speaking with CAPT Marlene DeMaio, the "Excellence in Research" Officer here at Naval Medical Center, Portsmouth. In her 20-year Navy career, CAPT DeMaio has earned an impressive reputation as a surgeon, teacher, and a researcher, par excellence. Today, we are lucky to capture some of her stories and experiences for the BUMED Oral History Project.

**CAPT, I would first like to start off with your very early years, and your earliest memories. Where were you born?**

I was born in Philadelphia, PA. My mother and father were living there. At the time my dad was a resident in internal medicine at Hahnemann Medical College, which is now part of Drexel University. When I went there it was still Hahnemann, but it's since become Drexel.

**Did you grow up in Philadelphia?**

I was there until I was four. After my dad's fellowship in pulmonary he wanted to go back to the vicinity of his hometown in South Jersey, so we relocated there. I grew up in Vineland, NJ, and I'm a proud graduate of the class of 1977, Vineland Senior High School.

**You mentioned that your father was a pulmonologist?**

He is, yes.

**And your mother?**

Is a homemaker.

**They're both from New Jersey?**

Yes.

**Do you have any siblings?**

I do, I have two brothers. I have one brother who's a linguist and another brother who teaches autistic and disabled children.

**What sort of values did your parents instill in you?**

I would say they had a very strong moral compass, and they instilled in me a sense of fairness. So I think they were a very positive influence in my life in the sense that you should try and help people when you can. I think that was very important. Also, they placed a high value on education. My grandparents on my father's side came to America from Italy in order to get an education and move ahead in the world. They were very poor in Italy. My grandmother went to the second grade and she was probably the most well educated person in her family. But they came as adults in 1923 aboard the Dante Alighieri and made a life here. She was a seamstress and my grandfather had a

general store, an Italian-type deli. So, education and work ethic were very important growing up. And I think my father, while he did not serve in the military, was a patriot in the sense that he loves American history and is very proud to be an American and was always very supportive of our troops. I think both my parents being children of the depression and having lived through both World War II, the Holocaust, and Korea, gave them a different slant on life. Growing up we were very proud to be living in the "land of the free," especially when some of our relatives were not.

I had a great uncle who was unable to come to the United States after World War II and had to go to Argentina. Living and growing up there is very different than the United States where we take so many things for granted.

**At what point did you see yourself destined for the world of science?**

That's interesting. I would say in the first grade in part because of my teacher, Mrs. Lola Chaney, and then in second grade, for sure, because of my teacher Mrs. Irene Anderson. This is before the Internet and Wikipedia, and there wasn't a very strong science program on TV. So, we studied by

reading, and we would do models of the solar system, and we learned about biology and the life cycle and caterpillars and things like that. I just thought it was fascinating. But at the same time I really enjoyed reading and liberal arts. And I was just thrilled, in second grade, the first book that I read from cover to cover was *Bambi*, which, you know, has a lot of life lessons in there. I never really felt that there were any limitations going into science. In retrospect, considering I grew up in a small town that had a strong immigrant first generation American-type population, I think it was unusual because most young girls at the time would have felt like they were maybe being channeled into non-science fields, but I never really felt that way.

Because my parents and my grandparents said, "This is the land of opportunity and if you work hard and study, you can become what you'd like to become, whatever it may be, whether it's a concert pianist or a physicist, or a homemaker," or whatever it was. There was a lot of awareness of the opportunities that were available and that we got to pick, and people in my family place value on learning and achieving your potential, whatever that might be.

**You mentioned the first grade and second grade teachers and some of your family. Were there any other mentors in your life at that stage in your young life?**

Yes, my math teacher, Ms. Eve Kaplan (*sp?*); my piano teacher, Mrs. Gertrude Hochheimer, who was a Holocaust survivor, my art teacher Patricia Witt, and I would say my history teacher, Mr. Charles Griffith. Our neighbors next door, June and Norman Cohen were like my second set of parents. They often spoke up for my independent streak. Now, of course, throughout my entire life I really have to say my parents and grandparents were really the key people, and particularly my maternal grandmother. They were the "bedrock" mentors for life and living. My parents stressed that they were there to point us children in the right direction but it was up to us to make something of ourselves and to make a difference in the world. My dad and maternal grandmother pointed out that we needed to look to others for knowledge or experience that they didn't have. My dad was very focused on education and achievement. For example, in the morning before breakfast he would have me go over my lessons. If I didn't get a good grade, he would help me figure out why that happened and how to do better next time. My mom is the nicest

person I've every met but she is also very resilient. I hope I have their best qualities; at least I've tried to!

**You ended up attending Vineland High School. What was the experience like at Vineland High School?**

It was a really great time to go to high school. The town was about 20,000 people at the time. My graduating class had 747 people. This was interesting era because there was a lot of cultural diversity. We had many people of Italian background, but there were Cubans, Puerto Ricans, African Americans, and people who came Vineland after the Holocaust and had their children there. So, it was a relatively diverse and interesting place that allowed you to experience different languages and cultures, and other perspectives on life. And there was a lot to do. We were close to Philadelphia so we had the professional sports teams that you could go see. They had local sports teams. Like, I played sports myself and played the piano, was in the band, lots of interesting things happening at the high school, lots of different clubs. It was a very active school.

**Were you a Phillies fan?**

I was. It's interesting, my maternal grandmother played baseball, not softball, as a girl and young woman and she was a die-hard Phillies fan. So yes, we liked the Phillies. I had my interview at Hahnemann Medical School the week the Phillies had the parade when they won the pennant in 1980. But yeah, high school was fun; there was a lot going on. And then I was very lucky in the sense that my parents wanted us to have a full life. They got me into ballet, music, tennis and softball in high school besides learning and being in classes. I was editor in chief of the school newspaper; I was president of the student council, played on the tennis team, was manager of the swim team, had a lot of friends. It was fun. I was very fortunate.

**Had very little time, no doubt?**

I don't know. I felt like I had more time than I have now. But, it was a good time, a lot of great friends. It was a good time to be in the town.

**Why did you decide to leave New Jersey and attend Brown University in 1977?**

Right, well, it's interesting because the first time I heard about Brown I was a junior in high school. It was through tennis, and one of the young men on the tennis team

whose brother was at Brown, suggested that I apply there. And I didn't really know anything about it, so I went to my guidance counselor, who said, "Oh, that was sort of a fluke that Andre Mark Durand got in there, we never get anybody in there." So, I applied to several schools, and myself and Marcy Braunstein, our valedictorian, got in and we both went. And so, I had an alum interview. I hadn't seen the school until I actually visited the school after I got in, and I just thought it was terrific. The classes were smaller than some of the other Ivy Leagues and schools on par with the Ivy League, and it was very much "undergraduate-focused." I thought it was incredible, so I was lucky enough to go there, and I loved it. While I was there I met the most amazing people and had a chance to try new activities like the Film Club and fencing on the team.

**At Brown, you served as a teaching assistant in the Department of Engineering and also in the Department of Physics?**

That's right, radiation physics. I really enjoyed my time at Brown and I started out with more of a liberal arts bent with renaissance studies, and Italian but I always had the strong science background there. And in both physics and engineering classes it was electrical engineering,

actually, the engineering. I did very well, and the professor said that he could use people to help teach his labs, and so that's how that came about. So, I did that and it was really fun because you conducted the lab, and then there's always people that fly through a course, and then there's other people for whom it's not second nature to them, and so you really have to look at things from their perspective and try and figure out how they best can learn and help them to do well in the class. That's what was happening with a lot of the labs, so that was really fun. I also got a stipend which was a lot easier to earn than working in the cafeteria's scullery, which was the other way I earned some money.

**So when did you decide you wanted to go to medical school?**

In my second semester, junior year of college. I had volunteered at our hospital in Vineland and had worked with my dad, but I really didn't-I just didn't see myself being a physician. I think that's because I saw these fully-minted, practicing, incredible physicians, and here I was this young person, I didn't know anything. And so I just couldn't see how you went from A to Z to be that type of practicing medical or surgical wizard.

But, my advisor in college, Dean Robert Ripley, thought that medicine was a perfect career for me. He was the pre-med advisor so his business was the evaluation of college students in the pre-medical program. I think it was a leap of faith, really, and believing my advisor, and also my father, who's a pretty tough character. Both thought I would be a pretty good doctor. And I know that if my dad thought I'd be lousy as a physician he would tell me because he's very frank. So, I thought about it and said, "Okay, I'm going to do it." Because medicine was a confluence of a lot of things that I really always really enjoyed, which was trying to help people improve their condition in life, and teaching. There's a lot of education in medicine. It's really applied and translational science, but there's still that art with the human interaction. There's not too many fields like it. And it really is, I think- it's a privilege to be a doctor. And I don't mean that in a socio-economic sense, I mean that you really have to get close to your patients to really help them and understand them. It's a privilege being near the patients and their families, to aide their psyche and their physical being.

**You need to know how to "break down" that barrier of human interaction.**

Yeah, and it's really individualized. And in some ways it's a little harder in the Navy because you're separated by your corps, and sometimes by your rank. You really have to figure out ways to connect with people.

**And afterwards you end up going on a sports medicine fellowship?**

Right. So, I was very much interested in that for a couple of reasons. One of them was: during my time at Yale I had the privilege of being a team physician for a University of Southern Connecticut football team as well as some of the Yale sports teams and the New Haven Nighthawks, and so that was my first exposure to team sports as a physician. I had played tennis, and fenced, and played softball, so I had been an athlete, got banged up like everybody else. And it's very different when you're a patient and then you're the doctor in charge. And sports medicine had really been around in the sub-specialties since about 1973 in the United States, but at that era there were a lot of wonderful things happening in trying to figure out the mechanisms of injury and surgery that really restored the joint to function in its normal anatomy and

that kind of thing. There were a lot of cool things happening. So, I had that experience for the medical aspect of it.

And then as the surgical aspect of it, Dr. Bob Stanton was one of our surgeons and I saw my first anterior cruciate ligament reconstruction, and that was unbelievable that you could with this arthroscope get in a joint and not have to make this huge incision. You know, to get in this teeny, tiny space and drill a couple of holes and reconstruct a ligament so someone's knee is stable so they can go back to running, cutting, and pivoting.

And then at the University, we had Peter Jokl, who was in charge of the sports section, and it just seemed like a really neat field because you could do children and adults; you could do, obviously, men and women, and you could do fractures and all kinds of other things that kind of touch on the other sub-specialties. So, it was really pretty neat.

My department chair was encouraging me to go into oncology, and the spine surgeon, Dr. Michael Murphy and Dr. Wayne Southwick, they were hoping I'd do spines, and Dr. Kris Keggi (*sp?*) wanted me to do solo joints, so I had no lack of opportunity. I was very lucky that way. But, it

just seemed like with sports you got a chance to do, pretty much, a little bit of everything-trauma, reconstruction, it was pretty neat.

**And you enjoyed working these sports teams?**

Yeah, then we had that element, which was really, you know, who knew that was part of orthopedic world? Yeah, that was appealing to some people. It's interesting, I was always a little bit more interested in, I guess you would say the disabled athlete as opposed to the sports celebrities, but you raise an interesting point, which is that there's different types of athletes, and so they all have their own special needs, so that's a very astute point, yeah.

**And then you end up in Cincinnati?**

Yeah, I did. That was my fellowship in sports medicine. And the fellowship director was Dr. Frank Noyes, who remains an international figure in sports medicine. And he was one of those people who would ask a very basic question that a lot of people had maybe taken for granted, and then progressively asked more difficult questions to completely change how we practiced medicine. And he was a

real thinker, meticulous surgeon, and I am all the better for having been to that fellowship with him.

**Why did you decide to enter the U.S. Navy in 1992?**

That was a huge decision, and I know all about it. How does one make the decision, after being in academia all those years, to go into the U.S. Navy? That's an entirely new culture. It's true. So, I'm a Gulf War I volunteer; there aren't many of us. I was active duty, yeah. So, I was thinking of an academic job, and it was the time of the Clinton Health Plan, and so there were some jobs available; I was offered several, including to go back at Yale. And I thought about it and realized, mostly because we were at the end of Gulf One, that there were academic opportunities within the United States military. Again, thinking back to my roots and what I had been able to really achieve from the family team, I don't think I ever would have been an orthopedic surgeon had my father's family stayed in Italy, or if maybe I'd grown up in a different country. So, I felt like it was a good time to give back to the United States for the opportunity that was afforded me.

And so, the plan was to go into the Navy for three or five years, and then probably get out and go back to academia. So, I talked to the specialty leaders in the

Army, Navy, and the Air Force. The Air Force, actually, had an overage, so they really were not in the position of taking surgeons at that point. They said they would certainly be interested as a reservist, and so I looked into the Army, and I looked into the Navy, and at that time, for my field of sports medicine and academic opportunities, the Navy was the best. And so [CAPT] Herb Alexander at [Naval Hospital] Oakland was the specialty leader then, and I spoke with him, and had my one-stop shopping interview at [NNMC] Bethesda, and I met some of the orthopedic surgeons there, and raised my hand on 2 July 1992 in Columbus, OH. I tried to swear in as close to the 4<sup>th</sup> of July as possible. I talked to Dr. Alexander over the phone, and then I swore in on July 1992, and then went out to Oakland before I did Officer Indoctrination School.

**Okay, so Oakland, the hospital that was built on the fault line, right?**

That's correct. It was picked by Eleanor Roosevelt for World War II, and had a very strong presence then, of course, and was also very important in Vietnam. I helped close it down. I was a coordinator for the last research symposium they had there. We brought back a lot of Navy people and former faculty and graduates and such. It was

awesome; it was a great place. It was a medium-sized Navy teaching hospital that worked—they were part of a consortium in the bay area, so if we were not able to provide those educational experiences for the residence at the center they went out to the Bay area or Sacramento at UC Davis, and it was a phenomenal experience. I mean, it was an excellent wealth of clinical material, and there was a small resident staff, we only had three a year. We had seven full-time faculty for orthopedics and a full complement of sub-specialists at the hospital, and it was a fabulous time. And I was able to do research with one of my practice partners there, CDR Davi Adkinson, where we set up a bio-mechanics lab at the Naval post-graduate school and did some work there on the bio-mechanics of the human knee. We also did some other work with fractures and things like that. And it was just a beautiful place to live; people were very nice, friendly area, I mean, northern California, what bad can you say about it? Other than the fact that there are earthquakes. But, it was a very wonderful experience.

**You mentioned this bio-mechanics lab. How does one go about setting up a bio-mechanics lab?**

Well, the engineering professor there, Young Kwon, PhD, was interested in branching out to do bio-mechanics. Dave and I went down on an exploratory meeting, and we basically set up the plan to do biomechanics research from scratch with funding from the hospital as well as post-graduate school. My job was to work with the Naval Postgraduate School Monterey to be fully compliant because we did have cadaver specimens. So I wrote up the SOP and the MOU. I spoke to our colleagues in the Dental Department to be the oversight inspectors because they were the only naval medical active duty on the base. Once they saw the importance of this project, they embraced their new role and were very helpful. For the specimens, we just bought what we needed, and we did it. And that, I have to say, is one of the great things about the Navy. If you have people who are your champions, you can make a difference. In the fleet they say "sea-daddy." For example, CAPT Alexander, Herb Alexander, our department head, supported the head of the research department at Oakland and great things happened when the ideas were presented to the CO. So we set it up and we actually continued that collaboration even when Commander Atkinson and I went off to Bethesda, but then it became impossible to keep that up being on the east

coast. I did continue to be a consultant and thesis reader for the Naval Postgraduate School, though.

**So you and Commander Atkinson both went to Bethesda in 1995?**

Right after Oakland closed. He went ahead of me and became the Department Head. I remained at Oakland for what was the last summer of its existence.. And what's interesting is as the hospitals closed, there were no more interns and residents. So we, as staff, had in-house call as house staff for general surgery, neurosurgery, ENT, orthopaedics, and urology. We also had call for the emergency room for the same surgical services because there were obviously no more residents, and they were phasing out the hospital. The out patient and clinical services eventually went over to the Naval Air Station, Alameda. There was an Orthopedic Clinic there staffed by 3 surgeons, CAPTs Herb and Charlotte Alexander and then CDR Wayne Inman. The BRAC brought about big changes. Similarly when Letterman closed, their orthopaedic department head, COL Eugene Galvin, came over to us at Oakland. He remains a good friend. He came over to Oakland and as they closed

down Letterman and he went through the closing of the Presidio as well.

**And at this point there was no turning back and you thought that you'd make a career out of this?**

No, I was actually supposed to go to [Camp] Pendleton from Oakland, but then our new specialty leader, then CAPT, Tom Cullison, now retired Admiral and our former deputy surgeon general. I believe he's the highest serving orthopedic surgeon from the Navy ever.

**I think he is.**

Yes, I must put that plug in for the orthopedic community. He said there was an opening at Bethesda, and so I went to Bethesda. I thought, "Oh, well that will be great." You know, because we have medical students there, and there's more residents and this, that, and the other thing. So, I thought, "Well, I'll sign on for another three years." So that would put me at six, so that's what I did.

So, I got to Bethesda, really enjoyed it. And I'm not exactly sure why, but CDR Atkinson and CAPT Haydee Kimick our hand surgeon, and CAPT Fred Lippert felt that even though I was a lieutenant commander I would be a reasonable choice for assistant department head. So, I was assistant

department head, and I served as research director, and got on the Institutional Review Board there. I then ended up being the vice-chair for that, and really enjoyed working with the medical students and the residents there. I got a chance to do a lot of interesting surgery with them and helped educate them in orthopedics. Again, there was a lot of opportunity at Bethesda.

**You were also at AFIP, right?**

Well, that's an interesting story. I went to the AFIP from Bethesda in 1998. Before that when I was at Oakland, surgeons from San Diego and other MTFs would send "involved," or "complex" cases up to CDR Adkison and I at Oakland because of our sports training. And in talking to these reconnaissance Marines and SEALs, they would just happen to mention how hard it was for them to train with body armor because it was very heavy and rigid.

And then, I got to thinking about that problem of performance and protective gear. I thought how it's really a sports medicine question because it's gear, it's equipment. It's protective equipment just like they wear in football, lacrosse, and ice hockey. So, I started looking for funding and research opportunities with Dr. Kwon at NPGS Monterey before transferring to Bethesda. When I got

to Bethesda and I talked to CDR Atkinson in more detail about the project. He was a 110% for it. In speaking with Dr. Kwon from the Naval Post-Graduate School, we identified research opportunities to improve body armor to make lightweight, flexible, protective armor for our troops. Dr. Kwon is a materials specialist. It seemed like a perfect marriage of sports medicine and biomechanics engineering. Now, this is between wars, in 1996. However, Somalia did remain on some people's minds, including CDR Adkison, who was stationed there. Even now people know about the terrible incident there in Mogadishu, because of the book Blackhawk Down. But body armor was not on a lot of people's minds. Most research was focused on population health and the electronic medical record. So, I felt lucky when I found a call for some work at Natick Soldier's Systems Command in Massachusetts. So we put together this big proposal, with clinicians and basic scientists. We planned to redesign helmets and chest armor and to develop extremity armor. We even had Manohar Panjabi, PhD a famous spine biomechanist on our tri-service team. We went up there to Natick and then Moe Levine came down to see us. And so we got awarded a grant. However in order to execute the grant, though, I needed to move over to the AFIP because there was a change in "service lines" and how

productivity was measured at Bethesda at that time; meaning there was more emphasis on clinical productivity. The DSS and the new XO said they could not support me being half full-time equivalent to do this project for 9 months to a year. I was faced with a problem because I promised flag officers and the granting officials that I could do this project. I had given them a promise.

And then when I was on this NATO mission with the *Comfort*, we were in the Baltic and we had surgeons that came over from Estonia and Latvia, and I got to talking to them, and they also mentioned some of the problems that they were having with body armor and their patients. I was convinced that I had to move from Bethesda to accomplish this project.

So, through some creative billeting, and speaking with the specialty leader, CAPT Dana Covey and the detailee, who obviously understood the importance of body armor to the military, and I was able to go to the AFIP. Had it not been for CAPT Glenn Wagner, who was the commanding officer at that time, I probably would not have been able to go there. He was another "sea daddy" and project champion. He is a forensic pathologist and clearly saw the utility of this project. He realized that this would help our troops and

the project would promote the clinical relevance of AFIP., Some of the seminal studies in ballistics had been done there years ago, but their ballistics lab was long closed. So, I said to him, "If you give me some resources once again and you get some people in the front office who support your thoughts, I'll build you a ballistics lab after we do the body armor project." And that's what we did. So, I moved over to the AFIP; I maintained my clinical privileges at Bethesda and moved over to the AFIP and did this work.

**Did you choose a team?**

Well, you know that's another interesting thing. Our engineer from Natick was Jim Mackewicz; our biomechanical engineer, at the time he was active duty CDR Steve Parks, this brilliant, brilliant engineer, Naval Academy grad, who is now, thank god, a consultant who's working on blast injury. Jim Mackewicz was the program manager and engineer; our "hands dirty," working engineer was Steve Parks.

And then we had the stellar support of the Office of the Armed Forces Medical Examiner, particularly MAJ Steven Campman. We procured specimens from USUHS Medical School, through the Anatomic Gift Program. Mr. George Halbarrow, who was in charge of the Anatomic Gift Program and served as our ethicist during testing. We also did the imaging and the actual autopsies at National Naval Medical Center in Bethesda. Radiologists CDRs Donald Flemming and Jeffrey Georgia were indispensable for the imaging. LCDR Kerry Meyers was cardiothoracic surgeon..

The project required approval by 3 IRBs, 3 MOUs, and an ethical review. It was quite a task getting all the administrative work done. The testing seemed rather simple after all that! Once the specimen was procured, it underwent a CT of the chest. We then instrumented it at Bethesda. The actual testing was done at Aberdeen Proving Ground. The specimen was returned to Bethesda for another chest CT, a full forensic autopsy, and rib biopsy for bone density.

So, we had a, like I say, incredible team. We were able to do this project over 9 months. We evaluated the armor that was a prototype, the Interceptor, and we proved its efficacy. We then lightened it quite a bit. Our data

collection was to determine the injury and survival threshold by placing sensors at key positions. The idea was to understand how the armor worked, why the specific injuries occurred, and how they could be prevented. We planned to go forward with additional studies to make lightweight, flexible armor, but because there was no requirement for weight, the program was pulled, so we were never able to execute those studies. I was very disappointed and concerned about that because I knew we could have produced a better, lighter product. However, the ballistics lab continued; it supported WRAIR [Walter Reed Army Institute of Research] , some people who had Department of Defense grants through the University of Virginia, and some other important studies on protective equipment.

Once 9/11 occurred, and it was clear we were going to war in the Gulf, I said to CDR Parks that if the armor worked as well as we thought it might there would definitely be an increase in head trauma and that he, perhaps, ought to focus on blasts. And so I got him hooked up with COL Geoff Ling, MC USA, who had just been assigned over at DARPA (Defense Advanced Research Projects Agency),

so that they could start to work on this critical issue, and so that's how that came about.

I was proud to write each of our team up for personal awards. Our team was also recognized by Assistant Secretary of Defense Wolfowitz at a ceremony at the Pentagon. He also mentioned our work at his "Farewell to the DOD" when he moved over to the World Bank in 2005. It was wonderful to hear our tri-service team in his speech.

**What kind of armor do our troops wear now?**

It's very similar to Interceptor. It's basically a system, an armor system, comprised of Kevlar and then a boron carbide inflexible plate over the Kevlar. The plate and Kevlar constitute the front and back armor. There will be other parts of the system that augment, which is Kevlar, like a deltoid flap or groin protectors and that sort of thing.

**Have you had the chance to do research on that present day armor?**

Yes, we were able to get funding through the Office of Naval Research to look at the effect of armor on balance, endurance, and fatigue, to try and make some recommendations about what would be the optimal weight and

configuration. This work was done with Old Dominion University with Stacie Ringleb, PhD and James Onate, PhD, AT, C. But if there's anything I could stress from this whole interview is that we really do need to continue this line of work to improve protective gear. We are working with Cynthia Bir, PhD at Wayne State University to develop extremity armor. Some people may know her from the television show "Fight Science." Nevertheless, but Dr Bir is trying to develop some protective gear for the extremities with us with funding from the Office of the Navy Surgeon General. Her lab took over the General Motors research lab so she understands many types of injury. So the answer is yes, we were able to continue to pursue this line of inquiry but much more needs to be done.

**Outstanding. Now, if you don't mind, I would like to go back to Bethesda. In 1997, you were called by Connie Mariano to perform surgery on very special patient. How did that come about?**

Well, she was President Clinton's physician, and she is the first active duty female physician appointed full-time as the president's physician. She was, obviously very involved with this whole process of his knee surgery. March 14<sup>th</sup> was my dad's birthday, which had nothing to do

with it, but anyway, the President was in Florida at Greg Norman's house and had tripped going down some stairs and hurt his leg. And so he had an evaluation at a civilian emergency room in Florida where a physical exam and imaging was done including an MRI. Both the physical exam and the MRI were consistent with a quadriceps tendon tear, and so he was prepared to come back to the Beltway. I got called into Dr. Adkinson's operating room that morning. I thought, "Oh boy, I'm in trouble again for something."

And he said, "We're operating on the 'Boss.'"

And I said, "Oh no, what happened to Admiral Ridenour?" Who was our CO, because to me that was my "Boss." CDR Adkison said, "No, silly, the President of the United States, the POTUS!"

And I was like, "Oh, that's pretty amazing."

And he says, "Yeah, didn't you hear anything coming into work?" And I had been listening to NPR and it was their pledge week, and so I didn't hear anything about anything except pledges. So he was finishing up his cases and so he said, "Take care of what it is we need." So, I got a group of people together; we arranged for the equipment. I learned that there would be a press conference

afterwards, so we talked to our medical illustrator to get some graphics, they needed curriculum vitae, they needed all these interesting things that you never need for your normal cases.

Dr. Adkinson and I were on deck for this surgery, one: because we're sports medicine surgeons, and two: because each department has physicians who are on a "presidential detail." When the President is in the area you stay in the hospital in case something were to happen that you would be on board in the hospital, so we had already been "pre-selected."

So, we got all those things together and then they locked down the hospital and closed off all kinds of areas and a platoon of Marines arrived and the military working dogs arrived and the Secret Service arrived, and all kinds of things were going on. And finally, the President arrived, with, CAPT Mariano and we had a little pre-medical meeting about the President and the surgery and the injury and anesthesia and all that kind of thing. The President was very interested in a regional anesthetic because he was the President and he wanted to remain the President; he made that very clear. He did not want to entertain a "plan

B" if the regional didn't work, but luckily we didn't have to go down that road, so that was very good.

So, we met the President. Dr. Adkinson spoke to him about the actual procedure. We then left the room, and I asked if anyone had gotten consent, and we needed a consent, so CAPT Mariano said, "Go get the consent." So, it was "Sweet 16" basketball time, and the basketball was on the television and the President was doing a *New York Times* crossword puzzle in ink. I readied myself and walked in the room, "Excuse me, Mr. President, Sir. My name is LCDR Marlene DeMaio and I'm here to get a consent." And he was completely unfazed. He did not look up from the crossword puzzle, nothing. And I thought, "This could be really bad. We have an attorney who's the President, and I cannot get his attention for surgery."

So I said, "Mr. President, sir, I really need your attention to go over the consent."

"Oh yes, I know." I don't remember his exact words, but he says, "I know, you have to fix my leg."

I said, "Well, yes sir, but I really need to go over what we call the Risks and Benefits of surgery. I have to go through the procedure. I have to talk about..."

He's a multi-tasker, there's no doubt about it, but this was different. He was not paying any attention to me and the consent. So, I turned the television off, and the nurse in the room says, "You can't do that."

And I said, "Well, I just did." And I stood between him and the television and I said, "Sir, I need your attention. This is your leg and your body and I must go over this. I am one of your surgeons and we cannot go forward unless we have a consent in the way that we do consents."

So, he started laughing. And the Secret Service had come in because the TV was off and they thought something happened. And I don't remember his exact words, but he said something to the effect like, "I drive a hard bargain," or, "Hillary would be happy," or something like that, I don't know. But, we did a proper consent and he had a few very good insightful questions and that was that. And we got a consent. The president signed with my pen.

I have another story about that day. As I said, the day of the surgery was my father's birthday. I was supposed to drive home to NJ after work, but that wasn't going to happen now. I explained to the Secret Service that I needed to call my mother because if I didn't make it

home, she'd be calling the state police and hospitals. So, the agent said I could call and say that I wouldn't be home but I could not say the reason why. He further explained he'd be on the line and would terminate the call if I said anything about the President. When my mom answers the phone, I explain I won't be home. She excitedly exclaimed, "I knew it! I knew you would be doing the President's surgery. Wolf Blitzer on CNN and June [our family friend, June Cohen] said he was going to Walter Reed. But I knew you were on the presidential detail." I said that I wasn't sure when I'd be home and that was that. It seems Mike McCurry, the press secretary, had released more information than what the Secret Service was aware!

**When you type your name in Google a photograph of you at a White House press conference comes up.**

Oh yeah, there are things that you really don't consider when you have a famous patient, certainly the "leader of the free world," and one of them is press conferences. But again, I would say being a sports medicine person, having respect for the coaches and articulate team players that speak, you kind of get a feel for these things.

And then I had grown up near Washington D.C. and was a little interested in American history, and just living in D.C. there's a lot of press conferences that you get exposure to. So Dave Adkinson did the press conference at Bethesda, and I just think he hit a home run. We'd just finished the surgery, and it went great; it was kind of intense, of course, you know, it's the President after all, but he did a fabulous job as the lead surgeon doing the explaining. I just, sort of, pointed to the diagram. I did half of the repair and he did the other half, but he was the lead surgeon; he was the senior surgeon, there's no doubt about it.

So the picture you're talking about is when the President went home on that Sunday, March 16, 1997. We traveled with the Secret Service in their vehicles. The President was in a van supplied by Mr. James Brady; it was a handicapped van and worked perfectly for him. I don't think many people know about this very kind gesture of Mr. Brady which transcended politics and party affiliations. So I travelled in a suburban to the White House. I was told that I was just going to escort the President back into the house. I had done a home survey previously in the residence to make sure that it was safe, which is what we

do for a lot of patients. This is a common event, like when family members have hip fractures. You have to make sure the carpets and the throw rugs don't slip and there's no cords in the way and the shower is safe, and stuff like that. We had to tape down some carpets and get special bars in the shower to improve the safety at the White House for the President.

So, I just thought it was going to be the same safety instruction, like, "Mr. President, this is the survey results. You have bars in the shower now and the carpets are taped down." So, we get him all tucked in the residence and Mike McCurry says, "There's a press conference."

I said, "Oh, that's great. Where do I sit?"

He said, "No, you don't understand. You're doing the press conference." He says, "Would you like to fix your makeup?"

So anyone who knows me knows I'm not really into it that much, and I didn't have a comb, I mean, I didn't even have any lipstick with me. All I had was my military ID card. I said: "No, what you see is what you get. This is

how it is." And so that was my preparation for the press conference. In the stress of the moment I mispronounced CAPT Mariano's name "Mariani" but she's Filippino-American, so a lot of the Filippino names are very similar to Italian names. And I really heard "Mariani," and I thought I had been saying her name wrong earlier in the week. Believe it or not, up until that time I had not seen her name in print because as the President's physician, she would wear civilian clothes so I had not seen her in uniform with her nametag. And so I mispronounced her name in the press conference. But other than that I think it went all right.

**No fallout?**

No, actually, it was interesting because I got some good reports from people like the Chief of Naval Operations, ADM Jay Johnson, and the Secretary of the Navy, Mr. John Dalton, that I represented our service well. And for me, I'm thinking of my family. They were really proud. My grandmother died during my fellowship. There's only a couple things that make me upset, 9/11 makes me upset because when we got sent to the Pentagon we saw it on fire. I think that's why I stay in; I'm proud to be a naval officer and represent our country.

And what was funny was that I heard from so many people who were proud, right along with me. When you're in Navy medicine you move around a lot and you meet a lot of people. In a modern era people move around a lot, so I have friends all over the place. This is before online newspaper. My friends in different cities were sending me pictures from the newspaper and stuff like that. And it was really weird, like, "Wow, this is just really bizarre. My picture is the New York Times and the LA Times." I was wearing my service dress blues! So, yeah, the Navy did well with President Clinton. The Army, of course, has done great things too, but it was a good day for the home team because it was at the hospital that was selected by FDR when he was President, and he had been the Assistant Secretary of the Navy. It was cool because it was like a Navy team and it worked out well. Luckily, the President didn't get any kind of post-operative complications and he rehabilitation went very well. It was a good day to be in the Navy.

And I got to go to the White House for the rehabilitation. I was also able to go to Helsinki, Finland for an international summit with President Clinton and Mr Yeltsin. CAPT Mariano insisted that I and our physical therapist, LT Nanette Paco, MSC accompany the

President for the trip. We got to fly on Air Force One. There were officers from other services, and obviously Air Force One is the Air Force, and what was so wonderful. We wore civilian attire. But everyone knew the LT and I were part of the surgical team. Let's face it, the Clinton Administration was not on the best of terms with the military at that time, and even the President will admit it, and he did at the time. He's an intelligent man. And so what was really great was that people on the trip, from junior enlisted to senior officers, from Army/Navy/Air Force, would come up and would say-and to me, that we did well. I was so proud they said "we", military medicine. Our treatment of the President transcended service. There's this mis-impression out there that military medicine is not so good, or that it's second class, or that you're in the military because you can't get a real job. And so, I think the good news is that the home teams did well. The military as a whole did well.

Now, granted in the world of orthopedic surgery, a quad tendon repair is not the most difficult operation we do, but you got to be trained for it; you have to have some technical skills, and it was, like I say, the home team did well.

**Did you feel any pressure? Because when you're wearing that uniform you are a symbol for the entire service.**

No, and I'll tell you why. In medicine, early on like when you'd go to the cadaver lab as a first year medical student, you learn from people who donates their bodies, and their dead. Obviously, we're all going to pass away, but the bottom line is we're in medicine to try to keep people alive and as comfortable as possible while their alive, and maximize all their potentials, and so you realize that there's things in medicine that you could really screw things up for people, or potentially kill them if you don't do things right.

And so, this operation is not the hardest one we do, and actually, the team that was in the room, we had a bilateral rupture two weekends before when I was on call, it just happened to be, so they were kind of up on it, so obviously everyone was very focus, sort of hyper-vigilant, very intense because it's the President, but we're trained. It's kind of like when you're a professional and it's game day. You never know what's going to happen until it's over, but I think everyone was very well trained, very well prepared. And that's also part of the training, you've got to compartmentalize and forget about who he is.

**He's just another patient.**

Yeah, and I got to say the first multiple ligament knee reconstruction I did I was far more nervous than this case, way more nervous. This case was intense, but I wasn't that nervous. Now afterward, later that evening, I was like, "Holy cow, what the heck just happened today?" It hit me, and it was sort of a shock.

**In 2001 you transferred from Bethesda to Annapolis. Was this before September 11<sup>th</sup>?**

Yeah, it's interesting, I was at the AFIP, the actual job and my assignment there was from '98 to 2001. But what I was doing clinical work and had surgical privileges at Bethesda. My specialty leader, CAPT Covey, said that they needed help at the Naval Academy. They asked if I could go down to the clinic there and help out and operate and see patients. So, that's what I started to do in the January timeframe of 2001. Later, my detailer, CAPT Sandra Yerkes, contacted me about an opening there for an orthopaedic surgeon. So. I actually PCS'd to the Academy of August of 2001, so I was there full-time during 9/11. I was actually supposed to be in the operating room that day, but I'm not sure why I wasn't. I don't remember. One of the corpsman from pediatrics came down and said that a plane had struck

one of the twin towers. He was kind of a joker, and I said, "Don't fool around about that. I remember when the car bomb went off in the parking garage."

And he goes, "Oh no, ma'am. I don't know if it's an accident or what?" So the only TV we had at the clinic at the time was in pediatrics, so I went up there and saw the second plane hit, and then I went back down to my office to get my lab coat to go to the skipper's office. I had my radio on and I heard them say that there was smoke coming out of the Pentagon from reports on the beltway. So, I knew we were under attack, and I said, "Send all the patients home." Went up to the skipper's office, CAPT John Shore, and told him what was going on and I said, "I think, sir, we need to call BUMED." And so he called and we mobilized a group of people and we went off to Bethesda, and from there, on two ambulances from the Naval Academy, we went to the Pentagon. By the time we got there it was a recovery effort at that point. I think we arrived, probably, about two hours after the first plane struck, The fire was raging and there was a gaping hole in the building. And you could still see the fuselage of American Airlines; you could see the big "A." I had my cell phone there and it was sort of like half of a-you know, the cell phone was like

the size of your recorder, and I just let people use it until the battery ran out. And you could see where the plane had come down and clipped the street lamps and the wires, the telephone wires, and there was just this huge, gaping hole in the Pentagon. And we really weren't sure what was going on. We could see our choppers, but then we didn't know that there were some jets that were coming to do reconnaissance and this and that, and we were like, "Whoa," we didn't know what was going on. It was pretty amazing that more people weren't injured.

**Did you work in conjunction with other Navy medical teams?**

At the time, there was a lot of discussion in the paper about how it wasn't a very well coordinated effort; it was very chaotic. And I would say, on the contrary, that it was, I think, an amazing effort because what happened was there was the immediate response of people from the Pentagon. And so there's medical elements right at the Pentagon and they had a rapid response team right there, and so they responded right away. And then the local ambulance units came, the local hospital units came, and they-because this had never happened before, they had a little bit of difficulty in setting up a command center and who was actually in charge. But, people worked very well

together; there was not this, sort of, posturing as to who's in charge and who's going to do what. It was basically, "Where do we get the assets where we need them and how to get them in there," and that kind of thing. So it was a coordinated effort between the military, the county officials, the city officials, and whatever-like there's independent contract ambulance services that just showed up, I mean, people just came to the site to help.

**Who did you interact with? What types of services did you provide?**

Basically, our unit from the Naval Academy provided support for the firefighters, like they were having dehydration; they needed some IVs, they needed water. By the time we got there it was basically starting to be a recovery effort for the people that had expired. And then we were there until early evening, like 6:00 p.m. And then after that, the Army took over the recovery effort with the cadaver-sniffing dogs and things like that.

**But you didn't have to go back at all?**

No, now some friends of mine who were stationed at Walter Reed, they set up a medical tent and unit there where they had to go and staff it.

**I've heard about the triage stations that were set up by, I think, the Naval Medical and Dental that was there?**

Yeah, it was a wonderful, marvelous experience. At the Naval Academy the undergraduates are called midshipmen, so we took care of the midshipmen as well as the TriCare beneficiaries in the area, so that would include active duty people and their dependents as well as retirees. There's a pretty substantial number of retirees in the Annapolis area, so that was the patient base.

**And you enjoyed your work in Annapolis?**

Oh yeah, it was great. I made some friends there that I'm sure I'll have for the rest of my life. From 2002 to 2004, I was the head team physician, and during that same period of time I was also the department head for orthopedic sports medicine and podiatry, do that was an interesting time. I got to cover the sports, and we set up a fair number of things for injury prevention and screening that they still use. We initiated screening during induction day for injury and for orthotics. I also started

a screening and treatment program for stress fractures. Also, I started a program for pre and post season injury surveillance and treatment for athletes. This allowed us to diagnose injury early and initiate the proper treatment, whether it was medical or surgical or both.

We set up a research project with the University of North Carolina on ACL prevention under the direction of Dr Bill Garrett, now at Duke and Dr. Steven Marshall at UNC. The USNA was the first site for this project. It later went TriService to the other military academies that ended up getting a big NIH grant, so that was good effort. Meaning, we identified an injury that was affecting the mids, we got subject matter experts to help us study it, and we intervened. We did a lot of good things. We also improved clinic efficiency, devised new coding of patient visits, instituted a Morbidity and Mortality conference, and decreased postoperative complications.

**Why did you come to Portsmouth in 2004? Was it your choice?**

Well, at the time, there were a lot of changes at the Naval Academy, both involving medicine and the academy administration. Admiral Arthur was Chief of the Medical Corps at that time and he had some interesting ideas about the Academy. Needless to say, his ideas did not match most

of our ideas in the medical corps who were taking care of patients. Also, the athletic director, Mr Chet Gladchuck, wanted the head team physician, to be a civilian surgeon. And so, the specialty leader was CAPT Dan Unger contacted me. He said had always needed somebody to run his research here at Portsmouth. And so, I transferred with that title in mind.

**May I ask, wasn't there some other controversy at Annapolis during that time in the sports medicine position?**

Yeah. CDR Kevin Ronan, MC USN was the brigade medical officer, and when I was there. There was an incident of potential fraternization involving the CDR. I addressed this with him and we went to our CO, CAPT Frank to discuss it. CAPT Frank told me to drop the issue. I had our SAVI officer follow up on it. Later, it was discovered that the CDR had movie cameras in his home and he was filming the midshipmen. His courts-martial didn't occur until two years later. He lost his medical license and went to the brig.

**Well, in 2010, you got the Outstanding Female Physician Award in the Navy.**

Yeah, that was another shocker. CDR Reece (Chip) Lee, MC USN was president of the executive committee of the

medical staff, and so he came to me and said there was this call for applications for this award. So I said, "Chip, thanks, but..." Like, they sent this thing out and at first, I must say, I was a little annoyed. Every now and then, people who are well-intentioned want to do something to bring you to the spotlight but the unintended consequences are that it just makes it worse for your situation. So, I thought, "Oh, here we go again. They want to do something to highlight people or leadership or success, however they're defining it, and it's only going cause more heartburn for whoever wins it." You know "Why are these women getting this award and there's no male award?" But then, I looked into the award. Secretary Embrey comprised a special committee to develop this award. And what they found was women were leaving the military; they were not achieving their potential, and they found that they weren't getting the jobs, the training, the military awards that they might have. And so, why they couldn't make up for all that they thought that this would be, at least, a start.

So, you know, I thought about some of the other women that I knew and what was happening with them and I thought, "Well, you know, holy cow, this is reasonable. They got together, this blue-ribbon panel of men and women, academic

people, clinicians, civilians, military," and I'm like, "Alright, whatever." I didn't suggest I put my name in, they did.

So, they put this package together, and then, I don't know, it was like four months later, Chip pages me, "Can I come to your office?" And you know, he's a pediatric pulmonologist, and I thought, "Gosh, what kind of crazy case could he have that he needs to talk to me in my office?"

And he comes in and he says, "Well, you won." I had no idea what he was talking about because there's far more Army doctors, providers, that would be eligible than Navy and Air Force. So, I just figured, "It's going to be the Army," because they also have better defined tracks for academics, research, clinical care, and they groom their officers a little differently than us. And I was just like, "No way." And he said, "No, you won the Leadership Award." And I had to sit down, I just couldn't believe it.

**This must rank up there among your proudest career moments.**

Yeah, that and when I got the Resident Teaching Award here in 2007. The DOD Leadership Award was a biggie because it was Army-Navy-Air Force, and it was outside people

looking at what you've achieved in your career. I thought about how I won the Leadership Award for Officer Indoctrination School and the two awards were similar and different at the same time. The DOD award was a career award. You know how it is, you go to work every day and you have your list of things to do and you want to take care of your patients. You don't really look at the big in the picture. You don't do things for awards. You do things because they are the right things to do. Doing the right thing doesn't always make you the most popular, either. For example, when I was Department Head of the Comfort, we needed to update the equipment and implants. The chain of command wasn't convinced but I explained it to them. We updated everything so that when we went back to the Gulf after 9/11 the surgeons had what they needed.

I was also very proud of the exhibit at the opening of the new site of the National Museum of Health and Medicine in May 2012. It highlights four life saving military medical accomplishments. Our body armor project is in the exhibit.

**And just actually sit back and reflect on what you've accomplished.**

Yeah, and if you do it's because you're trying to fill in a space or a hole, especially in surgery, medicine. You're kind of like, "I'm sufficient in this; I need to do this. I need to learn more."

**But to find the time to do that and sit back and actually think about aspects of your career is very difficult.**

What's great about USUHS is they have professorships, so when you're putting your packets together for them, because you have to kind of think about where you're going, where you've come from, formatted in a way that it's an academic style. It gives you pause to kind of say, "Oh, not bad," or, "Oh, could have done better there." But that doesn't happen very often, I mean, you do that once every five or eight years or something.

**That's true. Well, as you look back now on your career, are there any aspects of your career that you'd change, any decisions you'd make differently now?**

Well, as much as I love the Naval Academy, I don't think I would have gone there at that time. I would put it this way: I was ready for them; they were not ready for me. But, I really loved it there and the men that I took care of, they find me. It's so funny, you'll be in Kuwait or

Rota, or somewhere and somebody shows up that you took care of at the Naval Academy because they were just so appreciative. You look at what people do when they come out of there, even if they do their time and get back into the civilian sector, they're leaders in their community, and some of them get to be leaders in the military, and you took care of them in their formative years; it's pretty cool. But, I think that's probably the only thing that I would have done differently.

I would add that I was disappointed not to have served in Iraq or Afghanistan. I was proud to serve in Kuwait as the DSS and to have been at Guantanamo Bay for two tours. I volunteered on several occasions to go Iraq and Afghanistan, but our Specialty Leaders had other plans for me. But, most of the military did not deploy there, so I am with the majority of the DOD.

I've been fortunate to have many successes in my career but I have had "near successes" and outright failures. It took me 13 years to convince BUMED that we needed a registry for total joint arthroplasties. I was not able to implement standard clinical outcome measures for orthopaedics on AHLTA. As I stated before, I was not able to get funding to substantially change body armor. Lastly,

I would point out that I had no impact on the Extremity War Surgery conferences on injury prevention or the comprehensive management of combat wounded because I was restricted from the meetings. It is too bad that injury prevention was never thoroughly addressed at this venue.

I also failed in trying to evaluate "used" chest armor. In 2005 I wrote up a method to retrieve and evaluate armor that had been shot in combat. The project was similar to what Dr Herjet described in the Korean Conflict to evaluate the armor of that generation. This type of evaluation is very important to see how failure modes develop, particularly with multiple shots. Even though the project went through the Medical Office of the Marine Corps and was approved by the AOFME, I couldn't make it happen. I remain very disappointed about this because I think the evaluation would have resulted in better and different protective gear.

**If you could go back and meet with somebody like Hulda Freeland or Gioconda Saraniero, the first female physicians of the Navy, what would you tell them about your career?**

Yeah, Gioconda is pretty cool. I relate to her a lot, of what little I know about her. I relate to her in this way:

she had ideas that were not well received. She was a nonconformist, one because of her gender, and two, because of the way she looked at things at hematology, at blood-blanking, that were visionary. And all visionaries have this problem, but she paid the price, just like COL Janice Mendelson in the Army. And I would say that it is an uphill battle, but they were undeterred; they were unafraid, and that's one of the things that COL Holly Bowen would say. I had the opportunity to meet the first female orthopaedic surgeon to command an Army Medical Unit in Vietnam while I was a medical student. COL Anna Brady was actually an Army nurse in World War II and served on the beaches of Normandy. And then after the war she went to medical school and she became an orthopedist. She was a lieutenant colonel-highest ranking woman to lead any kind of command group in Vietnam and a bear of a woman. I thought, "Oh god, how can I be an orthopaedic surgeon since I'll never be this big?" But she too, faced a lot of challenges, and so while the details are different we still have those challenges. The problem with big organizations like the military is that we get pegged a lot because we wear uniforms and we do things a certain way, and we speak a certain way, but it's the same in academics, and it's the same in big companies. And the problem for these women,

including CAPT Saraneiro, was, at some critical points in their career, they didn't have that "sea daddy." They all paid the price.. And they were treated like freaks.

So, even though my career was decades after theirs, I would say we faced some of the same challenges. I think we all suffered from being different, from thinking differently, and from taking chances. In the end, we were all recognized for accomplishments but were marginalized at the same time. So, that is why I identify with CAPT Saraniero.

**Well, she was isolated throughout her entire career; however, she was able to become a captain, which was remarkable for back then.**

Right, especially when you look at some of her FITREPs because they're not that good. After I left the AFIP, I was fairly isolated as well. This is another reason I was shocked to have won the DOD Leadership Award.

**No, and she did face a lot of hostility, especially when she got to BUMED. And she was sort of marked and kind of put aside, but, at the same time she's almost a tragic figure, I think.**

I agree. And I think we need to learn from that. And I think, part of the problem about modern medicine is that we need to understand these kinds of things so we don't let them happen again. If we let them happen again, that means we've neglected an incredible resource who-okay, maybe they won't be a pivotal figure, but they will change things and help people, and improve treatment for individuals and groups of people. And that's part of the reason why I let them put my-I don't want to say let them put my name in-but, went forward with this award because there's some person out there who's probably facing something awful, whatever it may be, and their own personal tragedy or marginalization, and we've all had that. I've had it, and if that award or this presence of this award, or whatever it is, helps that person get through it, then it's worth it.

It is important to take chances. It is important to be able to "go for it." My experience is that we have less of this attitude now. When dealing with people's lives and funding, we have to be responsible and not be cavalier. But if we don't take chances, we won't move ahead. I see more risk averse people in command situations. I don't understand that. I also do not understand the lack of

personal communication of leadership with staff. For example, at my hospital, no one in the chain of command speaks with retiring officers, myself included. While this may seem like an old fashioned tradition, it provides a unique opportunity to learn about the command and the individual retiring.

**There are all these experiences waiting for us, all we have to do is look back and often document them too. Unfortunately, some of these are not documented. Invaluable personal experiences can be lost to our past.**

**Yeah.**

**What sort of advice would you have for somebody entering Navy medicine as a physician in today's climate?**

Well, a couple things. One is: pursue your dream; pursue your passion. You have to do that. Whatever you do you have to strive for excellence. You can't tolerate anything less. And it's hard to be excellent and to demand it of yourself and demand it of others. But, it's essential. The other thing is that in order to do well in the military you have to be a Naval officer, so it's two hats. So, you have to be an excellent medical person, but you also have to be an excellent officer. I am reminded of

my time at Officer Indoctrination School when the my classmates teased me for reading the Blue Jackets Manual. But that made sense to me. Most of the Navy is enlisted. I wanted and needed to know what was important to them because our enlisted community is the heart of our service. It is our responsibility to understand our vision and mission and work with others to carry it out.

I would also add that it is critical in today's climate to have a champion, a "sea daddy" to provide mentorship and advice. In Navy medicine today there is less emphasis on mentorship and less time devoted to developing leaders. Innovation and independent thought are not always valued. I think this is a disturbing trend. I was affected by it. I think that my time at Portsmouth was marked by having no voice.

### **Play by all the rules?**

Well, if you don't "play by the rules" there are consequences. If there's a rule that's not right, then change it, or try and change it, or bring it to somebody's attention that it's a rule that's not working. There are people with whom I've served that break the rules or bend

the rules. I don't think I've bent them, but I've questioned them. Questioning rules threatens the order but it's got to be done when you identify a problem. I don't think we have enough of that. For example, when I was consultant at the Pentagon, I was asked by Gen Shalikashveli (sp?) to testify at the Defense Military Oversight Committee on Tricare. I spoke about clinical care and research. It was a less than glowing report, substantiated with numerous facts and examples. I also gave possible solutions. My report was not well received at BUMED but the General was glad he got the facts. I was even told I would never make Captain based on my report. I decided it was better to be honest and live up to our motto of honor, courage, and commitment than to worry about making rank.

But, when all is said and done, you've got to be a Naval officer, and what that means is you've got to speak the language; you've got to understand the culture; you've got to understand the history, because these are your professionals, and you will be able to have that bond with your counterparts from the fleet.

Part of the reason why it's important for us to wear the uniform properly is because when we meet somebody from

the fleet, they figure: if you can't wear the uniform properly, then how can you operate? How can you treat me properly as a patient if you can't wear the uniform properly? Now, that logic is not going to be exactly the same as when you're part of the Ford Motor Company. But, it's the same when you go speak in academia. You have your academic uniform, the clothing that you wear there, the way that you present yourself, the way that you speak, so you have to know those things, and it's very important. And I don't think we've done a good job with our young officers in the Navy Medical Corps imparting that to them. I think that's where our colleagues who've trained at USUHS and the military academies, they've grown up in that and they understand that better.

We have to learn how to use the chain of command and keep them informed. Most of the time the chain of command will work for the group and the individual. The problems arise when this process fails. That's when rules may have to be questioned.

**How do we teach our young officers?**

That's a big question because there's the formal teaching and then there's the informal teaching. And the formal teaching is, basically, these graduate medical education programs that are doing well; we're turning out great doctors that are getting their fellowships and passing their boards and things like that. But, I think we have an opportunity to do better with some of the other parts, like, how do you relate to patients and what does it mean to be a Naval Medical Corps officer? And it wouldn't be that hard, but I think we have an opportunity to teach people that and to show them that, even though we have less and less work hours and things like that. But, I think we can take a lesson from our sister services; particularly, as people are moving up in more senior ranks, they have actual dedicated learning modules on these things in the Army and the Air Force that we don't really do. I think we should do that, really. If we are going to continue training providers, we need to devote time and resources to nurturing them and training them. If we can't do it properly, then we should get out of it. There is no half way in training providers.

I would also stress that we have to understand our mission and vision. I see us in medicine straying from

this. If our mission and vision become lost or fuzzy, then we lose our effectiveness. I think we have to convey the understanding of mission and vision to our young officers. We also have to help them prioritize goals and tasks to be able to meet the Navy's needs as well as their individual needs.

I also think that we have to reward innovative thinking and leadership. We have gotten into a rut with "business as usual." To stay on the cutting edge and be current, we have to be forward thinking and take calculated risks. For whatever reason, we seem to be more risk averse than when I entered the Navy. We need to take those chances and take control of our future.

**CAPT, thank you for your time today.**

My pleasure.