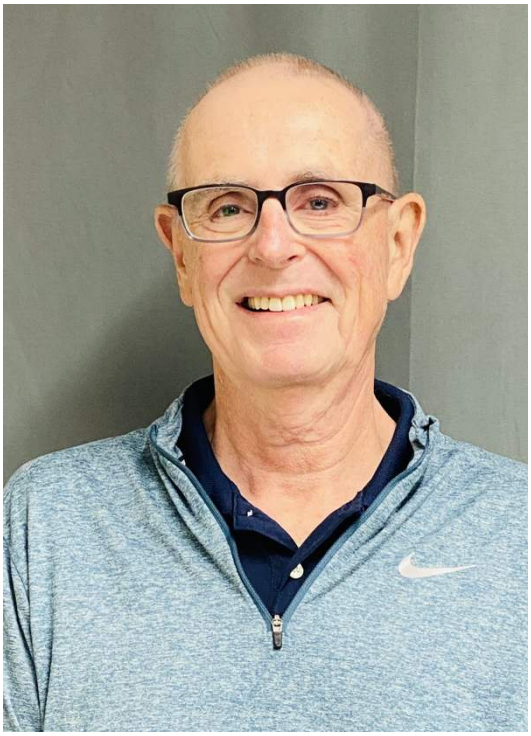

Dr. Arthur Ney: An Oral History

Career and HCMC Level 1 Trauma Certification

at Hennepin County Medical Center

HENNEPIN MEDICAL HISTORY CENTER

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Hennepin Healthcare, Minneapolis, MN

HCMC ORAL HISTORY PROJECT

Dr. Arthur Ney: An Oral History

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at Hennepin County Medical Center

Interviewed by Mary Ellen Bennett, RN

June 14, 2023

At Hennepin County Medical Center, Minneapolis, Minnesota

Edited and redacted by Mary Ellen Bennett and Michele Hagen

Coordinated by
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Direct quotations are based on recollection. The entire text has been edited for length and clarity. Portions of the text are redacted as noted due to privacy, confidentiality, or sensitivity of the content.

DR. ARTHUR NEY
Interviewed in Minneapolis, MN
June 14, 2023

MARY ELLEN BENNETT: The following interview was conducted with Dr. Arthur Ney on behalf of the Hennepin Medical History Center, for the History Center's oral history project. It took place on June 14th, 2023, at Hennepin Healthcare. The interviewer is Mary Ellen Bennett.

We are so happy to have you here today, Dr. Ney, and we're excited to have you tell the story of your career with Hennepin County Medical Center and the achievement of our Level 1 Trauma Certification.[1]

So first Dr. Ney, can you tell us a little bit about your personal history, where you grew up, went to school and medical school?

DR. ARTHUR NEY: I grew up in Kenwood, in Minneapolis. I had two brothers and one sister. My dad was an astrophysicist at the U of M. He worked on the Manhattan Project,[2] it's hard to imagine. He basically isolated the uranium atom and made it so that it was then available after putting it in a centrifuge. And he could isolate the isotopes that could be used for a bomb. He brought home significant amounts of data from his evaluation of the uranium separations. Our attic was filled with boxes listed as top secret that were basically data collections. They were later declassified by the Department of Defense and were donated to U of M Physics Department. I graduated from University High School in 1969 and then went to chemistry as a major, and then finally biology. And finally, I was just about to graduate and go into dental school and I met an old friend from high school. And she told me that when I said I was going to go into dental school, she says no, no, no, no, no. You don't want to do that. That's not enough. I want you to apply to Med School. And back in those days, you could apply for Med school or dentistry after three years. So, I had done that for dentistry and had been accepted and decided after listening to her, well, I might as well do the full four years and get into Med school.

Prior to that, I needed to pass a class and I decided that after starting it, it was the French language, and it got so hard that I decided that I was just going to go to Med school, 2 credits short of being a graduate. My last year of Med school, I took French art history, and then I had both the BA and MD at the same time. So, it's always on my CV and everybody always corrects it because it's crazy to have your BA and MD the same quarter.

BENNETT: What led you to choose surgery as your medical specialty?

NEY: That's an interesting thought. I mean, initially I wanted to do radiology. So, the life changing issue at the end of medical school was trying to decide radiology versus surgery, as a resident choice. The U of M was my first choice for surgery at the recommendation of our neighbor where we

[1] Level 1 Trauma Certification is granted by the American College of Surgeons. More information can be found at: Verification, Review, and Consultation (VRC) Program | ACS (facs.org)

[2] Manhattan Project was a research and development undertaking in WWII that produced the first nuclear weapons.

lived. Dr. Richard Lillehei[3] was a really nice man who was a famous surgeon at the U, and he pushed me to enter surgery as my training. And, one of the things I did of course then, was have an interview as a student with the one of the professors at the U. He was a lesser-known surgeon and he asked some really crazy questions. But then he also made some really unusual program statements. He said "after this training you don't get to operate much during training, you finish with no hand eye coordination, you are exposed to very little trauma care, you learn the gift of being around a boss. When you finish, you succeed and you get the U of M logo.

So, it was kind of crazy and needless to say, I lost interest in going to the University of Minnesota as a result of that. Initially I was interviewed at the other option I had, which was radiology. And I had intense pressure from local programs to go into radiology. Finally, I ended up completing radiology and surgery. Both evaluations and interviews. And ended up going, after my best friend from medical school pushed me into, doing surgery at Hennepin. And so, I pulled out of doing surgery at the U and switched to Hennepin. And I completed six years of the surgery residency there at Hennepin and finished in '83. I practiced for one year in Buffalo, MN before returning to Hennepin at the invitation of Dr. Hitchcock[4] to do a transplant fellowship as well as joining the general surgery staff.

So, Dr. Odland lobbied for them to recruit me just before he left for North Dakota. Thankfully, we recruited him two years later. We became partners for our entire careers.

BENNETT: Wonderful. What was your favorite thing about working at HCMC?

NEY: I'd say there were a lot of lot of things that made it a really unique and fun place to be. But, the nursing staff at Hennepin during that era was just the greatest. We could interact with them in whatever way was appropriate and they didn't hesitate to teach us. I mean, they would let us know something wasn't quite right with the patient, and get in and encourage us to correct those problems.

In addition to the nurses, the residents were often aware of the subtle patient issues and made sure we did have all the information available when we needed to make care decisions. They were comfortable interacting directly with us and saying things that a good part of the time, we wouldn't necessarily agree with. But it made it a really fun place to work.

BENNETT: They were a strong group.

NEY: They were definitely a strong group. Hennepin was obviously a unique place to work. One of the unique things about it was the training programs. And an overall sense of importance of verbalizing care issues, became a huge part of working here. I'd say one of the big things as well, was Dr. Odland and I basically figured out how to make our day work when we arrived for the day. Which was kind of fun. Patients that were set up for surgery were often delayed, changing our schedule completely. We would show up in the morning, and basically our entire careers, we got used to the fact that because of issues with the patients that we are going to operate, where some of them were renal failure patients, where they needed a quick dialysis or whatever, the entire schedule would change when we arrived.

[3] Richard Lillehei MD, was an American transplant surgeon best remembered for the world's first successful simultaneous pancreas-kidney transplant in 1966 and the first known human intestinal transplantation.
[4] Claude Hitchcock MD, (1920-1994) Chief of Surgery

So, we changed the OR schedule based on urgent needs, and availability for anesthesia, based on their oral intake. We developed an incredible system that was managing a large population of renal failure and transplant patients that frequently had problems develop, and needed urgent treatment. We both just took care of patients based on which one of us was available. Which was, you know, a unique system. Patients were happy to see either one of us. We were often called each other's name. We, we joked, we were collectively Dr. Neyland.

BENNETT: Oh, that's so interesting. I will now let you tell the story of your work in the medical center achieving its Level 1 Trauma Certification. You were instrumental in getting that done and I'm sure there are many stories that you have to tell about that, but can you give us a general sense of how it how the process went?

NEY: Sure. It's one of those things that actually prior to this I had to go back and look at everything to kind of remember how unique it was. Hennepin was not a designated Level 1 Trauma Center. And it was because the programs developed when we had just started as staff. So, it wasn't even something that that was available. Early in my career at Hennepin, trauma care was it was pretty extensive. But since that time it clearly evolved.

It is remarkable how difficult and different our patient evaluation was initially. We had the CT scanner and the old MMC building, mandating a significant move from the ED [Emergency Department] over to MMC[5] building, in an elevator, going up from the ED, moving over, and then down to get to the X-ray area. Because there wasn't at that era. The ED didn't have CT scanner nearby. We didn't have one in the old building and the X-rays were pretty unimportant. It was remarkably interesting how we learned the complete surgical repair versus partial, of the packing of wounds of patients and we just did incredible operations on most patients that had severe blunt force and then some penetrating injuries. We ended up operating on them. And that took place for quite a few years before things changed with the development of fairly significant imaging.

My thoughts on the early days of the development of becoming a designated Level 1 Trauma Center. Dr. Ernie Ruiz was the Chair of the Emergency Medicine Department and he helped in starting to think about specialized trauma care, because it had been talked about a lot nationally. In some parts of the country, Emergency Medicine was really highly aggressive and wanted to take it over. But he was aggressive in saying that it needed to be a general surgical issue because so much more of it was involved than just the early care in the Emergency Department.

So, we had long discussions with the hospital major committee about recent trauma surgeon definition and a complete absence of any hospital in Minnesota [of being a Level 1 Trauma Center]. Looking back at the early program development is, in many ways pretty remarkable. The extent of administrative control was very different with five physicians and the hospital administrator making that decision. And early hospital management had extensive leadership strength with multiple long term Hennepin leaders forming committees to review any institutional issues. So, it was people in that area, that was just a little small room, that made plans for the entire institution and they looked into trauma care as being part of that decision process.

[5] MMC was Metropolitan Medical Center. MMC and HCMC shared some services when HCMC moved into its new building in 1976.

The critical decision was primarily made by Ernie Ruiz and Dr. Claude Hitchcock who understood the importance of working, and to becoming a formal trauma center. This was the result of my first trauma report program requirement through the ACS [American College of Surgeons][6] Committee. So, them making that decision was really based on what had been written down. The national trauma program details included an entire manual at that time. Surprisingly, this information was extensive. It was almost an entire book. And there were really no programs in the entire country. Which basically was sort of surprising. I mean, you've got this long book of requirements detailing what it is to be a trauma center, and nobody in the country has done it.

Looking back, it is hard to imagine the extent of the requirements demanded to meet the criteria. With three levels all listed with highly specific criteria. After a year and 1/2 of system work, we met the criteria of Level 1, which was a big deal, and we were one of the early programs nationally.

Initially our EM [Emergency Medicine] staff was highly involved and very opposed to the ACS development of trauma program requirements. So that was part of the conflict there. There were a lot of the ER [Emergency Room] staff that didn't want to have it. Because they didn't want the whole institutional coverage. They wanted their power in the ED [Emergency Department]. It had a huge impact on EMS [Emergency Medical Services] agreement of the entire system involvement and that was obviously essential. But political inclusion of surgery and emergency medicine, Dr. Ernie Ruiz saw the mandate of the entire institution, then made it happen. So, he really was essential in making it happen.

There was extensive politics with creating a Trauma Director position. And meeting with the institution programs, ended with them demanding exposure to trauma nationally. So, for me to have that position, I went to multiple trauma centers nationally. I spent two weeks at R. Adams Cowley Shock Trauma,[7] at the University of Maryland, an early national leader in the creation of Regional Level 1 Trauma Centers. So, it was pretty remarkable sleeping in the call rooms and then watching how they took care of patients there.

So, into the role and the ACS and trauma committee. The early placement in the ACS program was due to being chosen by my predecessor from Duluth. It was controversial since the recent addition to care at St. Paul Regions [hospital] wanted to appoint a provider from Regions. It worked out well because both of the providers from Regions left and I remained at Hennepin my entire career. In addition, I advanced several times to the Regional Director for the Midwest American College of Surgeons. This gave me a very strong background and participation in the trauma program development and how to manage system requirements in the ACS manual. Participating for multiple years in the Trauma Program review program, I had extensive exposure to care in multiple areas around the country. As a reviewer, I had extensive exposure nationally to the most common errors and administrative weaknesses. Time I put into those reviews was 48 hours on site, making it a huge time commitment as a reviewer. In addition, the report to be finished required a lot of time after the review. I did extensive reviews nationally and at my peak, did 10 in one year. I was on the very critical committee that trained coordinators from

[6] ACS – American College of Surgeons is an organization created in 1913 and is dedicated to improving the care of the surgical patient.

[7] R. Adams Cowley Shock Trauma Center is a trauma hospital in Baltimore, Maryland and is part of the University of Maryland Medical Center. R. Adams Cowley is considered the father of trauma care and gave the world the concept of the Golden Hour.

programs nationally. It was hard work, but it helped provide clarity to the trauma system rules. I brought back to Hennepin all that I learned at a national level.

The ACS Committee national start up. In the beginning, I ran the major committee meeting that included representatives of all the major departments. Included were excellent physicians from all the major critical areas caring for trauma patients. Both Emergency Medical Services, Trauma Services, Orthopedics, Neurosurgery and multiple subspecialists that all also help to develop trauma care.

The American College of Surgeons very quickly changed the rule that initially mandated someone other than the trauma director manage the trauma committee meetings. The main goal of meeting was evaluation of care and potential options for change. I can't remember how long it was, but I know the person that I had takeover, was a very talented and also super busy surgeon, Dr. Mark Odland. As another very active and complete trauma surgeon, he had great exposure to trauma care issues we needed to fix. He helped tremendously when I would develop something through my trauma program committee and he would get the group to accept. Pretty amazing interacting in the early trauma program development. After a brief period, the college changed the rule and I became Director again. But he did a great job covering.

Eventually we had to participate in developing a registry and there were extensive registry systems available nationally of places that quickly developed something to sell. And we went through a really extensive review. Looking around to find a good program and the one we bought was highly expensive. And I was able to convince the institution how important that was for us to get a program that would be useful and helpful. The items necessary for programming review are not universally collected in standard charts. The items tend to be held in a variety of chart locations, but unfortunately not always recorded. The registry effectively kept the data in a readily usable location and importantly, created a collection area of the critically important data. Recording the data in the registry dramatically improved understanding of care provided, and provided collateral data to help us make program system changes. The formal registry is outside a standard patient care format. The information is a more directed overall system care, and specific timing in highly directed care items. To provide this data collection, we worked with Dr. Ruiz to optimize the ED forms for collecting, when specific items occur. Sherrie Murphy and Brenda Anderson helped with organizing this. This included specifics regarding the system progression and timing of patient and provider items.

The program dramatically monitored care and provider involvement. This was essential to verify the trauma system. Which was essential at the time of the review by the American College of Surgeons, where they'll come in and look for those specific items. If they're either scattered in a way where you can't find them, or if they're scattered in a way they didn't always get recorded, then your Hospital Review by the American College of Surgeons would fail.

BENNETT: Did the data from the trauma registry get reported into some kind of a national database or a central database?

NEY: In the beginning, there wasn't one, so no surprisingly. It was just all data collection and then with time that eventually did change. And then there became a national trauma database through the American College of Surgeons. So that's a good question. At the very beginning, there were basically no trauma programs, so the American College of Surgeons didn't bother with it.

One of the interesting things that I did to try and really prepare myself for the program, and what I would do as the Director, was go to the R. Adams Cowley, Shock Trauma Center at the University of Maryland. It is one of the high-class places nationally and certainly one of the first. I don't know if it was one of the first that was reviewed nationally by the American College of Surgeons, but it was an extensive program.

It was hard to get there, but once I landed, I had extensive discussion about trauma care at different levels and in different geographic locations with the with the R. Adams colleague, who's obviously a huge name now but wasn't back then. It's hard to imagine someone that became so well-known, sitting with me in his office, just nudging me, trying to get me to turn our institution to a total trauma system. I was a trauma surgeon visiting, so he treated me like other faculty. It was really a special deal. He several times talked about trauma systems and what I should ideally do at HCMC. Pretty remarkable how he lobbied for extensive trauma surgeon control, with no Emergency Medicine help. Which is what he did at the location at the University of Maryland.

But it was clearly something that just couldn't happen at Hennepin because we couldn't do both emergency care for general medicine and trauma. We were so busy. Dr. Odland and I were the only two real main ones there. So, it just wasn't an option. I did tell Dr. Ruiz how essential this discussion was with him and he understood and was appreciative that we were going to make an effort.

I will say that Dr. Cowley was an absolutely amazing surgeon and program developer. It was amazing how lucky I was to be able to interact with them and to be there for two weeks and go down to the ED and be in the emergency department and watch the resuscitations. And they would let me do little minor things that a medical student could do. But that was about it. But I got to watch the whole process.

The care at Shock Trauma was really amazing. They had an incredible room for resuscitation and immediate access to surgery. And that's basically the ultimate part of the review of being there, was what I brought home. That we needed to make sure that we had an institutional room available for resuscitation and then areas updated to be immediately available to take care of the patients. And I had a specific discussion with Cowley about that. In that we basically do not have provider care only for providers and our institutional volume for trauma is big, but the multiple other problems needed care as well by the same providers.

In many ways, this gave us the global care of our patients beyond just trauma care management.

BENNETT: There must have been a big challenge with just staffing alone.

NEY: Yeah, that's also a really good question. It was, because at the R. Adams Cowley place, they had just a huge group of people for management of airway, for management of tissue issues, for management of fractures. And it was just about eight people taking care of every patient that came in. So, they had this huge cadre of people that was involved in the management of trauma patients. And a lot of it because they were a huge institutional program that were provided by helicopter care in a lot of cases, and local roads. But because of their size, they just had a huge number of critical patients and we just didn't have that same process. So, ours had to be more prepared for different levels of injury and different levels of problems.

We were very early in the ACS level reviews nationally. We were likely in the top five nationally for places that were being reviewed as Level 1 hospitals. Our trauma nurse program manager Brenda Anderson and I worked together for multiple years in the program. Mostly we worked on system issues, but on care in general to try and improve trauma care. We initially went through the trauma simulation where we had national reviewers outline everything we needed to optimize. Brenda learned everything we needed to do correctly and to show to the hospital reviewers. Having success at these reviews was not easy and having her present made it happen.

The other critical piece was direct care with our providers. EM, including Dr. Ruiz and our other emergency medicine physicians. Our operating room manager, Barb Knutson and staff really understood how critical OR availability was, as well as the staff of the surgical/trauma ICU's, managing availability of ICU beds. The essential issue was the reviewers met people who were providing care that knew all the program requirements and criteria for Level 1 Certification. Key people like Dr. Odland, and from neurosurgery people like Dr. Rockswold and Dr. Bergman, Dr. Ruiz from the ED, and Dr. Kyle from orthopedics, all became system prepared to be able to verbalize criteria at the review meeting. We had no sense of how our review would occur until we have the preliminary meeting and learn how the review is going to be conducted. This prepared us for the huge deal of our hospital review of being a Trauma Center.

Dr. John Weigelt and Dr. Frank Miller did our extensive review and passed us. This was a really big deal. Again, we were one of the first in the country that had that level of scrutiny and actually passed.

BENNETT: What year was that? Do you remember the year that we first passed the certification?

NEY: That would have been ‘89.

BENNETT: How many years do you think it took from the start of the preparation to our first validation and certification?

NEY: It was almost a full year and a half. So, once the American College of Surgeons developed this national set of criteria, we as an institution came up with everything that was involved with doing that process. And part of it was developing a Trauma Program and declaring a Trauma Director and a Trauma Program Manager. So, it was appointing me and Brenda Anderson at that year and a half preparation period.

We spent the entire year and a half, the two of us, basically collecting the huge level of skill set we had throughout the institution. But get them to communicate and work together to meet the way the American College of Surgeons wrote it down, and had it as a as a commitment to pass. That was a big change.

BENNETT: Well, it sounds like that was a lot of work to get done in 1 1/2 years.

NEY: Yeah, that's a good point. It really was. And it was kind of subtle and quiet that we did it behind the system to be honest. And part of it was, Hennepin just didn't want to even pay for my position. And so, it was kind of a lot of work. Because they didn't understand how critical the review really was.

BENNETT: And how important it was for coordination of patient care for you to bring all those people together, all the specialties, to be on the same page.

NEY: Well, that's an excellent point and I think it's fundamentally because we were part of the very early system of looking what kind of care you were providing and how could you make it better. And the better, was very frequently, having a quick system to get people together to resuscitate critical patients. Prior to the College development, everybody could interact and whatnot, but it wasn't as aggressive of a pattern of how to do it.

BENNETT: Well, it sounds like a tremendously valuable process to go through. Did any additional funding come as a result of being certified as a Level 1 Trauma Center?

NEY: Not exactly direct funding. But being verified by the American College of Surgeons, made it so that we could create a system of billing for acute trauma care management. So, when a patient came in and was critical, we developed a resuscitation team and depending on the extent of the injuries, we had different levels of a resuscitation team. And that was something that we could bill to national providers, legal systems, and insurance company providers. So that was big.

BENNETT: Yeah, very big.

NEY: So, let me just talk about the very kind of last issues with trauma care development and things in general. After multiple evaluations to be recertified as a Level 1 Trauma Center, critical components to meet standards became harder. During off years, departments and providers in general knew their care or would not receive outside provider review during a program evaluation. This was particularly hard in the months following ACS review. And it was kind of a funny thing that basically was happening nationally where the hospitals, once they were approved, they knew they wouldn't be looked at again for another two years.

And in the review, it was just 1 year of care. So, the first year after you were approved you didn't necessarily have to meet a lot of criteria. And it was kind of a surprising thing that that some providers figured out right away. And, it was kind of one of those unfortunate things in system care in general and was one of the things that I really pushed for nationally when I was with the college, is to try and prevent them from doing that kind of maneuver, to basically not provide good care for a year.

And then I would say from my reviews of other hospitals, I certainly learned how well the care here at Hennepin and the providers were. We have really good orthopedics here and Dr. Kyle and Schmidt really provided excellent, good care. And I noticed that obviously by comparing it to all these hospitals I reviewed nationally. It was really kind of a special, great deal here. And thoracic surgery here under Dr. Joe VanCamp, very similar. And also, pediatric care here under a stellar group from the U of M. And the entire trauma surgery program with Dr. Odland, Dr. Chad Richardson, myself and the entire current team under the leadership of Dr. Mark Hill.

Dr. Richardson took over as a Level 1 Trauma Director and has kept us up to date for our national services. The remarkable nature of pointing out these names is how long they have worked at Hennepin and how well they know each other. This has created incredible teamwork and interactive patient care. Reviewing other hospitals all over the country, I learned how unique that interaction is.

Reviewing hospitals for American College of Surgeons, I had exposure to care nationwide. As a result of my multiple years on the National Trauma Subcommittee on program review, I learned about all the programs that fell through, and obviously outside the complex care that well-regulated programs provided. Dr. Mel Bubrick, Chief of Surgery in the early program developed at Hennepin, provided significant input and demanded an optimal provider availability. This was a tremendous background for our work with Dr. Ruiz to develop the institutional trauma system.

Our major contributors, Dr. Odland and Dr. Jim Miner, Emergency Medicine, as well as the hospital administration was part of the reason we did so well.

BENNETT: Well, it was wonderful that you put that extra work into being a reviewer so that you could learn from the other centers. You could see then the attributes of Hennepin County Medical Center, how we excelled in many areas and also brought back much planning I'm sure, so that we could learn from the other institutions and better ourselves.

NEY: Yeah, those are definitely things that that had an impact for us as an institution. When you're doing reviews and see how people and institutions are failing nationally, you bring that home as something we don't want to do. We don't want to follow into that poor way of doing things. And it was one of the lucky things with being a member of the American College of Surgeons Committee that reviewed hospitals, I learned ahead of time the troubles and how people failed. So that was really pretty lucky and I was thankful I was on that committee.

BENNETT: Yeah, it sounds like it was pretty intense.

NEY: It definitely was intense. I think it's a fair statement. Particularly when you were one of the very first ones. And nationally, it was just starting up, so it was just intensive review by the people that came in to look at us.

BENNETT: Can you talk about the Pediatric Certification[8] too? Were you involved in that?

NEY: I was. That was actually multiple years later and it was something that required pediatric surgical participation in that. And we had providers basically, who would come in to Hennepin under critical issues and that was hard to get past. We ended up using the surgeons from the University of Minnesota headed up by Dr. Donavon Hess. And they're really a good group that have helped us meet the current criteria of pediatric trauma centers.

BENNETT: Is there anything else about the Trauma Certification that you'd like to tell us about?

NEY: I'd say that we made a lot of huge efforts to pass the criteria as one of the first ones in the country. And it was a huge amount of effort. You kind of don't think about it while you're doing it but the providers at Hennepin had their whole career there and they really wanted everything to succeed in every department. Neurosurgery, orthopedics, everybody really wanted it to happen. So, it was one of the fun things. They would look at the criteria that the American College of Surgeons had established, they'd read what they were, and they would follow by those guidelines. So that was kind of one of the really special components of the whole process.

[8] Hennepin Health is also has Level 1 Pediatric Trauma Certification by the American College of Surgeons.

BENNETT: Very successful program and also important for the hospital's reputation to be recognized for doing all these things that it had been doing, but now we can be recognized for it. And it helped coordinate all the services.

NEY: Yeah. And to be honest through most of the process, the part that that my Program Manager, Brenda and I, as the surgeon, we were kind of subtle behind the scenes. It was really just getting the whole institution to get together and make it so that you all knew what the other person was doing.

BENNETT: And I think we're all very proud now to be able to say that we're a Level 1 Trauma Center.

NEY: Yeah. I'd say every department participates and understands how important it is as an institution.

BENNETT: So, during your time at Hennepin, there were new technical innovations and surgical techniques. How did that impact your practice?

NEY: I would say, well, Dr. Odland's here so he can hear this. The development of laparoscopic nephrectomy for transplant was a huge deal. It was one of those things that, regionally, we were unique. Dr. Odland and I went to Johns Hopkins to learn lap-donor nephrectomy. I mean, that's just a hugely new unique operation. They let us come and watch them do one of the first in the country.

With system expectations, we made upfront discussions with patients about never having done lap-nephrectomy, so it was kind of a huge deal. We talked to all those in the beginning and they were in full support. It became very successful, markedly decreasing pain and recovery time for donors. It was just a huge deal.

Early in my experience at Hennepin, the institution was highly positive and having a focus on innovation. We were involved in the specifics of surgical training. And this got us to be innovative. Our development of laparoscopic nephrectomy was highly unique. Dr. Odland and I were the first surgeons in the Midwest to do it for transplantation. At the time of our change in that technique, there was institutional support for that change. There may have been some institutional questions of that change, but really there was strong support. Our success was certainly noticed by the physician group and appreciated for our success.

BENNETT: Can you describe the culture at HCMC and by culture, I mean how the staff interacted with each other, the interactions with other physicians and other departments, and the general feeling that you had when you went to work.

NEY: Having reviewed other hospitals, I could say that we were kind of unique. One of the things was, that I made a rule, that under all circumstances we had to accept trauma patients. Actually, the rule was you had to be under 5%. But early in the beginning, I basically said we had to take every single one of those patients and the hospital accepted it. And it was it was a unique thing that was really a big deal.

We work together to optimize care based on the extent of the injuries and figured out how to prioritize. We rarely had conflicts with other providers because everyone worked as teammates. When I got to be a reviewer, I'd look at other hospitals and I talked with the surgeons and they wouldn't know the name

of the orthopedist from their institution, which was huge. I mean, it was highly unique things we had going on at Hennepin. It was highly unique with the multiple, critically injured patients, how we managed it. I would say it was universal that we did what was best for the patient and that meant patient care was often in an order that was different than any provider might want it to be. Either the neurosurgeons, or the orthopedists, or whatever, wouldn't necessarily want the order that one of us trauma surgeons would decide was the safest and best for patients. We would define the order and how to do it for best patient care which was a unique thing that that we did. It was highly successful.

BENNETT: Yes, that is a good way to drive practice. It's what's best for the patient. And I've heard that from other people too, that that's how we practice here.

NEY: Yeah, and it got to be so that people didn't even notice it was happening. It was just the standard of care. You would come up with your rationalization as to what was the best order for any particular problem, and the providers all work to make sure that that that happened.

BENNETT: That's wonderful. Will you tell us about an experience that you had while working at HCMC that was especially meaningful or striking?

NEY: I'll a review a striking trauma case that had tremendous institutional care and survival of a severe injury. A young man was stabbed in the chest and was in this park across from this hospital. So it was immediately next to the hospital. Initially, he was awake and interacted with first responders and they saw the knife wound and they quickly moved him to Hennepin, they were very close here. The hospital review was quick put out and he was just a few minutes away and he, on his arrival, it turned out he was in cardiac arrest. He had a severe cardiac injury. And a thoracotomy was done in the emergency department with myself, and one of the ER staff, and one of our surgeons. Our chief resident at the time was Katya Erickson. She was able to get to the ED very quickly and she participated in the thoracotomy.

There was a significant cardiac laceration. And after we evacuated out the chest wall and the plural space, we were able to partially repair the cardiac injury. We couldn't repair it all because a lot of the laceration went up by the coronary artery. The coronary artery, was just exposed. And you couldn't put suture across or you'd close off the coronary artery. So, we repaired the small areas with clips and took the patient up to the operating room and we were able to do a unique repair with buttress material. Repair it and preserve the coronary artery above the area of the repair. So, it was a buttress below that, instead of occluding it. And I did that with Dr. Erickson. She was the primary suturer. It was an incredible cardiac buttress technique. The repair stopped the hemorrhage and kept flow in the coronary artery. That was a really remarkable case. All steps of the management, we end up doing because the cardiac surgeons couldn't come in, they weren't available. Patient did well postoperatively and was able to be discharged on hospital day four.

BENNETT: That's amazing.

Ney: It was an amazing case. And I'd have to say, it was remarkable teaching with and working with residents. We were lucky when we could hire them as staff. I was very excited when Ashley Merrick joined and was interested in taking over the endocrine cases that I had been doing. Ultimately, she left Hennepin for a great opportunity and practice with friends. Barb Click also worked for several years in

developing the trauma program initially, and helped in the coordination part. She also left pretty quickly after that.

BENNETT: Is there anything else that you'd like to tell us about your work here, your career?

NEY: I would say that we were kind of subtle and quiet with a lot of the development of the trauma program and part of that was because it was such an institutional process. It wasn't something where you wanted to point to providers like Dr. Odland and myself as the reason it happened, you just wanted it to be institutional, and institutionally recognized. And I think that happened.

BENNETT: It did, and it still is. It still is every day. Were you going to talk about a couple other cases or was that?

NEY: It's up to you. How's the time?

BENNETT: Well, we're getting towards the end, but how about we do one. You can pick.

NEY: One of our previous surgical graduates, Dr. Paul Severson provided pretty amazing care on a specific trauma patient in rural Minnesota. He was quickly resource limited, both with blood product transfusions and availability of blood, and the critical vascular management of this patient. At about 1 AM, I remember getting a phone call from him. He's telling me about a patient with an incredible injury from a spike, post car hitting a sign. So, he has this spike through his abdominal wall and out his back. He was able to control the bleeding with packing but with limited blood, he elected to transfer him with hemorrhage control with packing. It gave me enough time to think about how to resolve it surgically. It reinforced management with extensive resources, including massive blood product and extensive equipment to deal with the vascular injury, including a complete transection of the vena cava with this post going through it. And its maintaining the control there, that we pulled that post out, of course, and then fixed it.

The injury was a vena caval injury, a pancreas injury, as well as a duodenal injury. It's a pretty startling case. Several operations later, he was able to recover and remarkably survived from an incredible injury. So, I would say we were pretty, pretty glad that things progressed as smoothly as they did with this huge operation.

BENNETT: Well, I think that the fact that Paul Severson provided the initial care. HCMC has provided training to a large percent of the physicians in Minnesota. Large number of physicians and other practices too. Nursing and radiology and respiratory therapy and on and on. But, so many of the people who have been trained here have stayed in Minnesota and are working to take care of patients, improve patient care, and really making a difference statewide.

NEY: No, you're absolutely correct. The reason the patient survived is he didn't pull the pipe out because that would expose the vena caval injury, and the patient would have bled to death. It was something that needed to be done in the operating room where you could manage, vascular injuries right away.

BENNETT: And we're a major referral Center for the whole state and a large part thanks to you two.

BENNETT: Well, I think we'll wrap up here, but Dr. Ney you have made so many important and significant contributions to Hennepin County Medical Center over the years and you have made a positive impact on so many lives. And it's wonderful to hear the story directly from you. And I appreciate Dr. Odland being here too.

NEY: Any issues that I missed that you were interested in?

DR. MARK ODLAND: No. I just wanted to say a couple of things. And one is, you know, it's been a privilege to work with Art for all these years and it's been a great partnership that you know that I think is also very, very unique. Whenever I was called Art, somebody called me Art, I thought it was an honor to be called Art during that time. So, as I look through other trauma centers in the United States, you realize the great resources they had, to have their trauma center. And that we did this with a lot less resources than most trauma centers did. And I think, really, it tells you all the work that Art did for that. And he gives me way too much credit for my involvement, because I was supportive and he was the doer. But made sure that he could do that. I think one interesting thing I remember early on; the American College was critical of our model of care because our trauma surgeons were also taking general surgery and acute care surgery call at the same time. And they didn't like that.

But it's interesting how the patterns of trauma have changed and with interventional radiology being able to control a lot of bleeding from spleen injuries and liver injuries, which we used to operate on a lot. That the trauma surgeon all of a sudden was operating less and when they did have to operate, the cases were bigger and more complex. And so, they've actually gone back to, they need to do more general surgery to maintain their trauma skills. So, they have morphed into accepting what our model of care was through all the years.

NEY: Ah, I didn't think of that, but that's accurate.

ODLAND: Oh, what I was going to say is, it was also I think unique to our institution is that, and I probably I think still unique today, is Art didn't call a cardiovascular surgeon to fix this. He fixed it himself as a trauma surgeon. And I think a lot of places have gone to having a trauma surgeon on call, but then calling in all the specialists as they need, whether it's a urologist or a cardiac surgeon or thoracic surgeon. But we did it all. And I think still, for the most part, continues to do it all in vascular surgery also. We fixed the vena caval injury and we had aortic injuries that we fixed. We didn't call in vascular surgery or another specialist because that was encompassed in our specialty of trauma surgery.

NEY: But that's basically what R. Adams Cowley was. That was one of the things that that I was surprised by, is that when it actually was something that required surgery, they would get some help. They wouldn't do, if it was a vascular case, they would call in a vascular surgeon, whereas we always did it ourselves. And it was kind of surprising to me when I was there, that I knew that, that just wasn't a model that we could make work.

BENNETT: Well, it's been an honor to have you here today to tell your story, your personal story, and also the story of the Level 1 Trauma Center and some of the other stories that you've told today. So, on behalf of Hennepin Medical History Center, I want to thank you for telling your stories and the story of the long road to our Level 1 Trauma Certification. It is important and valuable to keep this knowledge and history alive and to make it accessible to future generations.

NEY: Very good. Thank you. And thank Dr. Odland for coming.

CURRICULUM VITAE

ARTHUR LELAND NEY, M.D.

BIRTHPLACE: Minneapolis, Minnesota

EDUCATION: University of Minnesota, 1977 B.A.
University of Minnesota, 1977 M.D.

POSTGRADUATE TRAINING:

Internship - Surgery; Hennepin County Medical Center
Minneapolis, Minnesota 1977-1978

Residency - Surgery; Hennepin County Medical Center
Minneapolis, Minnesota 1978-1983

Fellowship - Renal Transplant Surgery;
Hennepin County Medical Center
Minneapolis, Minnesota 1984-1986

LICENSURE: Minnesota; 1978

BOARD CERTIFICATION:

Recertified, American Board of Surgery - 1994; 2002; 2011
American Board of Surgery - 1984
Recertified in Surgical Critical Care - 1995; 2005; 2016
Qualification in Critical Care – 1987

POSITIONS HELD:

2017 - 2020	Courtesy Staff, Hennepin County Medical Center, Minneapolis, Minnesota
1984 - 2017	Attending Staff, Hennepin County Medical Center, Minneapolis, Minnesota
2017 - 2020	Courtesy Staff, Abbott Northwestern Hospital, Minneapolis, Minnesota
2003 - 2017	Regular Staff, Abbott Northwestern Hospital, Minneapolis, Minnesota
2001-2003	Director, Surgical Intensive Care Unit, Hennepin County Medical Center Minneapolis, Minnesota
1987 - 2013	Trauma Director, Hennepin County Medical Center, Minneapolis, Minnesota
1985-2003	Courtesy Staff, Abbott Northwestern Hospital, Minneapolis, Minnesota
1984-1991	Attending Staff, Metropolitan-Mt. Sinai Medical Center, Minneapolis, Minnesota
1983-1984	Solo Surgeon - Multispecialty Group, Buffalo, Minnesota 1983-1984

ACADEMIC APPOINTMENTS:

2005 – 2017	Assistant Professor, Clinical Scholar Track Department of Surgery, University of Minnesota, Minneapolis, Minnesota
1985 - 2005	Clinical Instructor, Department of Surgery University of Minnesota, Minneapolis, Minnesota

SOCIETY MEMBERSHIPS:

Hitchcock Surgical Society
Minneapolis Surgical Society
American Society of Transplant Physicians
Fellow, American College of Surgeons
American Association for the Surgery of Trauma
American Transplantation Society
Eastern Association for the Surgery of Trauma
Central Surgical Association

HONOR SOCIETIES: Alpha Omega Alpha
Phi Kappa Phi

AWARDS:

- Hennepin Faculty Associates/Hennepin County Medical Center Outstanding Teaching Physician Award, 1996
- Robert C. Andersen Teaching Award, Hennepin County Medical Center, 2000, 2014
- The American College of Surgeons Committee on Trauma Millennium Commitment Award, 2000
- Minneapolis/St. Paul Magazine "Top Doctor" Award – General Surgery; 1994, 1996, 1999, 2000, 2001, 2003, 2004, 2007, 2008
- Minneapolis/St. Paul Magazine "Top Doctor" Award – Renal Transplant; 1997, 1999, 2000, 2001, 2003, 2004, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016

COMMITTEE ASSIGNMENTS:

Hennepin County Medical Center Committees

1. Chair, Trauma Multidisciplinary Committee, 1988-2013
   Subcommittees:
   Registry, Chair, 1987
   Pediatrics, 1987
   ACS Site Survey, 1989, 1992, 1996, 2000, 2003, 2006
2. Medical Emergency Committee, 1986-1991, 1995-1998
3. Internal Disaster Committee, 1987-1991
4. Operating Room Committee, 1988-1991
5. North/HCMC AirCare Quality Assurance Task Force, 1991-1992
6. Continuing Medical Education Committee, 1990-1998
7. Ethics Committee, 1992-1994
8. North/HCMC Joint Trauma Quality Assurance Committee, Co-Chair, 1994-1998
9. Institutes for Clinical Systems Improvement, 2004-present
10. Transfusions Practices Committee, 1993-2013
11. Medical Staff Quality Committee, 2010-2017
12. Clinical Practices Committee, 2012-2014
13. Medical Executive Committee, 2012-2014

Hennepin Faculty Associates Committees

1. Continuing Medical Education Committee, 1987-2011
2. Member, Board of Directors, 1989-1992; 2006-2011
3. Member, Executive Committee, 1990-1992; 2007-2011
4. Accountability Committee, 1991-1992

Regional/Local Committees

1. LifeSource Committee, Proxy Member, 1991
2. Traumatic Brain Injury and Spinal Cord Injury Registry Review Committee, Minnesota Department of Health, 1991-2001
3. Delegate - Minnesota Medical Association Meeting - September 1991
4. Trauma Care Task Force, Minnesota Department of Health, 1994-1996
5. LifeSource Kidney/Pancreas Allocation Committee, 2000-present
6. Minnesota Trauma System Development Committee, 2001-2005
7. Treasurer, Hitchcock Surgical Society, 2002-present
8. Treasurer, Minneapolis Surgical Society, 2000-2008
9. Facility Site Reviewer, Minnesota Department of Health State Trauma Advisory Committee, 2006-2016

10. Member, Adjunct Faculty & Promotion Committee University of Minnesota, 2009-2017
11. Member, Admissions Committee University of Minnesota Medical School, 2008-2009
12. Member, Traumatic Brain Injury/Spinal Cord Injury Registry Oversight Committee, Minnesota Department of Health, 1993-2006
13. Member, Performance Improvement Subcommittee, Statewide Trauma Advisory Council, Minnesota Department of Health, 2006-2007
14. President, Minneapolis Surgical Society, 2007-2009

National Committees

1. The Partnership for Organ Donation - Critical Care Advisory Board, 1991-1996
2. American Society Testing Materials - EMS Committee, 1988-1999
3. Associate Examiner, American Board of Surgery, May 4-6, 2009
4. American College of Surgeons (ACS) Committees
    - Member, Minnesota Committee on Trauma, 1990
    - Vice Chairman, Minnesota Committee on Trauma, 1994-1996
    - Chairman, Minnesota Committee on Trauma, 1996-2001
    - Associate Member, Trauma Ad Hoc Committee on Outcomes, 1996
    - Chief, Region V Committee on Trauma, 2001-2007
    - Judge, National Resident Trauma Paper Competition, Committee on Trauma, 2002-2005
    - Governor, Board of Governor, ACS, 2002-2008
    - Member, Governors' Committee on Blood-Borne Infection and Environment Risk, 2003-2004
    - State Advocacy Representative, ACS Committee on Trauma, 2004-present
    - Member, National Trauma Database Subcommittee: Development of COGNOS sign-in card, 2004
    - Member, ACS Prevention Committee, Development of Farm Injury Review website
    - Member, ACS Committee on Trauma, 2007-2014
    - Member, ACS Committee on Trauma, Performance Improvement and Patient Safety Committee, 2008-2014
    - Member, ACS Verification/Consultation Committee, 2008-2014

      Site Visits Performed (2 day national hospital reviews for trauma center verification)

2007	5
2008	7
2009	7
2010	10
2011	10
2012	12
2013	9
2014	11

MEDICAL RESEARCH / GRANTS:

1. Advanced Trauma Life Support Training for Disaster Preparedness, Hennepin Faculty Associates
2. Antibiotic impregnated glue in the prevention and treatment of infected vascular prosthesis. Hennepin Faculty Associates, YIP Grant
3. Immune globulin, IV (human) in acute renal failure.
   Baxter Pharmaceutical Company December 1989 - February 1991
   Principal Investigator: William Keane, M.D. Co-Investigator: Arthur L. Ney, M.D.
4. A Statewide Trauma Registry for Minnesota: A Demonstration Project.
   Minnesota Department of Health EMS Special Demonstration Projects
   January 1992-April 1993
   Principal Investigator: Arthur L. Ney, M.D.

CONSULTING BOARD:

Medical Advisory Board, Medafor Company, Minneapolis, Minnesota, 2000-2003
External Expert Reviewer, Fairview University Riverside Hospital Peer Review, 2004

SPECIAL EDUCATIONAL ACTIVITIES:

Teaching Activities

1. Development of attending surgery staff review forms to be filled out by residents.
2. Development of surgical residency rotation in trauma for Mayo Clinic residents at Hennepin County Medical Center (no longer in place).
3. Co-Director, Advanced Trauma Life Support Course, Hennepin County Medical Center, 1978-1989. Courses given quarterly.
4. Participating lecturer, Hennepin County Medical Center's Annual Trauma Seminar, "Abdominal Trauma" and "Radiology of Trauma," 1984-2001
5. Participating lecturer, Hennepin County Medical Center Quarterly Resuscitation Course, 1984
6. Instructor, Advanced Trauma Life Support Course, 1986-present
7. Director, Advanced Trauma Life Support Course, Hennepin County Medical Center, Minneapolis, MN, 1989-present. Courses given quarterly.
8. Instructor, Advanced Pediatric Life Support Course, Management of Multiple Trauma, 1986-2004. Courses given quarterly.
9. Trauma Conference lecture, Hennepin County Medical Center, "Development of Trauma Centers," January 1988
10. Grand Rounds, Hennepin County Medical Center, 1989-present
11. Consultant, "Trauma Management: facility and personnel preparedness," St. Mary's Duluth, 1990
12. Visiting Professor, LaCrosse, Wisconsin, Skemp Clinic, "Laparoscopic Cholecystectomy" - Proctoring of their first cases, May 1991
13. State Faculty, Advanced Trauma Life Support Courses, 1995-present
14. Regional Faculty, Advanced Trauma Life Support Courses, 1996-present
15. Co-Coordinator, Monthly Trauma Conference, Hennepin County Medical Center
16. Instructor, Fundamental Critical Care Support (FCCS), Society of Critical Care Medicine, 1996-1999
17. Mentor, Mentor Connection Program, Minneapolis, MN, 2000-2001
18. National Faculty, Advanced Trauma Life Support Courses, 2001-present
19. Course Director, Fundamental Critical Care Support Course. Hennepin County Medical Center, Minneapolis, MN, 2003-2004
20. Preceptor, University of Minnesota Summer Preceptorship Program, Minneapolis, MN, 2003
21. Instructor, Trauma Cadaver Course, Wayne State University School of Medicine, Detroit, MI, 2005
22. Consultant, “The State Trauma System and its Impact on the Community,” Mercy/Unity Hospital, Minneapolis, MN, 2006
23. Associate Examiner, American Board of Surgery, Minneapolis, MN. May 4-6, 2009.
24. Instructor, Optimal Course, American College of Surgeons
    - Thompsonville, MI – May 19, 2010
    - Syracuse, NY – June 15, 2012
    - Las Vegas, NV – April 4, 2013

Presentations

1. Transplantation Current State of the Art; Wright County Medical Society, 1985.
2. Care of the Multiply Injured Patient; St Francis Regional Medical Center, Shakopee, Minnesota, 1987.
3. Trauma Centers; Health One Physicians, Aberdeen, South Dakota, 1987.
4. Trauma Centers; Metropolitan-Mt. Sinai Medical Center, Minneapolis, Minnesota, 1987.
5. Case Review of Trauma Patients; Northfield, Minnesota, 1987.
6. Abdominal Trauma; Owatonna, Minnesota, 1987.
7. Influence of Cadaver Donor Age on Post Transplant Renal Function and Graft Outcome; American Society of Transplant Physicians, Chicago, May 1987.
8. Ag '87 Farm Safety Program; Owatonna, Minnesota, 1987.

9. Management of Abdominal Trauma; Headwaters Medical Society Clinical Conference, Bemidji, Minnesota, 1988.
10. Traumatic Intra-Abdominal Hemorrhage; Minnesota Association of Family Practice Spring Refresher Meeting, 1988.
11. Trauma Care; St. Cloud Hospital Medical Staff, 1988.
12. Incidence and Diagnosis of C7-T1 Fractures and Subluxations in Multiple Trauma Patients; Minnesota Surgical Society Meeting, 1989.
13. Case Review of Trauma Patients; St. Francis Regional Medical Center, Shakopee, Minnesota, 1989.
14. Penetrating Injuries of the Heart; Minnesota Surgical Society, Duluth, Minnesota, 1989.
15. Combined Orthopedic and Vascular Injuries to the Lower Extremity; Minnesota Surgical Society, Duluth, Minnesota, 1989.
16. Experience with the Argon Beam Coagulator in Trauma; Minnesota Surgical Society, Duluth, Minnesota, 1989.
17. Case Review of Trauma Patients; St. Francis Regional Medical Center, Shakopee, Minnesota, 1990.
18. Evaluation of the Failing Hemodialysis Access. Current Issues in Hemodialysis Conference. Minneapolis, MN. 1990.
19. Management of access complications; RKDP Annual Conference, Minneapolis, Minnesota, 1990.
20. Evaluation of the Trauma Patient; University of Minnesota School of Dentistry, Minneapolis, Minnesota, 1990.
21. Management of Anterior Abdominal Stab Wounds in Intoxicated Patients; Minnesota Surgical Society, 1990.
22. Care of the Multiply Injured and Initial Assessment & Stabilization of Trauma; Cayuna Range Hospital, Crosby, Minnesota, 1991.
23. Initial Assessment and Management of the Multiple Trauma Patient; United Hospital District, Fairmont, Minnesota, 1991.
24. Understanding hemodialysis access; HCMC Renal Fellows, 1991.
25. Abdominal Trauma; St. Paul-Ramsey Medical Center, St. Paul, Minnesota, 1991.
26. Hypothermia and Case Study Presentation; Medical Staff Education Program, St. Francis Regional Medical Center, Shakopee, Minnesota, 1991.
27. Financial Incentive to Promote a Bike Safety Program; American Trauma Society Annual Meeting, Minneapolis, Minnesota, 1992.
28. Abdominal Trauma: Trauma and Critical Care Conference, Plymouth, Minnesota, 1992.
29. Initial Assessment & Intervention of the Trauma Patient; St. Cloud, Minnesota, 1992.
30. Management of Multiple Trauma; Buffalo, Minnesota, 1993.
31. Trauma Patient Care Conference; Hutchinson, Minnesota, 1994.
32. Panel Discussion: Trauma Care in the 90's; Minnesota Surgical Society Fall Meeting, Duluth, Minnesota, 1995.
33. Lessons Learned From Complex Cases; Ridgeview Medical Center, Waconia, Minnesota, 1995.
34. Rural Trauma: Initial Management; Keynote speaker, St. Cloud, Minnesota, 1997.
35. Dialysis Access; Renal Fellow Orientation Day, University of Minnesota, Minneapolis, Minnesota, 1997.
36. Consultant/Keynote Speaker, St. Cloud Hospital Trauma Services Department: Review of Level II Trauma Center Verification, "Rural Trauma." St. Cloud, MN, May 1997.
37. Medicine & Public Health in Minnesota: Defining Common Goals & Strengthening Relationships. Public Health Issues – The Medicine and Public Health Perspectives on Violence. Minneapolis, MN. June 1997.
38. Case Review: Trauma Patients; Hutchinson, Minnesota, 1998.
39. Statewide Trauma System Development; Greater South Central Minnesota EMS Retreat for Hospitals, Mankato, Minnesota, 2001.
40. Past, Present and Future of Trauma Care; Trauma Symposium 2000, Minneapolis, Minnesota, 2000.
41. Statewide Trauma Systems Development. Greater South Central Minnesota EMS Retreat for Hospitals. Mankato, Minnesota. May 2001.
42. Minnesota's Trauma System Update; 17th Annual Ambulance Medical Director Retreat, Alexandria, Minnesota, 2002.
43. Pitfalls in Trauma Care; Costa Rica Medical Conference, Costa Rica, 2003.

44. Damage Control Surgery; Costa Rica Medical Conference, Costa Rica, 2003.
45. Tips and Techniques: Current Status of Laparoscopic Surgery; Costa Rica Medical Conference, Costa Rica, 2003.
46. Introduction and Welcome; Trauma in the ICU: The Complexity of Complications, Minneapolis, Minnesota, 2003.
47. Missed Injuries; Rural Health Care Conference, Hutchinson, Minnesota, 2005.
48. State/Provincial Committee on Trauma Orientation, National Committee on Trauma Meeting Annual Meeting; 2005.
49. Where are we Going in Trauma Care?; Emergency Medicine and Trauma Update, St. Paul, Minnesota, 2005.
50. Pain medication for patients with abdominal pain; Emergency Medicine and Trauma Update, St. Paul, Minnesota, 2006.
51. Role of the State/Provincial Chair and Vice Chair; American College of Surgeons Committee on Trauma Meeting, Denver, Colorado, 2007.
52. Stump the Experts/Case Discussions. Emergency Medicine and Trauma Update Conference. St. Paul, Minnesota 2008.
53. Trauma Case Study Review & Management of Adult Spleen Trauma. Northfield Hospital. Northfield, MN. January 2009.
54. Trauma Management. Best of Hennepin Conference. Minneapolis, MN. May 2009.
55. Pitfalls in Trauma Care. Trauma and Critical Care Conference. Regina Hospital, Hastings, MN. May 19, 2009.
56. Epidemiology of Trauma Deaths: A Reassessment. Minnesota EMS Medical Directors Conference. Alexandria, MN. September 2009.
57. Hyper/Hypoparathyroid. Surgery Morbidity and Mortality Conference. Hennepin County Medical Center, Minneapolis, MN. February 2011.
58. Peritoneal Dialysis Complications. Davita Dialysis Course. Minneapolis, MN. April 2011.
59. Trauma Case Review & Trauma Tertiary. Abbott Northwestern Hospital. April 2011.
60. Vascular Access Debate: Fistula First. Annual Gift of Life Celebration and Education Day, National Kidney Foundation. Maplewood, MN. April 2011.
61. Blunt Abdominal Trauma & Blood Volume Resuscitation. Grand Rounds – Trauma Updates. Hennepin County Medical Center. Minneapolis, MN. June 2011.
62. Trauma Case Review & Abdominal Trauma. Hutchinson Area Healthcare. Hutchinson, MN. June 2011.
63. Department of Nephrology Monthly Meeting, Hennepin County Medical Center. Vascular Access for Dialysis. Minneapolis, MN. August 2011
64. My Patient is Back, Now What? Panelist, Best of Hennepin 2011: Partnerships in Primary Care. Minneapolis, MN October 2011.
65. Update on Pediatric Trauma Centers. Emergency Medicine and Trauma Update: Beyond the Golden Hour. Minneapolis, MN. November 2011.
66. Trauma Case Study Review & Trauma Pitfalls. St. Cloud Hospital. St. Cloud, MN. November 2011.
67. Vascular Access for Dialysis. Presented to Medtronic scientists and engineers. Medtronic, Inc., Minneapolis, MN. March 2012.
68. Trauma Case Review & Tertiary Exam. Unity Hospital. Minneapolis, MN. March 2012.
69. Trauma Tertiary Exam and Commonly Missed Injuries. Presented to Hennepin County Medical Center Medicine Department. Minneapolis, MN. November 2012.
70. Pitfalls in Trauma Care. EMS Update Conference. Minneapolis, MN. February 2013.
71. Peritoneal Dialysis Complications. Heartland Peritoneal Dialysis Summit. Minneapolis, MN. April 2013.
72. Controversies in Blunt Trauma Management. When is it okay to Observe Free Air? Minneapolis Surgical Society Meeting. Minneapolis, MN. May 13, 2013.
73. History of Trauma: Past, Present and Future. Care Across the Continuum: A Trauma and Critical Care Conference. Minneapolis, MN. September 12, 2014.
74. Pitfalls in Trauma Care. Updates in Trauma Care. Theda Clark Trauma Center. Neenah, WI. May 19, 2015.

75. Interstate 35W Bridge Collapse: Hospital Response Beyond the Emergency Department. Theda Clark Trauma Center. Neenah, WI. May 19, 2015.

SCIENTIFIC PRESENTATIONS

1. Blake DP, Gisbert VL, **Ney AL**, Helseth HK, Ruiz E, Bubrick MP: Survival following emergency department versus operating room thoracotomy for penetrating cardiac injuries. Midwest Surgical Association Annual Meeting, 1984.
2. Kasiske BL, Rao KV, **Ney AL**: The effects of splenectomy in renal transplant recipients. American Society of Transplant Physicians Annual Meeting. Chicago, IL, May 1988.
3. **Ney AL**, Kelly PH, Tsukayama DT, Bubrick MP: Fibrin glue-antibiotic suspension in the prevention of prosthetic graft infection. American Association for the Surgery of Trauma Annual Meeting. Chicago, IL, September 1989.
4. Olson KH, **Ney AL**, Templeman DC, Bubrick MP, West MA: Acetabular fractures: Effect of associated injuries on outcome and epidemiology. Minnesota Surgical Society Fall Meeting. Minneapolis, MN, November 1994.
5. Moga FX, Bennett BA, Plummer D, Helseth HK, Bubrick MP, **Ney AL**: Echocardiography in penetrating thoracic trauma. American College of Surgeons Committee on Trauma: Resident Paper Competition. Minneapolis, MN, November 1994.
6. Bennett BA, Moga FX, Bubrick MP, **Ney AL**: Management of uncontrolled liver hemorrhage using balloon tamponade with packing. American College of Surgeons Committee on Trauma: Resident Paper Competition. Minneapolis, MN, November 1994.
7. Moga FK, Bennett BA, Plummer D, Helseth HK, Bubrick MP, **Ney AL**: Echocardiography in penetrating thoracic trauma. American College of Surgeons Committee on Trauma: Resident Paper Competition. Minneapolis, MN, November 1994.
8. Jurkovich GJ, Hoyt DB, Moore FA, **Ney AL**, Morris JA, Scalea TM, Pachter HL, Davis JW, Bulger E, Simons RK, Moore EE, McGill JW, Miles WS: Portal triad injures. Twenty-fifth Annual Meeting of the Western Trauma Association. Big Sky, MT, March 1995.
9. Carroll MP, Rock M, Jacobs DM, **Ney AL**: Evaluation of abdominal aortic dissection following blunt trauma with dynamic computed tomography. Minnesota Surgical Society Spring Meeting, Minneapolis, Minnesota, April 1996.
10. Fabian TC, Richardson JD, Croce MA, Smith JS, Rodman G, Kearney PA, Flynn W**, Ney AL**, et al: Prospective study of blunt aortic injury: Multicenter trial of the American Association for the Surgery of Trauma. American Association for the Surgery of Trauma Annual Meeting. Houston, Texas, September 1996.
11. Dittrich KP, **Ney AL**, Jacobs DM, Rodriguez JL, West MA: Demographics, risk factors, and long term outcome after snowmobile accidents. Minnesota Surgical Society Fall Meeting, Minneapolis, Minnesota, November 1996.
12. Dittrich KP, **Ney AL**, Jacobs DM, Rodriguez JL, West MA: Demographics, risk factors, and long term outcome after snowmobile accidents. R. Adams Cowly Trauma Conference, Baltimore, Maryland, November 1996.
13. Baker J, Richardson C, **Ney AL**, Jacobs DM, Rodriguez JL, West MA: Epidemiology of penetrating abdominal trauma in women vs. men. 4th International Congress on the Immune Consequences of Trauma, Shock, and Sepsis--Mechanisms and Therapeutic Approaches. Munich, Germany, March 1997.
14. LeMieur TP, **Ney AL**, Odland MA, Kasiske BL, Jacobs DM, Andersen RC, Smith CS, Lee JY, Rodriguez JL: Laparoscopic nephrectomy: A superior alternative. American Association of Transplant Surgeons, 1997.
15. Carlson DM, Rodriguez JL, Jacobs DM, **Ney AL**, Zera RT, West MA: Cytokine Imbalance: The lung's response to traumatic injury. Surgical Infection Society, Pittsburgh, Pennsylvania, April 30-May 4, 1997.
16. Schmidt B, **Ney AL**, LeMieur TP, Odland MD, Zera RT, Jacobs DM, West MA, Rodriguez JL: Emergency room thoracotomy protocol. Minnesota Surgical Society Spring Meeting. St. Paul, Minnesota, May 2, 1997.

17. Bennett BA, Jacobs DM, Ruiz E, **Ney** AL, West MA, Rodriguez JL: Pneumatic antishock garment (PSAG): plague or panacea. Minnesota Surgical Society Spring Meeting, St. Paul, Minnesota, May 2, 1997.
18. Kraatz J, LeMieur TP, **Ney AL**, Jacobs DM, Odland MD, West MA, Rodriguez JL: Criteria for operative bailout in abdominal trauma with massive transfusion. Minnesota Surgical Society Spring Meeting, St. Paul, Minnesota, May 2, 1997.
19. Kasiske BL, Johnson HJ, Heim-Duthoy KL, Rao VK, Dahl DC, Jacobs DM, Andersen RC, **Ney AL**, Odland MD: Does mycophenolate mofetil improve already good results from cyclosporine induction early after renal transplantation? The American Society of Transplant Physicians Annual Scientific Meeting, Chicago, Illinois, May 10-14, 1997.
20. LeMieur TP, **Ney AL**, Jacobs DM, Odland MD, West MA, Rodriguez JL: Criteria for operative bailout in abdominal trauma with massive transfusion. American Association for Surgery of Trauma 57th Annual Meeting, Waikoloa, HA, September 1997.
21. Khetarpal S, Schmidt B, Stafford R, Kalb D, **Ney AL**, West MA, McGonigal MD, Rodriguez JL: Trauma faculty and trauma team activation: Impact on trauma system function and patient outcome. Eastern Association for the Surgery of Trauma, Sanibel Island, FL, January 1998.
22. Kalb D, **Ney AL**, Jacobs DM, West MA, Van Camp JM, Zera RT, Rodriguez JL: Assessment of the relationship between timing of fracture fixation and secondary brain injury in multiple trauma patients. Central Surgical Association 55th Annual Meeting, Dearborn, MI, March 1998.
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