

Strong Medicine Interview with Lyle Micheli, 14 August 2014

JOAN ILACQUA: [00:00] Good morning, this is Joan Ilacqua, and today is August 14th, 2014. I'm here with Dr. Lyle Micheli, at Boston Children's Hospital, and we're going to record an interview, as part of the Strong Medicine oral history project. Dr. Micheli, do I have your permission to record the interview?

LYLE MICHELI: Yes.

ILACQUA: Excellent. So, my first question is background on you. Could you tell me a bit about your background, how you ended up at Children's, and what you do here today?

MICHELI: Mm-hmm. I come from Illinois -- north-central Illinois. My family were coal miners. Got a scholarship to Harvard College, National Merit Scholarship. And then I got into Harvard Medical School, and then I went through orthopedic training. After my orthopedic training, I served in the Military, in the Air Force. At the end of the Vietnam War, I came back to Harvard, to join the faculty.

ILACQUA: Excellent. And so, your title here at Children's Hospital, what is that exactly?

MICHELI: I'm a Director of the Division of Sports Medicine.

ILACQUA: OK. And so, on a typical day, as Director of the Division of Sports Medicine, what would that look like for you?

MICHELI: I perform surgeries three and a half days a week, and then I -- on those days, I sometimes also will see patients, and I see patients in clinics, a clinic setting. The other day and a half, and every other Saturday, I see patients. And so that's a heavy clinical load. We also are involved -- we have a fellowship training program here in sports medicine, orthopedic and primary care sports medicine. And we also do research.

ILACQUA: Excellent. And what's your relationship with the Boston Marathon? Do you usually work on that day?

MICHELI: I've worked -- I've been working the finish line of the Boston Marathon since 1975. And I believe in the early '80s, I became the director, coordinator of the finish line medical coverage.

ILACQUA: Excellent. And so, on a typical Marathon Monday, what would you be doing that day, as director?

MICHELI: Well, initially, in the earlier days, I used to be able to do an operation or two, and then I'd go down to the marathon. And that was when the race began at 12. It now begins earlier, at 10. But generally, get up in the morning, come to the hospital, make sure there's no issues

here, and then take a subway into the marathon finish line. And then we have a volunteers meeting, first thing in the morning. Talk over any issues, such as weather, expected field, expected range of injuries, particularly heel injuries. And then we would go to the finish line.

At the finish line, I usually have five or six physicians, who are coming from our training program. We use this as part of our training for our fellows. And then we also have, in recent years, physician assistants working with us at the finish line. And then the contingent at the finish line includes athletic trainers, and athletic training students.

ILACQUA: Excellent. And so, turning to the Boston Marathon, 2013, could you describe how that day began for you?

MICHELI: Yeah. We went down to the finish line, and we had our medical volunteers' meeting. The conditions were fairly favorable, as far as temperature and humidity, and so forth. So we were reassured in that regard. And then, we went to the finish line at about 10:00, because some of the early wheelchair finishers would be coming in shortly after that. And our job is to do on-site triage. There's the finish line medical coverage. There's a chute, C-H-U-T-E medical coverage, where we have athletic trainers in chute,

observing anyone who might be staggering or falling down. And then, of course, we have the large medical contingent in the medical tent -- Tent A. And we have a second tent, Tent B, which was about 300 yards away. But in Tent A, Dr. Pierre D'hemecourt, who's one of my colleagues here at Children's, is a medical -- in charge of medical Tent A, and includes the coordination of the entire marathon.

And so, in general, people finish the marathon, go through the chutes, go and get their medal, and walk down, and get water and so forth. Anyone who's having problems is triaged in a very efficient manner, nowadays, into the tent, to be assessed and treated.

ILACQUA: Excellent. And so, on that day, as the day went on, were things sort of typically happening?

MICHELI: Oh, things were ideal. It was ideal weather. We weren't having much problems. We have our usual people finishing in about three hours, who are sometimes having problems, and collapsing, and so on. We often -- it's amazing how people will come right to the finish line, and then collapse. They got that far. Sometimes, we have people collapsing out along the course, in the front of the course.

But things were [05:00] going very smoothly. And we were all acknowledging how smoothly it went. In retrospect, they did have bomb dogs go through the area, at about 10:00 a.m., 10:30 a.m. And that was the only time I saw them. But they went through before the event, just checking out the possibility of explosions.

ILACQUA: Mm-hmm. And so, as the afternoon went on, where were you when things happened? When...

MICHELI: I was standing on the finish line, which is my position, just triaging, watching people. And according to the photos that we've seen, from the video footage, and so forth, I started to walk back, away from the finish line, with a young woman, who was having some type of an arm problem. I was looking at her arm. And then I sort of had my back to the first explosion. And it was -- I was probably about 30 yards away from it. But turned around, and I thought it was some kind of a prank. I thought some kind of -- some damn college kids were setting off a smoke bomb, or something like that. And then, I turned back to this young woman, and then, the smoke got to me, and I smelled gunpowder. And I know gunpowder from the Military. I says, "Gunpowder? What? What would something be having gunpowder?" And then, because then the second bomb went

off, about 10 seconds later. And then it was clear that there was viol-- a viol-- it was a violent activity.

And so, some of us ran toward the site of the first bomb, and started taking down the barriers. I think they -- if we were -- I could say that, in -- pretty clearly, that no medical volunteers, no public safety volunteers were injured. There was like a snow fencing. There was like construction scaffolding between the running area, the street, and the crowd, the observers. And then there was a snow fence up, right here. And I think the snow fence is what protected us from shrapnel. I think that there would have been more injuries of people right on the finish line, if that hadn't been the case, but I saw no one injured at the finish line. There's a well-known picture of an old elderly gentleman, a runner, who falls down at the finish line. He didn't get hit by the shrapnel, he was just tired. He was just the usual tired runner, who collapsed.

But one young fellow went up to the stage -- up to the barriers there, and jumped over the top, and pulled down the snow fence from the -- toward the inside. The bomb had gone off right in front of the marathon -- the first bomb had gone off right in front of the marathon sporting goods

store. The windows were all blown out. And there were people lying around in front of the store. I saw one woman, lying face-down, in the doorway, entrance of the marathon store. It wasn't clear whether she was outside or inside when it happened. I think she was blown -- or fell down that way. So I went up to her. Because she was the one the obviously needed the most initial assistance.

There was a runner assisting me, and he and I talked afterwards. He was a Military officer, a student at the Harvard Business School. And so he and I sort of pulled her inside the store, and then turned her over. She was bleeding from the back of her popliteal space -- back of her knee. And, but still was pretty much with it. And she -- and so, we went to the racks of the running store, and got a running jacket off the racks, and put it on her upper thigh. And then got a clothes hanger from the racks, and then -- because we had no equipment, see? Those of us on the finish line -- we now do, but at that time, we had no tourniquets, not even dressings, because any kind of dressings, that would take place, it would usually be taking place down in the medical tent, if we triaged someone down there. So we had to improvise with such things.

We made a tourniquet out of the running jacket, and a clothes hanger. And then I -- I had gloves on. I examined the back of her knee, just wanted to make sure there was no pulsing vessels, or anything like that. And I remember feeling an irregularly-shaped -- felt like a piece of metal in there, embedded in the back of her bone -- in the back of her femur. And I thought, what is this? You know? And we only -- we learned later, of course, that there was shrapnel, that it -- I thought of a bomb as just going "boom," like a firecracker, and maybe knocking people down. But of course, they filled that bomb with various pieces of metal. And it was a -- I felt it -- probably was feeling part of the pressure cooker, on the back of her leg.

So, we had turned her over. Got the tourniquet on her, and then the EMTs started to arrive, because they -- the other volunteers had pulled down the remainders of the barrier. They could get stretchers into that area, where the casualties were. And so, about four of us lifted her up onto the -- onto a wheeled stretcher. And they then took her out.

I went and assisted another woman, who was lying down in front of the [10:00] stair area of the Marathon Sports. And then we got her out, and then someone came running up, and said, "We're concerned that there may be more bombs around here, so let's clear this area." So we cleared out of the Marathon Sport area. And then I went down into the tent, and there were various casualties there. The EMTs had set up a triage system. They had little plastic markers, one, two, or -- number one, two, or three, for one, immediate transport; two, secondary; and then three, less important.

And there was one young woman there, who was lying on her back. I think, in retrospect, she was the daughter of the woman who had had the bad injuries to her legs. But we dressed her up, put dressings on her, elevated her leg. Her motor functions seemed to be fine. She had a big gashing-type cut, along the inside of her leg, down to the ankle, into the knee, and I just packed that with dressings, put tape around it. And then we lifted her up out of her stretcher. She was way near the front of the tent. And we carried her down to the back of the tent, where the ambulances were going out, and where the triage system was being done.

And then, a couple of more people, I went to different stretchers, and the personnel in there were -- obviously, they'd been set up to deal with heat problems, or starting IVs, and so forth. But unfortunately, of course, we were so close to the casualties. And we had medical personnel so close. So most people got tourniqueted -- those who had major extremity injuries got tourniqueted with belts. People would take their belts off.

And then -- this is about a half hour after the bomb went off, and then someone -- some public safety officer came in and said, "We're clearing the tent. We're concerned there might be a bomb in the tent." So we got everybody out of Tent A. We got them down, into the ambulances very quickly, and fortuitously, we had six or seven teaching hospitals nearby. The EMTs were there because of the marathon. They had many ambulances there. And so they were instantly able to transport people.

So we cleared Tent A, and then we went down to Tent B. And that was still open. And the runners by that time had been diverted away from the finish line, down into the Boston Common. So we had a couple of people go down to the Boston

Common, and tell people that if they needed it, we would see them in Tent B. And there wasn't that many people that needed help. Again, the running conditions were ideal. So the actual runner runners -- and these are later runners. These are runners who have been running about five hours, because the marathon started at 10:00. So by and large, they were in pretty good shape. So there weren't many people in need of that.

So we got down to Tent B, I think probably about an hour later. And then, there was -- public transportation had been stopped. So I walked back to Children's. And -- from the finish line. And then went into the Emergency Room, to see if there was any needs there. And the kids that come into Children's were already up in the operating rooms. So they didn't need me there, so I walked home.

ILACQUA: So you had mentioned that you had served at the tail end of Vietnam. Had you ever dealt with casualties like this before?

MICHELI: Yes, but not in this many numbers at one -- one period of time. We were -- I was stationed in Washington, DC, at Andrews Air Force Base, and we would get the kids back, oh, two or three days a week, we'd get three or four of them coming in on the Air Evac (inaudible), with lower extremity

injuries. But no. And we had drills in this, of course. We had drills in mass casualty issues, and with how to triage and all that kind of stuff, and so forth. While in the Military. Because Andrews is a major training base there. But that's -- not so many at one time.

ILACQUA: Hm. And actually, in your capacity as director at the Marathon finish line, had you drilled for an event like this before? Had you trained for, if there was a large emergency at the finish line?

MICHELI: Oh, not really. No, we were prepared -- we were always -- we were prepared for the -- to estimate the casualties, the running casualties, based on sort of temperature and wet-bulb temperature. It's a direct, linear line. The hotter and more humid it is, the more running -- or exhausted runners we see. And runners collapse from a variety of things; hypervolemia; poor fluid intake; thermal, hypo- or hyperthermia, and so forth. Those are the things we were prepared for.

And we -- so, as I said, we didn't have much in the way of dressings. We had one little area of the medical tent is [15:00] reserved for musculoskeletal injury, like abrasions, and stuff like that. If someone has fell on the course, this kind of thing. But between the EMTs with

their kits, and sort of using them, we sort of made do, and I think it was extremely fortuitous that the bombs were so close to the medical area, because I think if the bombs were three or four blocks away from where they went off, we'd have had many more fatalities. These people, of course, probably 10 or 15 of them lost extremities, you know, their -- one -- some -- three or four people had both legs blown off. And -- but there was immediate application of tourniquets -- good old-fashioned tourniquets, just like in a Military situation, which is what we trained for, in the Military. We all carry tourniquets. But -- so we had to make do, and make up our own tourniquets.

ILACQUA: And so, you had mentioned that you walked back to Children's after sort of closing up shop, down that finish line.

MICHELI: Yup.

ILACQUA: And the kids that were there were already in surgery.

MICHELI: They were already up, yeah.

ILACQUA: Was there anything else going on at Children's?

Were...?

MICHELI: No, no, I think the people had mobilized pretty quickly. I mean, it is sort of amazing to see how quickly the timeline was. The -- I'm told that the first patient at the Beth Israel, first marathon patient was in the

operating rooms 60 minutes after the bomb went off. Which means that they were retrieved at the scene, often brought into the medical tent with wheelchairs, which is what we used for the fallen runners, but we just used the wheelchairs as transport for them. And the athletic training students were the ones pushing the wheelchairs. They just went into that mode.

And then they'd go into that medical tent, get initial dressings, perhaps, or makeshift tourniquets, or bandages, and so forth. Out the far end -- in the front end of the medical tent, out the far end of the medical tent, into an ambulance, down the street, down to the Emergency Room of the BI, triaged there, up the elevators to the operating room, in the operating room, in 60 minutes.

ILACQUA: Hm.

MICHELI: Yup.

ILACQUA: And so, you mentioned that you had gone home after you checked in at Children's. could you describe how the rest of the week started to play out for you?

MICHELI: Yeah, I had patients the next day. I had surgeries and patients the next day. So I went in and did my surgeries, and then saw my patients. And -- of course, there was a lot of excitement, and issues about the

marathon, and so forth. And about a week later, we had -- from Children's had probably about 20 -- 15 or 20 volunteers from our Sports Medicine group. We traditionally cover the finish line, and also, our fellows are in the -- some of our fellows are in the tents, and some are at the finish line. And so, some people were out of work, didn't come back to work for a while. A week or two, sometimes.

And then the Children's has a physician support mechanism, through the Department of Psychiatry. And so, about a week after the Marathon, we had a meeting of the people who were there at the finish line, and talked over issues, and so forth, and... But again, there was a variable amount of post-traumatic issues. I don't think I had much of any. But there were people who had issues, and were out of work for a while, or on limited work duty for up to a few months, sometimes.

But I think that -- and this is where I'm sort of puzzled by the post-traumatic stress syndrome issue, because I could see having post-traumatic stress syndrome, if you were -- if you had your leg blown off. But for a medical personnel, who are trained in this type of thing -- maybe

to a greater or a lesser extent -- I think it -- a little harder for me to understand post-traumatic stress syndrome in that setting. I'd be interested someday to look at what the Military has found, as far as medical personnel, in that setting. I think that the popular version is MASH. You don't see much evidence of post-traumatic stress syndrome in those scenarios, in their sequels, and so forth. But perhaps there is an incidence of it in medical personnel, in that situation.

But I think that -- again, a combat veteran, who's in combat for three to five days at a time, I [20:00] could understand post-traumatic stress syndrome. And we have -- I have a family history of that. But I'm a little surprised sometimes at some medical personnel, for instance, who were in Tent B, which was about a quarter of a mile away from anything, and didn't see any, really, any casualties. No casualties went to Tent B, as it turned out. But people in Tent B had post-traumatic stress syndrome.

ILACQUA: Hm.

MICHELI: Hard to under-- hard for me to understand that. Yup.

ILACQUA: Yeah, that's interesting. I didn't -- I haven't heard of that. So it sounds like you got back to business pretty quickly --

MICHELI: Yup.

ILACQUA: -- after. Could you describe, you know, was there extra security at Children's? Was there a media presence going on, or...?

MICHELI: Oh, yeah. I think that there was -- across, the entire city, they beefed up security, and there was extra security. There certainly was more security the following year, 2014, when -- the Marathon. And I must admit, I was a little apprehensive about that day. I was very happy when it was over, (laughs) because I thought it would be a perfect target, to really show those Americans who was boss, you know? To hit it again. Make sure that our security measures...

And, needless to say, it's extremely difficult to provide tight security for a marathon. It's not a stadium event. It's not like a baseball game, or a football game, where you have a confined site. But to really do security at the marathon, would be, I think very difficult, in any circumstance. They had many more dogs there, in 2014.

More security personnel, and so forth. And it went well, of course; we did not have any episodes, or instances.

But I think that, going out, the Boston Marathon's gotten so much play, as a symbol of strength, and resistance, and so forth. I think it will remain a target.

ILACQUA: Hm.

MICHELI: Yup.

ILACQUA: In the -- you mentioned the new, or heightened sense of security. Did you do training in emergency management, down at the tent? Or did you end up with tourniquets this year?

MICHELI: Yes, we have didactic [sic] lectures for the volunteers at -- medical volunteers. And there was -- there was much more talk about this being perceived as a mass casualty event. Of course, in some ways, a planned one. But to use that as a training device for handling mass casualty episodes, you know, in an urban area, or whatever. Yeah. And so, I think that there's much more awareness now of that. I got a couple tourniquets I carried in my pocket, in 2014.

ILACQUA: Hm.

MICHELI: (laughs) Military tourniquets. Yeah, yeah, yup.

ILACQUA: So, I wanted to go back for a second, because I skipped a question that I should have asked. While everything was going down, were you in contact with family, or the hospital, or anyone else, while you were at the medical tent? Were you aware of anything else going on in the city?

MICHELI: No. I had -- we had no contact. For one thing, they -- I think they jammed the cell phones in the area. But I was too busy doing stuff, (laughs) to communicate. Yeah, yeah, yep.

ILACQUA: OK. And, let's see. So we, more or less, have gone over most of my questions. But as the year unfolded from the 2013 Boston Marathon to the 2014, do you think it had a lasting impression on your job, or your profession, or your personal life, in any ways?

MICHELI: Well, I think that I'm going to continue to volunteer at the Marathon. And so, to that extent, I think that we're aware of it, as a potential issue. I think that it's a new chapter now, and I think across the world, in running marathons, you know, and it -- and it's -- and the organizing, and setting up medical cover for it, and security coverage for it. So this bombing has been a new chapter in this type of sporting activity. But I think that, with current world of events, as they're going down,

I think that makes us all realize, it can come right in your own back yard. Yeah. And the -- the violence, and the fanaticism that's going on in certain parts of the world, I think can spill over to here.

ILACQUA: Hm.

MICHELI: Yup.

ILACQUA: Yeah. And so, finally, are there any other thoughts or stories that you'd like to share with us, today?

MICHELI: [25:00] I think that -- as I said, maybe mentioned earlier, I would think, really think the unsung heroes of that day, that -- were the -- these young athletic training students, who -- they thought they were there to push wheelchairs for marathoners who'd collapsed, and we'd popped into the wheelchair. But they jumped into action pretty quickly. And there is that one famous picture of the gentleman spectator, who had both legs traumatically amputated, and there's a man running along with a cowboy hat next to him. But no one has ever -- no mention is ever made of the young woman, the young athletic-training woman, who's pushing the wheelchair, who truly is the unsung hero, because she's the one who did something. (laughs) She got the guy in there, and down, and probably was instrumental in helping save his life, and -- but the -- I think with -- she wasn't wearing a cowboy hat. (laughs)

ILACQUA: All right. Well, thank you for speaking with me
today.

MICHELI: You bet.

ILACQUA: All right.

MICHELI: Good. [26:06]

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