

**Strong Medicine Interview with William Mackey, 30 May 2014**

RICH: This is Miriam Rich, and today is May 30, 2014. I am here with Dr. William Mackey at Tufts Medical Center. We are going to record an interview as part of the Strong Medicine Oral History Project. Could you begin by telling me a bit yourself? Your training, background, and professional positions here?

MACKEY: Right. I'm Bill Mackey. I'm the surgeon in chief at Tufts Medical Center and chairman of the Department of Surgery at Tufts University School of Medicine. I've been here at Tufts for 32 years now. I came here to complete my surgical training in vascular surgery in 1982. And I've just stayed on since then. I'm trained as a vascular surgeon, but I'm also trained in trauma and critical care, and in general surgery. So I've sort of risen through the ranks here at Tufts, from fellow in vascular surgery to assistant professor of surgery, to associate professor of surgery, to professor of surgery, and then chairman of the department. And I've been in the role of chairman for the last 13 years now. Prior to that, I was chief of vascular surgery, and program director for the surgical residency. My interest is really in vascular surgery, but I also -- we developed a trauma program here at Tufts about eight years

ago, and I was sort of instrumental in recruiting the trauma surgeons. And in order to get people to buy into the trauma program here, I took trauma call for many years, and had got pretty fully involved in the trauma program. So -- well that's my background. I trained -- I did my general surgery training at New York Hospital Cornell Medical Center in New York. Went to medical school at Duke. But I've been in Boston -- as I said -- for the last 32 years.

RICH: What led to your interest in fields of vascular and trauma surgery?

MACKEY: Good question. I think when I was in medical school, I had some excellent mentors in surgery. Then when I went through my general surgical residency in New York, I was trying to decide between cardiac surgery and vascular surgery, and at the time it seemed that vascular surgery offered more variety. And I was just more interested in vascular surgery than in cardiac at that point. I also had some excellent mentors in vascular surgery. I came to Tufts because Tufts had one of the first 11 accredited vascular training programs in the United States. And since there were so few spots, I was just fortunate to get one of them, and to be able to train in vascular surgery and develop my career in that direction. While I was in New

York, training in general surgery, I had a lot of trauma and burn experience, which got me interested in critical care, and the care of injured and severely ill patients. And that led to my interest in trauma critical care, and I've just sort of hung onto that. And I've remained board-certified in vascular and critical care surgery ever since.

RICH: What might a typical workday here look like for you?

MACKEY: Well, I'm 50% administrative, as the chairman of the department. So the day is very tremendously -- I'm clinically oriented on about half of Monday, all of Tuesday, half of Thursday, and half of Wednesday. And I'm more administratively oriented on the other times. But it doesn't break out that smoothly, because patient care happens when patient care is needed. So it's sometimes a little hard to organize. But I am split between administrative duties and clinical duties. A typical day - - so there is no real typical day, but I would say that on Tuesdays is my main operating day, that I spend just about all day in the operating room. I do some surgery on Mondays. I see patients in the office on Wednesday afternoons and Thursday mornings. And the rest of the time I said would be time spent teaching, or time spent on administrative duties, going to meetings, and so on.

RICH: So prior to the day of the Marathon bombing, what were

your disaster response training and protocol like here?

MACKEY: Well, we had developed over -- as I said -- the last -- well, at that point it was six to seven years, when the Marathon bombing occurred -- capability as a level one trauma center. And all of the surgeons that participated, including myself, were trained in the advanced trauma life support program of the American College of Surgeons. And part of that training includes [05:00] disaster response, triage, care of mass casualty -- you know, the management of mass casualty events. We had not -- up until the time of the Marathon bombing -- had a true mass casualty event here. We had had, you know, events that stressed our system, where we'd have three or four major injuries arrive at once in our emergency room from an automobile crash, or something like that, but we'd not really been part of a city-wide disaster response up until the Marathon bombing. We had been part of drills, and we have -- our trauma director, Dr. Rabinovici, is a career trauma surgeon with a lot of experience in mass casualty events. So he had prepped us as well as anyone can ever be prepped for an event like this. But I -- no matter how you prepare, it's always going to be difficult.

RICH: All right, yeah, so let's talk about the event, the day of April 15<sup>th</sup>, 2013. How did that day start for you?

MACKEY: It started as a very average day. You know, Patriots' Day is not a hospital holiday here. So we have a regular elective operating room schedule, although because of the holiday, it tends to be a light schedule. Patriots' Day is also a day of -- you know, a lot of people do outside things. So the hospital is not -- there's not a lot of administrative meetings, and things like that. So actually, it's kind of a light day, usually, for us. And it started out -- I was involved in seeing a few patients in the office, and doing some very minor administrative things, and really looking forward to a pretty quiet afternoon. I did not have any elective surgeries scheduled that day. And so I was really sitting around my office, answering emails, and doing routine things, when my secretary, who was listening to the Marathon coverage on the radio, exclaimed, "Oh my God, something just happened." And I heard that, and got up, and she said, "There was just an explosion at the Marathon." And I thought, oh you know, somebody's setting off fireworks. I didn't think of it -- I really didn't think it was anything significant. And I went back into my office. And just a moment later, she said, "There's been two explosions." And at that point, I started to think, well maybe something really happened. But again, I had no idea. She kept her radio on. I went

back into my office. But within a very few minutes, it was apparent that there were casualties at the scene, and that this was a real event. At that point, we had gotten word -- at about that same time that I realized something was really going on -- that EMS had called the emergency room and said, "We have a mass casualty event." And the hospital went on alert. This was, you know, mid-afternoon. And so, we were able to mobilize forces pretty quickly. Couple of things that conspired in our favor was it was change of shift. So we had twice the number of OR nurses and ER nurses -- emergency department nurses -- we would ordinarily have, because the day shift was going off; the evening shift was coming on. It was also -- as I said -- a holiday with a light operating schedule. The emergency room was not packed with people. In fact, up until the time of the bombing, the emergency room staff had commented that they really hadn't gotten the usual number of patients with dehydration, heat stroke, so on, that we see with -- on the Marathon day. And they were commenting that it was kind of an easygoing day for them. It was very fortunate that we had -- pretty much all of the surgical attending staff were here. And especially our orthopedic staff, because with the nature of the injuries mostly being blast injuries to the legs, the orthopedists were the most

important members of the response team, really. Within about 20 minutes, we started getting patients. And our organization is such that my role -- the trauma director was here, Dr. Rabinovici, and he was really running the triage in the emergency room, along with the director of emergency services. The patients were brought into our trauma bays [10:00] and screened for life-threatening injuries. Went through the usual trauma evaluation and resuscitation. When it was determined that they were stable, they were then moved to a second room, where they were assessed for their particular injuries. Immediately determined they had no life-threatening injuries, they were then moved -- and for the most part, they were assessed by orthopedics after that, because that's what most of the injuries were. Fortunately, we had seven orthopedic surgeons -- attending orthopedic surgeons -- immediately available. So virtually every patient had an attending and an orthopedic resident doing their assessment, once they were cleared by the trauma surgeons. My job during that time was to make sure that the efforts of the emergency room were coordinated with the efforts of the operating room. Immediately, we had four ORs available. We had -- just we were in between cases, or the cases for the day were done. And we had four operating rooms, with complete

anesthesia and nursing staff available right away. So the four most acutely injured patients were sent directly -- once they were seen by the orthopedists, they were sent directly the operating room. Most of them had already had x-rays. One of them, I think, had to go to the CT scan before going to the operating room, but basically they went pretty much directly from the emergency room up to the OR. And that was probably within 40 minutes of their arrival. So the response was really excellent. Then there were -- I mean, the patients were coming in waves, and I think that within an hour, we probably had 11 or 12 patients. We eventually had 17, but several of them were very minor injuries that were just sent home. I think we ended up admitting 14, something like that. All of them with blast injuries to the lower extremities, a couple with ruptured eardrums and other things that were related to the blast. But we had no major neurosurgical injuries -- you know, head injuries, and no major chest or abdominal injuries.

The -- it was initially a little bit chaotic in the emergency room, mainly -- I think, in part, because we had too many people who wanted to help out and were available to help. And it just got very crowded. Once we got organized, and we could tell people, look, we're under

control here. You don't have to just stick around, it became calmer and more -- just seemed like a more controlled scene. But, you know, I'll never forget the first half hour, both in the ED, where I went first, and then just organizing thing up in the OR -- how chaotic it seemed. And it wasn't chaotic because it was disorganized. It was chaotic because we didn't know how many more patients we were going to get. We didn't know what else was going on. As you recall, there were rumors that there were bombs in other sites, that there had been something at the JFK Library, that -- so, you know, we were concerned that this was going to escalate way beyond what it already had. But in the end, of course, we ended up just with a limited number of patients, and things settled down within several hours. And once those rumors were dispelled about other events, it was pretty much business as usual, with a pretty high volume of emergency surgery that day. So by six or seven in the evening, when we knew things were under control -- or we suspected things were under control -- it didn't seem like an overwhelming burden at all. It seemed like, wow, this is a busy day. But, you know, by then, the emergency room was quiet, and things had settled down.

There were obviously a lot of concerns over the families

not being able to find loved ones. A lot of phone calls coming in, a lot of people driving into the hospital, saying, they said they brought my daughter, son, wife, here, you know, my loved one here. Can you help me? And I happened to be walking through one of the corridors -- oh I know. I remember. I had to get something out of my car in the parking lot, because I knew I was going to be here late. And I forget what I had left in my car, but it was something. And I was walking back from the parking lot, and I took a shortcut outside, from the garage over here to my office. And there was a very distraught family standing outside our emergency room, saying, you know, can you help us? We don't know what's happened to so-and-so and so-and-so, but we were told [15:00] she was here. And I said, sure, you know, I think I can find them. So I walked in the emergency room, and flashed my ID badge, and said, you know, where -- can you help us? And they said, oh yes, she's here. She's on Proger five north, one of our trauma floors. And was able to take the family up there. But was all just, I think, after the dust settled and we got most of the patients out of the emergency room, and we knew that, you know, that event was under control, was mostly just helping people to cope with it, to find their loved ones, to interact. And by then, several of the early

patients were coming out of surgery in the recovery area, or some of them were still waiting to go into surgery who had required more workup. But it was really pretty controlled, after about, I'd say, 4:30, five o'clock in the evening.

RICH: So, in that first half hour, when you were mobilizing to, you know, coordinate the OR and the ER, were you following a specific disaster response protocol, or was there a lot of improvising?

MACKEY: There was a lot of improvising, but we were following a specific triage protocol, which we had worked out, which is where the patients would come in, be seen by a senior trauma surgeon. And initially, what we call the ABCs and the primary survey, where you really go through the patient in a very systematic, detailed fashion, looking for any life-threatening injuries. Once the life-threatening injuries were ruled out, they were then moved to a different part of the emergency room, where their specific injuries were focused on. And these were all -- as I said -- orthopedic -- lower extremity orthopedic injuries. That was well-rehearsed. That we did very well. Other than that, I don't think we had much of a plan. I mean, you can plan and drill all you want. But every one of these events is going to be different. And I think our major concern

was to move patients to the acute emergency assessment of life-threatening injuries into the secondary rooms as quickly as possible, because we really didn't know how many patients we were going to get. And so, you know, we're really trying to keep those trauma bays -- patients moving through those trauma bays as quickly as possible, so we have them available for the next patient. And I think we did that very well. And I think we moved patients to the operating room efficiently. I think we have since gone over some of the ways we could do that better. I mean, we're very lucky on the timing too, because -- and the fact that the OR schedule was relatively light that day, so there were rooms available when we needed them. My biggest fear about another event like this is that it happens on a Sunday afternoon, or at two in the morning, when we have very limited staff.

RICH: So, were you aware of the intense media coverage as you were providing care, and did that affect your ability to provide care at all?

MACKEY: I was not aware of intense media coverage until later that evening, when I got asked to do several interviews, just because of my role here at the hospital. And then -- I think it sort of hit me that, you know, this is -- while the event was going on, obviously none of us knew the full

scope of the event. We didn't know if this was a 50 patient event, a 500 patient event. We just didn't know what was going on at the other hospitals. We were getting snippets of reports, but we weren't sitting around listening to the radio. We were pretty actively engaged in taking care of patients. But it hit me later in the day that, you know, this was -- this was a big deal. We're going to be covered -- especially the Boston Marathon, an iconic event, certainly in New England, if not in the United States, if not in the world. To have a terrorist attack at the finish line of the Boston Marathon -- I mean, that -- then I realized, this was going to be a big media event. And yeah, we were swamped with media for the next couple of days.

RICH: What was the rest of that week like for you?

MACKEY: It was busy, because I became sort of spokesperson for the hospital surgical services, and trauma service. Not because I was the key individual engaged in it, just because I was sort of the senior person around. And so I spent a lot of time giving interviews to radio, TV, and other media. And we did a press conference down in the Wolff Auditorium, where we probably had 30 or 40 news outlets there. And I sat on that panel, which was an hour. I gave some interviews for "Hardball with Chris Matthews".

I gave some radio [20:00] interviews. So I was pretty busy.

RICH: What was it like to be engaged with the media in that way?

MACKEY: You know, it's not something I do for a living, so I guess it was fine, but I don't know -- I mean, I'm no actor, and I'm no -- I mean, it's not something I'm necessarily comfortable with. But it wasn't painful. I mean, I think we had a story to tell, and we told the story. Just sort of like I'm talking to you right now. There wasn't anything terribly glamorous or terribly upsetting about it. It was just, you know -- I think the news media grabbed onto the story, because it was a big deal. And we wanted to -- I mean, we wanted to give them what they needed, without, obviously, affecting the patients. I mean, the media really did want access to patients, patients' families. And I think the hospital did a good job putting up some barriers there. You know, the patients deserve privacy. And I mean, some of the patients wanted to talk to the media, and others really didn't. So, I mean, we were -- I think we -- we were very careful about protecting the patients' privacy, and letting them meet with media if they wanted to, but not otherwise.

RICH: Were those privacy protections something that were

built into the prior protocol, or was that something you sort of realized as the event was unfolding?

MACKEY: Oh, I think protecting patient privacy is on everybody's mind these days, because of HIPAA requirements, and all of the current legal -- the legal environment currently. And plus, it's the right thing to do. I mean, you don't want to go talking about patients, or giving the media unfettered access to patients, who have just been through an incredibly traumatic event, and now have disfigured limbs, and you know -- you just don't want to do that. So I don't think it was anything we rehearsed, or necessarily talked about, but I think it's kind of ingrained in what we do.

RICH: Was there communication or collaboration between Tufts and other Boston area medical centers that day?

MACKEY: Very definitely, because there were things we needed from other hospitals. There were things they needed from us. We needed to know -- we needed information about what other people were seeing, what kind of injuries, what more could we expect. So, yeah, very definitely. And it mostly came through Boston Emergency Services. You know, they were very much -- very well-coordinated EMS services. And they were telling us constantly, you know, we have this many patients at the scene still to be triaged out. We

have -- you know, here's what it looks like, and between the Mass General, the Brigham, BI Deaconess, BMC, Tufts -- here's how we're divvying it up. Here's how many more you should be expecting. So communications were excellent, both from Boston EMS to us, and among the different hospitals.

RICH: What was that Friday, when there was a shelter-in-place order, like for you here?

MACKEY: It was eerie. It was just bizarre. You know, I got -- I live in Newton, fairly close to the Watertown area where this was all unfolding. But I decided I needed to come in. I mean, we were getting the shelter-in-place orders at my home. But I decided I'd better come in. So I got up early that morning and came on in. There was nobody on the roads. It was almost eerie. And got in, you know, no problem getting into the office. But everybody was just -- there was nothing to do. I mean, people really didn't come in for clinic visits, didn't come in -- many patients did come in for their elective surgeries that day. But a lot of people -- I mean, many didn't. But it was just a very strange day. And also, I think -- I never felt endangered, but it was a pretty uncomfortable feeling, just knowing that there's this huge police presence. And, you know -- you'd see pictures of familiar sights with people

with automatic weapons standing on the roof, or something. It was just very bizarre. And just the helicopter traffic over the suburbs. You could just hear the helicopters all over the place. And it was -- it was very strange.

RICH: What was that collaboration between medical personnel and law enforcement personnel during that week like?

MACKEY: You know, the first inkling I had -- one of the first impressions I had that this was really a very serious event was when I was coming back -- as I said, I had to go back to my car, late afternoon. And I ran into that family and chose to come back in through emergency room. And there were [25:00] people with automatic weapons standing outside our emergency room. And -- this is very strange. So initially I was kind of -- it was just one of the -- it added to the whole bizarre feel of it. But I think that the people in our emergency room were incredibly careful, very concerned about the safety of everyone there. And there were a lot of public safety people -- I should have added that our emergency room got evacuated in the middle of the event, because of a bomb scare. So it turns out that some -- a woman who had had nothing to do with the Marathon bombing, who had some psychiatric issues, had been put in one of our psychiatric rooms. And nobody noticed, but when they put her in there, they put two bags -- she

was a, I guess, a bag lady. And they put two bags, that were sort of beat up old suitcases, under her bed. But nobody really noticed who did that. And so, when the police and other security people came through and swept the area for safety, they noticed these two bags, and nobody knew what they were, or who they belonged -- whose they were. So they evacuated our emergency room, in the middle of the event. Fortunately, it was about an hour and a half after the -- or an hour after the peak traffic. But we had patients waiting to go to the operating room, that we had to move out of the emergency room into the atrium, in our main room, which served as kind of a makeshift emergency room for about three or four -- or, no, for about two hours, while they went through these bags, and did -- gave us the all-clear to go back. But that was another kind of anxiety-provoking and just bizarre aspect of what happened here at Tufts.

RICH: How is something like that coordinated and managed in the moment?

MACKEY: Well, I don't think anyone had a contingency plan for that. So I think the police unequivocally ordered us to evacuate the emergency room. And the person in charge in the emergency room said, OK. We have 22 patients -- I don't exact know -- but we have this number of patients

here. What can we do? We need a space that is easily accessible from here, where nursing can continue to care for these patients, where they can continue to undergo evaluation. And the atrium lobby of the hospital is located on the same level as the emergency room, about 150 feet or 100 feet down the hall. And the police said, that'll be -- that is safe enough. You're far enough away if you go there. And it's a big enough space that we could put 20 stretchers in there, easily. And that just seemed like the logical place to move them. You know, obviously there wasn't much privacy there for patients for families. But by that time, the more critically injured patients had already been moved up to the operating room, and it wasn't like there were people who were in bad shape sitting out there in the atrium open. The -- it was, I think it was very well managed, actually. And as soon as we got the all-clear, they just packed them up and moved them back into where they were before. During that time, some of the patients went up to the OR, into the operating room holding area. But most were -- just stayed in the atrium, and then went back to the emergency room.

RICH: So, looking back on this, from your perspective now, in what ways do you feel like you were able to manage it really effectively, and in what were some of the ways that

you identified could be managed better in the future?

MACKEY: Well, the first comment I want to make is I think we were -- all of the hospitals in town were incredibly lucky. And there were so many things that conspired to make it work out well for the care providers. By far, the most important, of course, is that the event occurred at the finish line, where you have all these people ready to provide help and care -- obviously not for a bomb explosion, but for dehydration, and all the other things that can happen with a long distance run. And those people ran to the explosions. They didn't run away. They ran to the explosions. And I think that was the number one factor that made this the success -- if you can call anything like this a success -- that it was. Because people who lived through the initial blast -- no one died. And that, to me, just speaks volumes about the care at the scene. Because in almost any other setting, many of those patients would have bled to death. [30:00] But the fact that there were people able to put tourniquets on these mangled limbs and stop the bleeding -- so it's an amazing testimony to the care providers at the scene. So that's the number one luck factor. The other luck factor is that was a change of shift, on a holiday where everybody's got a light schedule. So you've got double the number of people you'd ordinarily

have, and you've got open and available resources, because of the light schedule. So those three factors combined -- the primary responders, the holiday, and the time of day -- I think, led to -- it was just serendipitous, that it just worked out that way.

What concerned me, and concerns me still, is what if we had a similar event in Hopkinton, and it was on a Sunday evening, or at three in the morning, where you don't have all these first responders available? You don't have, you know, all these hospitals within a few block radius of the event. I think that would be a totally different picture. So I think where we need to put our efforts right now -- and where we have -- is on disaster planning for events that occur in the middle of the night, where, you know -- or on a weekend, or a holiday, where we don't have all the people in place -- and try to figure out how we can perform as well under those circumstances. And I think that's a really hard question. We've been working with our disaster planning group here to develop rapid means of communication when we don't have providers onsite. So, you know, rapid beeper, telephone messaging that can go out to alert people to get back into the hospital -- whether they're on call or not -- and alert them as to what's up, alert them as to how

best to get here, because if -- in a mass disaster, some -- you may not be able to get here through normal routes -- and try to just keep people as updated as possible as to what's going on. We've also tried to perfect our -- the roles and responsibilities for every member of the trauma team and the ER staff, so the people that would be responsible for initial triage when patients are brought into the emergency room -- who will be responsible for putting those patients into the initial trauma bays, or triaging them directly to a secondary care site, where they, you know -- if they're not -- if they obviously have no life-threatening injuries. We've perfected the communications between the ED and the OR a little bit more, so we have more direct two-way communication through a dedicated phone line that'll only be used for an event like this. I think we've done many things, but you know, I still am worried about an event like this that occurs at not such an optimal time.

RICH:       What do you think would be necessary, in terms of resources for disaster planning, or sort of new protocol, for you to feel, you know, not so worried that something like that would overtax the capacities?

MACKEY:     You know, in practical terms, there really isn't anything, because no hospital in the world can afford to

maintain the kind of staff onsite to -- that will take care of any eventuality. I mean, if something happens at two on a Sunday or two o'clock on a Monday morning, you're just not going to have the kind of resources you had. So I think it's a -- it's a question of how quickly can you mobilize those resources and get them onsite. How quickly can you communicate the gravity of the situation, and get people in here safely, so that they can take care of patients quickly. You know, there is not a way that we could have those people here, ready to go. There's just no practical way of doing that. You know, we were -- as I said, we had double the ER and OR staff on that Monday. But at two o'clock on a Monday morning, we've only got two OR teams ready to go. And you know, if there's any emergency case going on up there, we only have one OR team ready to go. And so, the question is how quickly can we mobilize the resources necessary. Everybody knows what to do once they get here, but it's a question of how quickly can you get them here.

RICH: And do you think there are further things that could be done to improve that mobilization time, or is it really a case of, you know [35:00] -- there's sort of a hard limit on these things?

MACKEY: You know, I think if you had one -- it's impractical

for a mass casualty event -- but if you had one trauma center in a city that was staffed just for trauma, that was staffed round the clock, ready for anything, that could, you know, accommodate a half dozen, ten patients at once, and had all the ORs and staff ready, that would be good. But I don't know how you do that for 50 patients, or 100 patients. I mean, I think right now -- we're a relatively small hospital. But the larger trauma centers here in town probably can do that. We would -- it would be tough for us to mobilize that amount of resources on that short a time frame, but I think we would do it well enough. But I don't think any hospital could accommodate, you know -- any single hospital could accommodate an event on this scale. I mean, there were 270-some injuries? And there's just no way one institution could staff for that. So I think it's always going to be a question of getting people mobilized as quickly as possible, getting the word out as accurately, rapidly, and forcefully as you can, that we need you, now. And everybody knowing what their role is -- anesthesia, nursing, surgery, surgical subspecialties -- getting as many people in here as quickly as you can. And you know, I think we've come a long way with that, with automated beeper messaging, where we can cluster messages to whole groups of people, automatic cell phone messaging, things

like that. We haven't had to try it yet, but I'm sure eventually we will.

RICH: Has there been a focus on the communication procedures and structures between different medical centers in the area?

MACKEY: I really can't speak to that. I don't know. Rob Osgood is our disaster management official, and he probably knows much more about that than I do.

RICH: Do you feel like this event, the Boston Marathon bombing, really provided an impetus for increased focus on disaster planning?

MACKEY: Oh, absolutely. I mean, it's all so abstract and hypothetical, until something like this happens. And I really -- you know, we've been through drills. We've been through events of -- where we thought we were stressed, where the system was stressed. But there's nothing like going through the real thing to show you where your strengths and weaknesses are, and what you can do better next time. I really do think it was a huge impetus for our institution to get better at this. You know, as I said, we were incredibly lucky, and we had very good outcomes. And it actually couldn't have gone better, in many ways. It couldn't have gone better, period, I'd have to say. But it was -- a lot of it was just serendipity, because of the

timing.

RICH: What are some specific lessons that you feel you learned from that day that have been applied?

MACKEY: Well, I think that communications is absolutely key. And you can't just have people willy-nilly, you know, calling up the operating room, saying I need this, I need this, we need this. You've got to have a very clear line of communication. You've got to have somebody in charge in the emergency room, who knows what's going on with the most critically ill patients, who can communicate quickly with your operating rooms (coughs) -- excuse me -- and say, you know, I need these resources now. I need three ORs, one equipped for a thoracotomy, one equipped for orthopedic, and one equipped for neurosurgery, and I need them now. Then the person up in the OR has an easy job, and then they can get those -- everything set up (coughs) and can say, you know, OK, send the patients up. We'll be ready in ten minutes. Or, you know, we're ready now, or whatever. (coughs) But if you've got five different people calling and asking for this, that, and the other, it's just chaos. So you really need crisp, clear communications with -- through as few people as possible. And ideally, you need one person in the emergency room who knows what the needs of the group are down there, and one person in the OR who

knows what the resources are available. (coughs) So that's something we learned loud and clear. [40:00] I think in terms of the initial triage, (coughs) you know, that's really well established. There are triage protocols out there. And a good, experienced, senior trauma surgeon or emergency room physician is trained to triage patients according to acuity, and should be able to handle that, you know -- moving patients with potentially life-threatening injuries in one direction, those with clearly non-life-threatening injuries in another direction. And then obviously those two groups follow different pathways beyond that, but the initial decision as to, look, this patient's got a potentially life-threatening injury; this needs to go now and be assessed now. This patient's not so acute; will be assessed, but does not need to be assessed this moment. And the resources required to take care of those two different groups of patients are very different. The number of physicians, nurses, technicians. (coughs) So I think we're -- that's all pretty well established, how that works out. But what's -- I think -- difficult, is once there's -- all of this is going on at once, making sure that the resources are available when they're needed to take care of those most critically ill patients. And that really involves careful communication.

RICH: So, with the 2014 Boston Marathon happening last month, was that an occasion for revisiting or reflecting on any of these things? What was that like for the medical center?

MACKEY: Very definitely, and I think there was a lot of reflecting, and -- some of it kind of emotional, some of it kind of practical and process-oriented, in terms of, you know, what will we do this year differently than we did last year, if something else should happen? Interestingly, we were very busy this Marathon, this -- the 2014 Marathon. But obviously it was totally different. It was chest pain, and dehydration, and heat stroke, and the kinds of things that we ordinarily see. I actually think we were the busiest of the Boston hospitals, in terms of admissions related to the Marathon this year. But none of them were traumatic injuries. So I think we were well prepared. We had extra OR kits available. We stocked up on orthopedic supplies, all that. Fortunately, none of it was needed. But I also think people just breathed a big sigh of relief at the end of the day on this past Marathon Monday, the 2014 Marathon Monday, because, you know, it was sort of business as usual. Nothing, nothing tragic. The usual kind of traffic that we would get. Some pretty sick patients, surely, but not from, you know, a bomb blast.

RICH: Were there any additional thoughts or stories that you wanted to share and make sure that we touched on?

MACKEY: There is one thing that I think needs to be said. And I think they're saying this at every hospital. And I think I was more proud of the people here -- in terms of the nurses, the anesthesia staff, the emergency medicine staff, the surgical staff -- than I've ever been, because they were totally selfless. I mean, there were people who had lots of commitments, lots of other things going on, who simply dropped whatever they were doing to show up and take care of these patients. And it didn't matter if the cases ran into eight, nine, ten o'clock at night. It didn't matter what. There was -- no one was griping that they were working overtime. Nobody was, nobody was concerned about anything but providing the best possible care for the patients. I was very proud of the response of all the members of the health care team here. I think we came together and realized, OK, you know, we can do this. We can handle this. We're a relatively new trauma center. We had never faced anything like this before. And I think at the end of it, we had to say, look, you know, let's pat ourselves on the back a little bit. This was good. We did well. We had no deaths. We had no major amputations. We had mostly good, functional outcomes. I mean, there are

patients that are still getting rehabilitated, and so on.  
But I think it was a -- something -- it was a cause for us  
[45:00] to sit back and say, you know, since we started our  
trauma program here, we've come a very long way. So that  
to me was satisfying, rewarding. And again, I was very  
proud of the institutional response.

RICH: Great. Well, thank you very much.

MACKEY: OK, well thank you.

END OF AUDIO FILE