Interview with Dr. Christopher Hicks

UTMJ Interview Team

Dr. Christopher Hicks

Christopher Hicks, MD, FRCPC, MEd, is an emergency physician and trauma team leader at St. Michael's Hospital. He is a Clinician-Educator in the Department of Medicine at the University of Toronto as well as an Education Research Scientist at the Li Ka Shing Knowledge Institute of St. Michael's Hospital. His research foci include resuscitation performance, psychological skills training, design ergonomics, and knowledge translation.

Dr. Hicks is the former Assistant Program Director for the FRCPC Emergency Residency Program at the University of Toronto from 2013 to 2016. Currently, he is the Director the Simulation and Health Sciences for the Emergency Department Fellowship Program, which was inaugurated in 2016 and aims to integrate resuscitation science with simulation scholarship. Dr. Hicks has received numerous rewards pertaining to medical education including the Faculty of Medicine Award for Excellence in Postgraduate Medical Education and Development/Innovation in Postgraduate Education.

UTMJ: We caught up with Chris Hicks while on a call for TTL. You are currently on call as a trauma team leader (TTL). How many steps away from the trauma bay would you say you are right now?

CH: We are probably 200 steps away from the centre of the action.

UTMJ: When you are on trauma call, where do you normally hang out?

CH: Normally just in the office. I try to double up trauma days as office days. I try to plan a bunch of meetings and cross my fingers and hope that nothing crazy comes in. Most of the activity on trauma is later in the day or at night; it seems that the burden most commonly occurs at nights. In the summer, it is kind of all over the place: you can be busy throughout the day, and in the winter months, the so-called "trauma off-season," you can usually expect to have some time during the day. That makes it a nice change of pace from emergency medicine (EM), you can have a trauma day, which is a definite change of pace with spikes of critical care, interspersed between the day that really functions more like an office day.

The pace of EM is kind of "next patient – next patient," or always something different, whereas you can see that for the case we just had, there is more time to spend with the patient, sometimes a couple of hours with a single patient, and even sometimes from even a patient care point of view it is a nice change of pace, where you don't always feel like you need to move onto the next thing right away.

UTMJ: We use the term TTL here in Canada to describe anyone who really manages a trauma and is in that role specifically, but it doesn't have to be gen surg or emerg.

CH: The majority would be from a surgical discipline, usually general surgery or emerg, but I think it is one the nice things that I think the Canadian system by in large has embraced that the TTL role is more of a skill set than a specific discipline. So, if you're skilled at resuscitation and if you are good at leading a team, regardless if you are in a certain discipline, you will be fine as a TTL. You need a little bit of extra knowledge in trauma systems and organ specific injury above and beyond what you might get from a straight EM or surg residency, but not a lot more. It really is those two things: core resuscitation skills and core team leadership skills that put you in a good position for this.

UTMJ: So, going back a little bit further to your background in EM, to your training and ultimately how you got into trauma, could you talk about your specific path?

CH: I spent a lot of time around trauma physicians and I felt that these were my kind of people and I want to know more about what they did. So, like a lot of people, I picked up some trauma shifts and started doing more trauma in my spare time, particularly during my Masters. I think it really set in going even further back in the EM residency you do two months of general surgery as part of your core rotation in the trauma service and I did mine at Sunnybrook in 2005. It was the summer of the gun – that was the summer of a huge spike of gun violence in the city – so that was bad for the city of Toronto, but it was a crazy summer to be on the trauma service. And I think you walk away from a couple of months like that, which were hands down the busiest of my residency, either feeling like that was horrible and you don't want to do it again, or that was interesting and you want to do more of this – and I was in the second category.

I think there were always debates about whether trauma is a surgical disease or not and I don't think that is really a relevant discussion. I think that both the surgical and non-surgical elements of trauma

care appeal to the mindset of a person who might be interested in trauma care whether or not they are EM or surgery. In other words, the types of decisions you make, the way you are problem focused in your management, the pace and the acuity of what you are dealing with, those sorts of decisions I think appeal to surgeons to the same extent that they do to emergency physicians. As you point out, there is an anesthesiologist who is also a TTL, and we have a couple of orthopedic surgeons that do TTL work as well, so it really is quite varied in terms of discipline.

But how I got into it is I shadowed and picked up extra shifts during my Masters on the side and it was relatively informal at that time. You just wanted to make sure that you got recognized as someone who got interested in trauma and was capable, and so when it came time to get a job, I got my EM job sorted out first and that was here. Once that was sorted, out I went and spoke with Avery Nathens, who is the trauma director here, and applied for a TTL job.

UTMJ: For someone looking to get into trauma, what advice would you give them on getting into a similar position?

CH: Well, again, it's more of a skillset than a job, so if you are looking at a job in acute care medicine of any kind, with a focus on resus, conceivably this is an area that you might explore as a point of interest, just as a specific area of resus within acute care medicine. You can get to that from multiple streams. Give up the discussion of whether trauma is a surgical disease or not because there are lots of people and different ways to get involved in trauma care, it is such a team sport, that you don't have to pick any one discipline and be married to it in order to do trauma care.

It is worth noting that if you are thinking about trauma, then geography is very much destiny. If you want to be a trauma surgeon or a TTL, or whatever it happens to be, you are married to an academic trauma centre that is more or less the only place you can work for the time being. That doesn't mean you can't treat trauma patients elsewhere, but if you want to do trauma specific care, or work within a trauma system in particular, if you see yourself not working in a downtown trauma hospital, then it is probably not something for you.

And there are routes to it within surgery and EM, and others that involve formal fellowship training. The EM program here has one, but they are all fellowships in the true sense of the word in that you finish your residency and then do your fellowship. So, if you are a student or just starting residency then there is a lot of time to still figure that out.

If you really want to be involved in trauma systems care, if you want to be in a trauma systems manager or head up a trauma program or get involved in research or admin within a trauma program, those fellowships are more or less required. But again, I didn't do the U of T trauma fellowship. I probably would have if it didn't add a year to my training, but at the time it wasn't exactly for me.

I think for the people who are considering a 2+1 (family medicine route), for many of them who want to get into trauma, they do end up doing a trauma fellowship. We have had several come through our program who have completed their two years of family medicine: one year of EM and tack on a year of trauma on top of that. So it is not as if going through the family medicine excludes you from doing trauma; in fact, a few of our TTLs here went through this program.

UTMJ: What proportion of your shifts are trauma vs EM?

CH: I do on average 12 shifts of EM a month and two 24-hour TTL calls in a month. I would probably do more, but it is hard to fit those around everything else. You do have to be in house during the day more or less and in the evenings when you go home, you can do the call from home, but you have to have a response time that is fairly quick, which means that you are at or near the hospital for 24 hours, and usually the evenings are busy. If you get a trauma activation as a TTL, it's not like you can stay at home and have your resident handle it – you have to go in and deal with it. So that makes it hard to manage some things. I would say for most of us, I am pretty typical. I would say there are a couple of EM docs that would do 3 or 4 trauma days in a month, but what I do is pretty standard.

UTMJ: You mentioned that during your Master of Education (MEd), you did a lot of your trauma work. Can you discuss the role of that Masters on your academic work now?

CH: For me, there was an area in health professions education, specifically simulation-based training, that I needed more of a background in to carry out as an area of subspecialty focus. So, it made a lot of sense to dive into a Masters as opposed to some other less formal training program. I was also really interested in the academic side of things such as doing research, so the MEd provides you with a more of theoretical background to do that. Specifically, the work that I began to engage in back then was more related to EM than it was to trauma, but I was very interested in this issue of how teams function and how the so-called non-technical skills play out in a team context. I started off doing that for EM but very quickly realized that trauma is a natural area where we can work on developing those skills. Trauma teams, as you know, are a composite of 10 or 12 people from varied professions and varied backgrounds that have to come together ad hoc to work together for the first time, often with a very sick patient. And the focus of the MEd work I was doing with simulation was to figure out 1) why we don't train those teams because team skills are not innate and need to be trained like anything else and 2) how best to do so.

So, the focus of my Masters work was really a curriculum development project looking at crisis resource management for teams. How that carried out was that it kind of laid the groundwork for the first

five years or so as a program of research as a clinician-educator. It is a nice opportunity doing a Masters to get a research program, such as it is, started, so that when you are out there looking for a job, you have a little bit of a track record so that you can say to a future chief that you might want to work for that "this is what I have done so far, and this is what I want to continue do for the next five years." So, for my clinician-educator profile, I had started the sort of needs assessment and design portion of a curriculum for crisis resource management and piloted one as part of my Masters research project and then that work kind of snowballed into the next five years or so thinking beyond that and thinking what else beyond team skills is necessary to make teams function. And that gets into some our work around psych skills training and systems design and resus and ergonomics and such.

UTMJ: You have developed a global presence in human factors type of work in medicine. We are curious to know which came first, the human factors interest, or EM.

CH: The EM interest came first. I thought when you came out of medical school, you just knew everything and just became a doctor. I believed you studied and had a bunch of knowledge in your head and the elements of decision making and acuity and stress, I didn't really appreciate that those [human factors] were issues to be honest with you. So, I liked emerg and I thought it was interesting, and then I got into it and really started to appreciate the ambiguity and the complexities and the nuances of decision making and also all of those other factors around working in an interprofessional environment, working under extreme time pressures, making decisions under stress, and in situations that are ambiguous and so on. It was actually my faculty mentor, who turned out to be my research mentor who now runs up the Auckland Helicopter Emergency Medical Service (HEMS) program, Chris Denny. We sat down and I was looking for a resident research project, as a PGY1 or 2, in crisis resource management, which wasn't really being done in EM, but he was interested in the prehospital and helicopter environment, and he thought it was really important that we start to explore why and how our teams function or how they don't function. That really resonated with me. as my experience had been just that, when things fall apart in a resus, it rarely seemed to be because people didn't understand the medicine. It was all the other stuff: it was noise, it was crowd control, it was distractions, it was stress – it was all of those things. And so, I think the EM piece had to come first, because I had realized up to that point because I hadn't realized how influential all that stuff is on our practice, and as mentioned before, how little information we pay to that formally. I think people will say, "yeah emerg is stressful," but what I usually say is, "yes it is, but no we shouldn't necessarily allow that to influence our practice the way that it does, and are there ways to mitigate that especially with the goal to improve patient safety and decrease medical error."

UTMJ: You mentioned your mentor, who is with Auckland HEMS now, probably developed an interest in some of these topics due to his work with aviation.

CH: Yes, certainly. He was actually in the final 14 for the Canadian astronaut selection.

UTMJ: I suppose the question is, if we are looking to fields that have looked to these techniques for quite some time, what are some ways we are learning from these fields or should be and where do we need to go in medicine?

CH: Any high-risk industry other than healthcare has this figured out better than we do. I think part of the problem is that healthcare isn't just an industry that was "created" like you might create the tech industry, or the police force, but healthcare just evolved and developed slowly over time. And all of the weirdness or the nuance or the art of medicine intersects with our practice environment in a way that I think we have come to believe that the way our system is and the way we respond to our system is just the way it is and there is nothing that can be done about that. I think if you look to other industries that have come across that problem – take aviation for comparison – even though that comparison has been beat to death, they took a really thoughtful look at their accident rate maybe 50-60 years ago and asked what is really contributing to this. Their surprise wasn't just that engines were falling off their airplanes but this whole notion of pilot and human error. Given that that is a problem, how do we make a system-wide change in the industry to account for that and improve on that?

I think we are still at the first stage in healthcare in that we can all, in a very general way, identify that human factors are a major contributor to safety and error. But because of culture, tradition, hubris, cost, and a sense of being entrenched in our ways, we haven't really taken the next step: what psychological skills does an individual need in order to function? How do you make a team able to function better in real time? And from a systems point of view, many people, myself included, believe that you almost have to build the system again from the ground up with the people who do the work in the center of the equation and the systems designs to accommodate both the equipment and setup and process. So much of what we do is just the people in the system struggling to make the system work for them, and it really should be the other way around. Again, other industries that probably have a bit more money and a bit more flexibility have taken those steps. I think we are still a few decades unfortunately away from making those challenges in healthcare, but people are starting to wake up to the idea. And I don't think that change is going to happen overnight, I think it is going to be slow to develop.

UTMJ: As a medical student, we don't really get much training on how to perform optimally ourselves, beyond certain forms of communication. I was wondering if you knew

how we are beginning to incorporate human factors into medical education and psychological skills training.

CH: I think there are two things that are worth trying to appreciate as a student, because you are still a few steps away from trying to function as a team leader. Figure out how to be an effective team member, and figure out your own response to a stressful situation. I think those are the two things you must have under your control at a very early stage in your training, even if you don't have all of the experiential learning and content knowledge that would necessarily make you an expert. So to those two points, from the perspective of stress and psych skills, the very first and simplest thing to do is to try and understand how your acute stress response affects how you feel and how you respond, what you do in a situation, and the next time you go into a resuscitation and you are feeling the heat a little bit, take an appraisal of that. Take appraisal of the noise of the room, your level of anxiety, your heart rate, and then there are lots of resources that we can link in the article, but there are resources that you can turn to and help say why that response happens, how in certain circumstances that can help you, and how in many ways too much of a good thing can push you over the point where I think a lot of medical students can probably recognize that feeling of being overwhelmed and flooded. That first simple step is probably the most important, because I think the steps that come after that are a little bit more complicated, but then start to relate to how you get a hold of that and ring it in so you aren't flying off the handle in the first place.

For team membership, I think the two simplest things that consistently fall out in terms of important things for team members to identify and do well are to 1) understand and 2) communicate. I know that's a pretty broad thing, but being able to communicate in a way that is both effective and assertive and challenging when necessary, without inciting conflict, is awfully hard to raise concern to an attending when you feel that you are just a medical student. You don't feel that you have the verbiage to do that. But understand how to be respectful, yet assertively communicative, in a critical event when it matters.

Understanding your role is the second one. I think students in particular walk into a resus and go, "what am I supposed to do?" with some sort of self-defeatist attitude saying, "I'm just the student." But if you are insightful enough to recognize it, a lot of the things you can do to help in, sometimes the best thing to do a really chaotic situation is to approach a team leader, whether that's a doc or a nurse or somebody else, and say, "I'm a medical student. How can I help?" Invariably, someone is going to give you a role to do or just say give us a moment. But as soon as you have a role, you can much better understand the steps that are to follow from there.

UTMJ: When we say the word trauma team leader, or emerg doc, it conjures this vision of heavy lifestyle and training, maybe weighing on personal life. What are some things you really enjoy about your job, and maybe something that you dislike about this work as well?

CH: There is lot of levity that goes along with working on a team. You get better at it as you move along, but today for example, the case that we had, you just walk into the room and have conversations with other team members, and honestly not just blowing smoke, but just honestly saying, "Hey, what do you think of that guys belly, and what do you think about their airway assessment?" and so on. The comradery and discussion with the team I enjoy, and I find the pace of trauma care not being quite as crazy as emerg really allows for that. I like that, and you would be crazy to work in trauma if you didn't enjoy working with teams and other people. And so that is the part that I think I really enjoy the most.

It's funny, you know, people will always say as a student that you have to pick between shift work and being on call, and I was always fine with shift work. I didn't really want to be on call the rest of my life, but then I went and found a job that puts me on call, so the downsides of being on call, it's not always fun to get a call at 3 in the morning and know that you have to get up each and every time, it's a bit of a drag.

The downsides that are obvious are being up late at night and wrecking your next day. It's all a matter of extent – two or three trauma days a month – but ask me that again when I'm 60. But I'm stating the obvious: it's never fun to be up in the middle of the night and back the next day.

Going back though for a second to teams, I feel that we've got it sorted out here. This might be St. Mike's specifically, but some of those battles between services about who owns trauma care, we've somewhat sorted them out. We have a great relationship between the EM group and surgical group that is really professional and respectful, and I think we understand where our skillset ends and theirs begins and vice versa. But again, that may be a little bit St. Mike's specific, but it's part of the nice things of working her is there is a really nice relationship between services, so if I was to call up one of the trauma surgeons and say, "This guy has been in a motor vehicle accident but has a positive FAST and seems kind of unstable. This is what we're doing in terms of resus and I feel that they need the OR instead of going to CT," most of the time the surgeon you call would say, "sure, we'll get the OR ready and let's make it happen." There is a trust and a level of professional respect that goes both ways that makes that team environment really pleasant to work in most of the time.

UTMJ: The idea of burnout and physician well-being has been at the centre of focus for the last few years at least and probably more than that. What are your thoughts on burnout rates in your line of work? Also, does the concept of flow exist in your work, and how does getting into flow states impact physician well-being in general?

CH: I think the notion of burnout in relation to EM is probably overstated. I think that is probably because there is this recognition that if all you were to do was EM 24/7 for the rest of your life, you would probably burnout. But if you look at the practice of most Royal College trained EM physicians, their practice isn't really one thing. They do some emerg and something else: perhaps its trauma, then they do some academic and research stuff – for me that's medical education. Every week, it looks a little bit different. You can do three days in a row of EM and never want to go back there again, but you don't have to because you do something else for a few days. And when you get sick of trying to write stuff and do research then you do something else, so I find that the ability to move between different roles really keeps things fresh for me. I'm only 10 years in, but I don't feel like burnout is a major issue for me. I think if you asked, most people would tell you that the stress they feel and that feeling of burnout comes not as much from the job and the patients as from the constrains of the system on practice. Most of us on any given shift would feel stressed about the fact that we are bed-blocked, or that we have no room for new patients, or that it's taking a long time to get patients in and assessed, which makes everyone kind of grumpy and makes patients upset. So, there are a lot of system-based issues that I think most physicians would say is what really makes the job stressful. Interestingly enough, it's not the critically-ill patients or the sick patients or the patients who die that most of us really carry with us at the end of a shift, but it's the feeling that you as a system of care could be doing better. Sometimes, fighting against that can get tiring and taxing.

For flow, I think it's really important. As he was exploring joy and happiness, Mihaly Csikszentmihalyi recognized these autotelic features of what people do and that the joy of doing something is in the thing itself. In other words, you have to derive some joy or pleasure out of the thing you are doing as opposed to just making it a means to an end in order for it to make you truly happy. So, if you really like money, then going to work as a doctor to make money is one thing, but if it's that's only reason you're practicing medicine, then you're probably not going to be very happy at work. So, you need to derive that interest and excitement and happiness out of work. The concept of flow, as we have touched on this before, would have identified this as having gotten there by accident, as if things are really clicking and you and your team are operating at an enhanced level. One of my interests is how to make that a more deliberate process so you can accelerate that performance, that interest, that joy, that high you get from it to more everyday things you do when you work. For me, there was a lot of overlap between this concept of that and deliberate practice and pushing and challenging yourself to do more or be better – the so-called 4% rule. If you are at work and if you take your job as you finished residency, you are now an attending, you are now a consultant, and now you can just go out and let your skills slowly drop off over years and decades. You will continue to be a competent EM physician for a very long time, but I don't know if you are going to be all that happy with what you do though. The notion of deliberate practice is to have this awareness and insight that you want to identify the things you want to get better at and not just work on them, but do so with specific goals in mind, pushing your borders beyond that 4% comfort zone and getting specific feedback so that you can improve. Whether that is a process of self-assessment or feedback from a colleague or something, you are constantly engaging in work that is pushing you to get a little bit better here and there. For me that's been where – this is probably a change in the past five years – where you start to feel pretty comfortable with your skillset, but that comfort is sort of your enemy as well, because that comfort can lead to a bit of stagnation.

For me, that idea of getting into a flow state is finding something in every shift.

I've said before that in EM you have to enjoy solving problems, whatever those problems are. I can't say that each day I'm going into a shift and going to say I'm going to practice my central line skills, because you can't always do that, or that I want to get better at whatever. But sometimes it can be okay. I have 5 patients: how can I order them so that I can see all five in the most efficient manner, and take some joy and excitement out of making that happen? I don't know something, some disposition conundrum that doesn't have a solution that you have to come up with a solution and make it better than the next one. There are all sorts of small micro challenges that you are just aware enough to pay attention to them. You suddenly realize that you are taking a lot of joy out of executing them day-to-day and in the process you are making yourself better, and so that's how I've chosen to view it. Stepping into an acute event, I actually don't find that hard now, because you are always up and activated and engaged and all those things are needed to get into "flow" deliberately. But it's the day to day stuff – every profession, not just EM, has its grind – and particularly once you are 5 to 10 years in, a lot of it becomes a bit of a grind and becomes routine. The question is how do you take that routine every day stuff and still take some joy and make yourself better.

UTMJ: Beyond the front of EM doc, trauma doc, EMCrit blogger, and researcher, can you talk a bit about your personal life?

CH: When time permits, I am trying to get better at these things. I have three boys: they are all under 10, so they are quite a handful, but making time for them is incredibly important. Putting your phone down, putting your email down, spending time – deliberate, intentional time – as opposed to when you can make it available, is incredibly important to me. So, I try to make that a priority, although it's not always as easy as it sounds.