

Interview with Dr. John Kingdom

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Dr. John Kingdom is a Staff Obstetrician in the Maternal-Fetal Medicine (MFM) Division at Mount Sinai Hospital, and is a Professor of Obstetrics and Gynaecology, Medical Imaging and Pathology at the University of Toronto. He is a clinician-scientist, conducting research on placental development and pathology at Mount Sinai's Samuel Lunenfeld Research Institute. In 1999, Dr. Kingdom and his longtime friend and colleague, Dr. Rory Windrim, established the Placenta Clinic – the first facility in the world to unite scientists, clinicians, and pathologists dedicated to the process of screening, diagnosis and treatment of the full range of placental diseases in a single clinic.

Dr. Kingdom attended medical school at Trinity College Dublin, and completed residency training at the University of Glasgow in both Pediatrics and Obstetrics and Gynaecology. During his residency training, he completed a two-year Masters degree in placental vascular biology, prior to undertaking fellowship training in MFM at University College Hospital (UCH) in London.

UTMJ: To begin, can you tell us about your background?

JK: I'm of British descent and went to live in Ireland when I was nine. When I was a teenager, I thought I wanted to be an airline pilot and later wanted to be a dentist, but I suddenly realized that dentistry was just really one branch of medicine. A friend of my dad was a local community Ob/Gyn and my friend, myself, and our two dads played golf together. One day my friend's father said to me, "Dentistry is one branch of medicine, and you're going to be very narrow in that approach. Why don't you go into a joint degree where you can choose after first year if you want to do medicine or dentistry?" I immediately latched onto that. I went into a six-year degree in Dublin, because we were living in Ireland, and that's how I basically came into getting a medical degree.

Within a year of being in medical school I kind of realized what I wanted to do, so that happened really early on. Then I actually chose to go to a very busy maternity hospital for three months in Dublin, the Rotunda, which opened its doors to the public in 1743, funded by a Theater directly attached to it. Both function to this day; [it is] a very inspiring atmosphere, with over 8,000 births annually. I followed that up with three months in a high-risk pregnancy

unit in Glasgow, Scotland, one of the few UK institutions at the time that was attached to a big pediatric hospital, thereby fostering the emerging MFM subspecialty. So, I got six months of continuous Ob/Gyn and high-risk pregnancy during the equivalent of third and fourth year in a Canadian medical school. I did my rotating internship in Dublin and then went back to Glasgow, but, as I couldn't directly enter residency training, and the UK had a requirement to do at least one additional year of something else, I chose paediatrics in the paediatric hospital connected to the high-risk Ob/Gyn hospital. After a year, I took the opportunity to do an extra year and got my boards in Paediatrics because I knew that fellowships in MFM were few and far between in the UK. I stayed that extra year, got my boards in Paediatrics, and then went back and did the equivalent of a PGY-2-4 residency in Ob/Gyn until age 29.

I hadn't attended a research focused medical school, but along the way in my resident years, despite the one in three calls, I managed to publish a few research papers, "lucking-out" in the BMJ with an article evaluating the first rapid hCG test in an ER setting to identify ectopic pregnancies. Through a study group for my Paediatric boards, I made friends with an internal medicine resident who was researching the regulation of blood vessel tone in adult hypertension. I just tagged onto that using the placenta and the next thing I knew, I was filing an application with the Medical Research Council (MRC; the equivalent of CIHR) for a fellowship award. Low and behold, I got a three-year award, and so I stepped out of my Ob/Gyn residency after three years, and I just did two years and a Masters degree rather than a three-year PhD, and then I finished the rest of my clinical training as an academic Chief Resident (spread over two years). I managed to get a couple of grants, but then I had a difficult choice; I had to try and get a fellowship somewhere in MFM, but none existed, other than Glasgow and London. Anyhow, I ended up moving, with two small kids, to central London and UCH. It kind of interrupted my research career, but I was doing some of my research in a German anatomy department, of all places, so it didn't make that much difference in the short-term.

When I got through that fellowship, I got a junior

staff position in MFM at UCH. Within a year though, I realized it wasn't the right fit for me – I should have confronted the reality that it could not accommodate my research interests – and so I looked around the UK for other strong academic centres to work in. I went for a “pre-interview” in Cambridge, only to be told they did not like my research interest. So, I cast my mind further afield, re-connecting with the former Toronto Ob/Gyn Chief and Chairman, Dr. Knox Ritchie, via one of my senior fellows in MFM from UCH, who was working in high-risk pregnancy at Mount Sinai. Dr. Ritchie was a legendary recruiter; he had a clinician scientist post that had been lying vacant for over a year, and the art of gentle persuasion. That is how I came to be here in the Spring of 1998.

UTMJ: Once you came to Toronto, how would you say the clinical and research environments at Mount Sinai and elsewhere in Toronto compared with what you had experienced in Europe?

JK: It's much better, especially the integration. The clinical and research environment is way more positive. For example, there's nothing like working in a hospital that actually wants your program to be successful. At Mount Sinai, Women and Infant's Health is a top priority program; the hospital, the board, and the fundraising foundation are really all behind that. Suddenly, I could walk up a flight of stairs from the labour floor and I was in a Samuel Lunenfeld Research Institute lab, so it was amazing. I had really high-end molecular biology and all the things I wanted at my fingertips, literally one minute from the labour floor.

It also was much busier. We had about 6.5-7 000 deliveries each year. A lot of community hospitals now have that volume around the GTA, but about half of our patients are very complicated, many of whom are pregnant inpatient transfers from all over Ontario and beyond. That case mix and volume was large enough and gave us enough access to patients, placentas, and other material needed to really drive research. Also, the Ob/Gyn Department is big enough (it may be the largest worldwide now), that it has its own basic scientists with primary Ob/Gyn appointments. Our medical school main campus is literally next door and the University Avenue downtown corridor is studded with truly world class research groups. That is why today, in 2012, we have the most talented people coming from literally all over the world to do clinical and research fellowships, in every facet of medicine. The secret is out of the bag now (it wasn't 15 years ago) - Toronto is truly one of the best places for post-graduate training in the world.

UTMJ: What are your current positions at this point?

JK: Right now I'm a staff OB with my own practice, and I work in the MFM Division providing 24/7 services. I'm an Obstetrics and Gynecology Professor at the University, and I'm cross-appointed with Medical Imaging and Pathology. I ran the Maternal-Fetal Medicine fellowship program for ten years, and then I gave that up and have more recently taken on two different roles. One is as Head of the Promotions Committee, so basically I encourage people to apply for promotions (from Assistant to Associate professor and from Associate to full Professor in the department). I'm in my second year of doing that. The other thing I'm really into is mentorship involving stress resolution and career advice. I like doing that. Apart from my own research program, I was thinking of things to do to help other people.

UTMJ: What motivations underpinned your decision to pursue a career as a clinician-scientist, as opposed to working strictly as one or the other?

JK: Pure scientists in our field can and often do succeed and do very well, but those who have good clinical connections will succeed best and derive the most enjoyment, in my opinion. I think to be in a position to be a clinician and a scientist is a very enviable place to be – however, both sides will judge you harshly, you just have to be able to “cut the mustard” in both camps. What motivated me was really the fact that there were many big unsolved problems in our field. I could simply deliver babies and do regular operations, but then nothing would change and I always felt that I wanted to make a difference. For example, stillbirth, hypertension in pregnancy, poor baby growth, pre-term labor and ruptured membranes are the “biggies” in our Ob/Gyn field today – these are all disorders of placental development. People are on average at least ten years older having babies. Women placing themselves in the reproductive arena today are therefore aging, and so more and more we're practicing adult medicine and surgery in women who are pregnant, as opposed to just looking after (healthy) women who are merely pregnant. The field has therefore changed radically. We've got new exciting technologies in genetics, epigenetics, and imaging, and all kinds of ways in which we can pursue diagnosis and treatment. Sadly, the important tools for prevention (when to get pregnant, lifestyle, weight) are not in the domains of the Ob/Gyn.

The motivation for me was trying to combine my intellectual curiosity with having a career that was ac-

ademically challenging, while also having the clinical side to be able to make a difference to people quickly so that they might appreciate it – for example a stat C-section for abruption. A busy day in labour really does make that difference. You can work and do a shift on call and really know that you've saved a baby's life. It is a satisfying career, but wouldn't have been satisfying enough without finding a way to focus and make a strategic difference.

UTMJ: You mentioned that after about a year of medical school you knew that this was the direction that you wanted to take your medical career.

JK: Yes, I did. I was a pretty strong medical student. I got prizes on the way, for example my Professor of Medicine's graduation prize paid my wife's medical student department for her airfare to India! I got a year's subscription to the NEJM as well – nice touch. I got pulled into conversations with teachers saying, "You should really do internal medicine". In my generation, people who were considered the smartest students were pulled into internal medicine rather than surgery or anesthesia. I felt that what I could do for medicine was in obstetrics, but would have felt bored if I wasn't physically doing something with people. I never wanted to do big ambitious operations, and often felt these operations might not be worth doing in the first place, but I do think having some sort of combined medicine and surgery career is quite rewarding and interesting.

I think that one of the huge advantages of our field is that there actually are very few limitations – one limitation that is obvious is that we don't have male patients, but more today than ever before men come and actively participate in their spouse's care. It's a very broad subject; we have to be on our toes surgically and medically, you have to understand pathology, genetics, and imaging. As you pass through our residency program, you can choose to go off in a whole range of different areas, for example, cancer or laparoscopic surgery. There are hardly any limitations in our field at all. So many other residency programs are contracting and getting smaller, because they're being fragmented. For example, radiology is removing surgical options, whereas our field is constantly expanding. Often after one chooses Ob/Gyn, it shuts very few doors in terms of what you can do. Our residents have to have a broad knowledge of medicine, they will learn to be surgeons, and the field that especially challenges us is communication skills. Men are not directly your patients, but they can be the fetus or a partner, so I think it is a good example of a specialty

that is not particularly limiting. For example, you can choose anesthesia and then feel that you miss talking to patients, and you don't have your own patients. In Ob/Gyn, you will have your own practice and you will talk to people a lot. Or, if you choose a different medical specialty you may feel you are not doing enough with your hands, whereas our specialty is very practical. That's just a couple of examples.

Generally speaking, very few people move out of our residency. They might move out for unexpected reasons, family issues, or ill health that compromises their ability to operate, but very few people start in the field and leave it. One of the things that junior trainees tell us a lot is that they enjoy the enthusiasm of our faculty staff. This is a specialty where people are generally happy. We encourage our trainees to have fun and learn a lot, but we do not overburden and we are not psychos over their knowledge depth or about working too hard. It's a nice balance, and I think our trainees quite like it.

UTMJ: You've started to touch on an area that's particularly interesting to me at this point in my career, as a pre-clerk. Some of the doctors I've talked to have advised me to consider the type of people that each field draws. Would you say there is a particular personality type that this field tends to attract?

JK: I would. It draws people who are naturally good communicators. Our faculty/staff communicate well with each other and as a result we have a very strong collegial spirit. The other thing is, by virtue of a specialty where things can suddenly go wrong, people know they have to be able to get on with each other. If you have an argument with someone and then the next day you know you have to jump into the OR with them and help save somebody's life, that's not going to bode very well, so for those kinds of reasons intra-professional relationships are very strong.

The converse of that is that women, particularly in their reproductive years, are very discerning about people's communication skills and they certainly won't tolerate people in the field being poor communicators. I think that's one of the reasons why the field is nice because that in my mind is the strongest characteristic of people in Ob/Gyn. I think they're generally positive because things can go badly wrong, people can get cancer, a baby can die, and bad things can happen, but they don't happen that often and the really bad stuff is often preventable. So, we're not dealing with horrible stuff every day of the week. I could have several conversations in one day with people to say that their baby will die and there's nothing

we can do to stop it from dying, and so every specialty has its darker areas, but in general in our field we can do operations that cure people of their problems. We can do them as day cases, we can do them laparoscopically, and we generally help people to get pregnant and help them to have a baby that is wanted. Of course, our field has many ethical challenges, but in my opinion, these are surmountable if our focus remains on helping people.

UTMJ: What would you say a typical day for you looks like?

JK: I've always felt it's been important to live relatively close to work. In London and Toronto I've taken public transport, so I've actually never driven to work for 18 years. I walk down the street and get on a bus that goes straight down to the hospital and it drops me off at 7:30 AM. I check my iPhone to see who's been delivered – we get electronic notifications at 6:30 AM, and so I can access my email and see who's had a baby, coffee in hand at 7:35!

Next, I'll go up to the post-partum ward, and I'll walk in the door and check on people to make sure they're OK postpartum. I'll come downstairs to the labour floor and see if anybody's in labour and to check for any booked elective C-sections I have to do. Then I'll chat with a few people and finish my coffee. If I'm not on the labour floor that day, I'll go back to the special pregnancy program where perhaps I'll be consulting in fetal medicine or doing ultrasound. I might spend the day in labour and delivery, and I still do a half-day per week of high-risk obstetrics in my own practice as well.

Two of my five days are research days, so when I'm done what I'm doing clinically, then I'll go to the lab and I'll see my staff. I've got three staff – a post-doc, a research associate, and one grad student. I can have a medical student with me as well, and I can have a fellow or resident. I'll make sure they're getting along OK, check on what they're doing and chat about it. We have a weekly lab meeting for an hour. I think, as a clinician-scientist, it's also important to have strong relationships in both directions, so scientifically that's important as well. I am actually part of a larger lab with a full-time scientist, Steve Lye, and we have a joint lab meeting for an hour every Monday, which one or both of us will get to. It's basically a reproductive sciences lab where I'm interested in placental development and pathology, while Steve is focused on premature labour and the new science of “developmental programming”. It's a happy bunch of about 16 people. As a part-time scientist, I think there has to be full-time continuity and awareness of what's going

on in a lab. I think that a more successful clinician-scientist fosters strong clinical partnerships, but they also foster strong full-time science partnerships as well. Steve is that link for me – it's a great two-way relationship, as I encourage our new MSc students to spend the day with me in the placenta clinic, so they get passionate about their work in the lab. They are trying to fix real people's problems.

I basically do the same thing every Monday to Friday. I do different things on different days, but I do the same thing every Monday versus Tuesday, Wednesday, or Thursday, so there's a sort of fixed way of doing things.

UTMJ: Has this relatively fixed schedule been in place since you came to Toronto, or is it a more recent development?

JK: The job I have now moved around a bit in the first two years. In 2000, Toronto General and Mount Sinai merged (thanks to Dr. Ritchie) and then we reformed our group. I've had the same work schedule for the last 12 years. People say, “doesn't that make your job boring?” What makes it interesting is the patients vary, the science varies, but there's a lot of stability there. I've built up a Placenta Clinic, so all day Tuesday I see patients who are mostly pregnant for counseling (sometimes they're not pregnant). They have a variety of placental problems and then those pregnancies and their deliveries feed into our research program. I've had a lot of medical students running that clinic and two medical students who have built the website. I have trainees at all levels – medical students, premedical students, residents, fellows, a post-doc – so there's quite a variety of different trainees involved.

One element of survival in academic medicine is focus. In the last five years I haven't really touched any research subjects much beyond what I see in the Placenta Clinic. I have an interest in obstetrical surgery, so I'll give talks on different aspects and strategies of labour and delivery. I've got a commentary coming out next month on how to do a Cesarean section on a woman who is extremely overweight – that was like a side distraction. I think academics always have little side distraction things to do, but my core business would be clinical and scientific placental development and pathology. Eighty percent of my publications are now in that area.

There's no question that focusing is very important. It's very easy early on to get dragged into too much clinical work. You derive confidence from successful clinical work, but if you don't keep a focus in research

you can lose momentum – and fail to get funded. If you don't get a grasp, then no one is working for you (off your grant) five days a week. In my case, I've got a lab technician and a post-doc working for me full time, so things happen five days a week, not just when I walk through the door. That's very important. It also means the departments have to know how to back and support a clinician-scientist early on. Clinician-scientists cost money, but they bring prestige and reputation to departments because then they create an international reputation. Clinic science is a tough and often lonely job in that sense – the people who appreciate you the most are often not your local clinical colleagues, rather it's the people outside of the country you work in, who recognize your work internationally.

UTMJ: Do you collaborate with other labs in Canada or elsewhere?

JK: Yes, of course. My mentor in my residency years, who sadly died recently, was a German anatomist (he had tried Ob/Gyn for two years, but hated doing one in two calls!). Now my main collaboration is in England in Cambridge. I've recently developed two collaborations in California, in Los Angeles and San Diego, and I've been asked to help with research in China, but I haven't developed that much as of yet. Here in Canada, I think one of the ways you can grow is by visiting other departments and giving talks. I was recently invited to be the visiting professor for Ob/Gyn Research Day in UBC, Vancouver. That allowed me to meet some other people and to network.

I'd say more so within Canada, my collaborations are clinical, i.e. involve placental health screening - trying to push the concept in first-time moms. First-time moms are not really that low-risk. Politically, people think they are, and are often, desperate to push the glowing image of healthy pregnancy, but they truthfully aren't. One in thirty first-time mothers will develop a significant placental problem. I now try and collaborate with people around the country to expand the size of the screening program. The reason for that is because the adverse events we're looking for like stillbirths aren't that common, so you do need to have large screening sample sizes to demonstrate the effectiveness of a screening program. Our collaborations in this area are currently in the US, UK, and Australia, with something developing in China.

One of the ways collaboration happens is that somebody might send a trainee over. For example, a post-doc is coming over here for a year from Australia. We've got a very strong BioBank of material here in Toronto, and that's what spawned collaborations in England and the US.

UTMJ: You mentioned focus was important. How has focus played a role with respect to the breadth of your research, and can you tell us a little bit about what your research entails?

JK: I've got three major projects right now. The first is the genetic control of the formation of the outer layer of the placental villi - that's called the trophoblast layer. These cells are like the stem cells in your skin. They repeatedly divide to create this outer layer that's covered with maternal blood. When that outer layer is functioning normally, then a woman doesn't get hypertension and her baby will grow properly; whereas if it's dysregulated then poor baby growth or maternal hypertension may appear. We understand the genetic pathways that control differentiation but what we don't understand is whether they're genetic or epigenetic causes [of trophoblast dysregulation], and that's the focus of my current CIHR grant.

The second one is in the area of heparin. Heparin seems to prevent these diseases from recurring in people at very high risk, but they don't appear to be due to heparin's anticoagulant actions. Heparin actually prolongs survival in people with cancer, and it has very curious positive effects on blood vessel formation; we know that severe pre-eclampsia is a disorder of hypertension and abnormal blood vessel development. I had a great run last year with four original publications, ending with a review in the journal 'Blood'. Is heparin a placental anticoagulant? This area of research I find exciting because we've been doing very well, and I've just submitted a second CIHR grant in that area. Essentially, I have one senior trainee per grant, so I've got a senior post-doc and a research associate and each one of those will manage those two areas of research.

The third research project is clinical and involves the Placenta Clinic. What I'm passionate about there is placental health screening. We are looking at a woman's clinical characteristics, her blood testing, on ultrasound we look at blood-flow patterns in the uterine arteries and the placental shape and morphology. My view is that if we integrate these four areas in a screening examination that we may be able to detect quite a high proportion of women at risk of stillbirth or extreme pre-term delivery from these conditions. I have a grant for this project called an Innovation Grant, which comes from the UHN Mount Sinai Hospital, so essentially I have a national grant, a provincial grant and a hospital grant.

I've also got a second-year medical student right now who works hard to help me with the website for the clinic. For her second-year project she's asking

the question of whether a patient-directed, patient-focused website on placental problems could help people to rapidly gain more understanding and perhaps reduce anxiety around their care in the clinic. That's an example of a "side project". We have a clinical Placenta Clinic theme, a heparin theme and a morphology and development theme, but there are little branches from those themes, depending on who comes along and what they want to do. But, I do believe it is important to have focus. There are many clinicians who work more superficially in a wide variety of areas – others may have excellent focus in a purely clinical area, for example in "fetal therapy". It takes tremendous discipline to stay focused. It's a little like life-work balance - if you're not focused, things spin out of control.

UTMJ: Is there more than one Placenta Clinic in Toronto, and are they common elsewhere?

JK: They're still quite rare. If you Google "Placenta Clinic", the number one hit is our clinic. Last year, a group from San Diego and one from the UK came to Toronto to see what we do, and they both went back and started clinics. So there's one in Manchester, one in San Diego, and one here, and that is it in the world to my knowledge. A lot of people have a fetal growth/intrauterine growth restriction (IUGR) clinic, but that's too narrow a view of this field in my opinion. The broader Placenta Clinic is a more novel idea. But it's no different, for example, from the mid-1980's when hospitals opened breast cancer centers. Later on, no woman would be happy to see a general surgeon to have her breast lump removed; she would demand care in a disease-focused center like our Marvelle-Kofler breast centre at Sinai.

The way to solve placenta problems is to establish these types of clinics and resource centers and then network them together. I'm hoping, for example, in my placental health study, to try and get the same thing going in Vancouver, Montreal, and Quebec City, so that within a year from now we could actually be doing this screening program in four places. Then we could get to a sample size of say 20 000 or 30 000 to demonstrate if such a screening program would be effective or not.

We don't do anything strictly magic. What we do is take the unfashionable problems and then try and make them better. I'll give you an example in the UK. In the 1880's, a hospital opened called St. Mark's Hospital for the anus and rectum. In the 1800's, if you had a fissure or a fistula, or you had a baby and you burst open your anal sphincter, your life was a

mess. So, even then people committed themselves to very focused medicine with great results. No one sees a general gynecologist for anything other than a basic infertility investigation today, that's what places like our new Sinai Centre for Reproductive Health is all about.

I think the time is right to tackle these problems, and if we don't tackle them, the public will demand that we do. Earlier this year, the Canadian Institute of Health Information (CIHI) showed a high-profile connection that stillbirths are rising in Canada, despite the fact that we're doing more ultrasounds. Why is that? It's because the high-risk profile of at risk pregnancies (older, over-weight, diabetic, required in-vitro fertilization) is relentlessly increasing. Women increasingly are changing partners as they age, and so present a genetically new placenta to the inside of their uterus. That can trigger scenarios like severe hypertension, or the need to consider a C-section at 28 weeks for an IUGR infant that will need three to four months of intensive care – and an uncertain outcome – while the woman may have grown up children from a former relationship.

A wonderful observation, that's particularly true in Toronto, is that people are willing to donate money. Just last week, a couple did my Internet study with a second-year medical student and they were so impressed with the research they said, "I just sold a business. I want to help you. How can I help you?" I said, "If you give me \$10 000, I can hire a medical student for each of the next three summers. I can pay them and they can help me to make this website more sophisticated". The next day, he wrote me an email that said, "I mailed you that cheque for \$10 000". There are people out there who are interested in helping, so funding doesn't always necessarily come from grant money. That clinic is like my hobby. If someone asks me to give a lecture somewhere I say fine, as long as it isn't on a Tuesday because I don't go anywhere on Tuesdays, other than go to that clinic.

UTMJ: You have mentioned some of the more common medical scenarios that you currently see at your clinic. Have you found that these have changed over the course of your career thus far, and, if so, is there anything that's become increasingly more or less common?

JK: There's been huge changes. For a start, when I was a medical student we were given a little booklet to put in our white coat pockets, which was a manual equivalent to Toronto Notes, but in a small format. In 1983, when I was a student, women were "high-risk" when

pregnant if they were un-married (an “Innuptia”) and over 25 years of age with their first pregnancy! Today my low-risk practice has a high proportion of patients who are over 40, and the mean age to deliver your first baby has risen more than ten years, representing one-third of a woman’s period of fertility, during my career so far. Many have used assisted conception. Several potential problems arise from this phenomenon of reproductive aging – especially obesity, and for sure much more stress. Our generation had children in our late 20’s and we “went with the flow” of childbearing, with much less intellectualization of the process. Babies tear apart adult routines. That’s tougher on older adults in many ways. In vitro fertilization techniques increase the risk of twins and for many reasons these are more complicated pregnancies, with common general medical problems like obesity, chronic hypertension, and diabetes. Today women with more challenging medical problems, like renal disease, corrected congenital heart disease, cancer survivors, and even women with successful organ transplants, are attempting pregnancy, where they might not have bothered a generation ago. Obstetrics has thus evolved to become the general medicine and surgery of women who are pregnant.

In some ways it’s wonderful that these people actually may be able to have children, but it’s a potentially explosive environment. In the last two or three years alone, some of my colleagues and I have been verbally abused by angry patients and their families because people have high expectations in high-stakes situations that we cannot control as doctors. The truth is, people don’t reproduce well in their forties – let’s start telling this “like it is” to today’s high-school students. I was profiled in the Toronto Star two months ago because they ran a whole week themed “pregnancy over forty”. They profiled me talking about medical problems and they profiled one of my patients who was 45 years of age. Ten years ago, people were worried about HIV infections in pregnancy, but today it’s all breast and colon cancer. I have not seen anyone with dementia and pregnancy, but for sure today’s newborns as children will either have demented grandparents, or none, as a result of natural death – three-generation families will begin to disappear. Interestingly, the phenomenon of “delayed childbearing” varies greatly by ethnic group in multicultural Toronto. Some groups manage to encourage younger women to have babies, and thus preserve three-generational living. In time, others will see this wisdom, but not yet.

I also think people are living in more economically stressed times. Understandably, they might feel like

there’s less of a margin for error (so they make aggressive prenatal diagnosis choices) and people are much more financially stressed. They’re commuting big distances to work, they have dual incomes, they have taken on a lot of educational/travel debt before joining the work force full-time, and it’s all making pregnancy much more stressful. For example, co-care with psychiatry is much more common now than it ever was. We have a whole team of perinatal psychiatrists who support our program at Sinai. Probably one in four or one in five of my patients has co-care with psychiatry while they’re pregnant. These are huge changes in a generation, and it challenges the new generation of doctors to become savvy about mental health. In surgery, it’s not just about doing laparoscopic surgery, using forceps and delivering babies – it’s becoming a more interesting and challenging job.

Ultimately, the technologies give people choice. People of your generation will say, “I won’t bother doing this now, I’ll stay in the boyfriend/girlfriend stage of life, and if I can’t manage to get pregnant in five years time I can always get some help.” Maybe the previous generation made different choices. For sure we got on with life choices faster. At 52, my “kids” are 23, 21 and 14. I see many men becoming fathers at my age or older. Older men transmit risks of autism, so the issues of reproductive aging are not simply confined to women. I do think the point is that things are going to have to swing back a bit because the extreme age of conception we witness now has got a bit out of hand.

Surrogacy is a new phenomenon as well – when it involves another country, it’s a form of reproductive tourism. That’s where the ethical problems come in. There are conflicts of interest that arise with the surrogate mothers versus the biological parents. Biological parents are, in my experience, far more economically powerful than a surrogate woman; therefore, despite current legislation, cash has been exchanged, and you can’t really operate proper doctor-patient relationships in this context due to this distortion. That’s where Ob/Gyn gets very, very interesting – and it’s the communication, not the medicine, that is in most demand. At my stage in life, I have a lot more life experience, and I’m more able to handle and cope with very weird and complex situations, but I’d say 15 to 20 years ago, when I was in my thirties, I would have probably found it more challenging. I think this is an example of how our specialty is colourful and interesting.

Another interesting dimension is multi-ethnicity. If you do your residency in Ob/Gyn in Toronto, you’re going to interact with people who speak up to 100 languages. People can have the same medical diagno-

sis in pregnancy and make two very radically different choices by virtue of their ethnicity, religion and cultural backgrounds. If you need your appendix out, it doesn't matter what your race or religion is, but the choices you might make in pregnancy are unbelievably different and will vary. That's a whole area that makes the field quite fascinating.

UTMJ: Would you say these are some of the things you enjoy most about your field?

JK: I think that more and more what I end up doing is teaching strategic thinking and communication skills to trainees. I often strategize with them before we enter a room and say, "OK, let's think about what's going to be challenging here and watch my communication style". Then we debrief afterwards, and I get them to think about culture and educational level-specific communication. So, vaginal yeast is just that to a lawyer, but it's bugs in your wahoo to others... I find it's a great area to get people to watch really tough counseling. I think medical students find this amazing. They say, "wow, I've never seen such tough situations discussed that frankly, and I've learned a lot from how you've done that." I'm very determined to keep the medical students in this type of setting (unless the patient directly asks them not be present). We of course do have patients who ask that a medical student not be present and we respect that. That's another thing in our specialty, we have to be careful because the public wants excellent medical care in a university hospital, but in my mind that right comes with a responsibility to be part of the teaching of the medical students. I take a pretty dim view of people who try to cut it both ways when they say, "I want to talk to you, but nobody else" in a publicly funded academic hospital setting. Ultimately, we have to respect that, but I do think that our patients must be reminded about their societal obligations too – to educate tomorrow's doctors. I think we communicate and manage our patients a lot better than other fields like medicine and surgery. I might be slightly biased here, but in general what defines us is excellence at the ability to communicate. Therefore, I think our patients get a good deal.

Getting back to the appendix equation, it's easy to say, "your appendix needs to come out, sign here", and you can have quite a superficial relationship with a patient. However, if someone is very emotional as they're about to prepare to be admitted to deliver their second stillbirth, as the baby has an autosomal recessive fetal dysplasia (because they are a consanguineous couple). The husband is beating her up at

home because in his eyes she can't make normal babies, and she can barely express herself in the new language of English - there's a much more interesting conversation with a patient. I have a patient right now who just had a Cesarean hysterectomy for an invasive placenta (percreta). It's her third child; she's from Sri Lanka, and she and her husband are an extremely conservative couple. They wouldn't let anyone provide child care while we talked to them about these serious matters ahead of them. She ended up in intensive care post-op, while he's angry with us because she can't have any more kids. Ironically, she would very likely have died in a resource poor setting. They just had their third healthy child, which many Canadians would be totally happy with. Our decisions with patients are thus much more colourful and interesting than "you need a colonoscopy", or "I'll check your prostate gland". For people who really enjoy multiculturalism and enjoy communication, I think they'd love our specialty. I always emphasize this to students who are considering this as a career – it is vital to train somewhere that's really busy and multicultural, because when you come out the other end you'll be so good at what you do. No matter where you work, you'll enjoy what you do and it'll be very interesting. Multiculturalism is a very enriching part of our specialty, no question.

UTMJ: Is there any other advice you have for medical students with an interest in Obstetrics and Gynaecology?

JK: Join interest groups – that's the first thing, and make a bit more of an effort with the background reading – reach beyond your Toronto Notes! University of Toronto medical students can now watch their lectures online, and this gives you some flexibility during your working week to spend time with someone during the day and then watch your lectures online at home. I would encourage them to contact people like me and to say, "can you hook me up with someone for the day in the Gynecology OR," or "can I spend a day in the delivery room?" you've paid your 20 G's each year and thus, in my opinion, you're entitled to walk into any of our hospitals for your education (with a bit of planning). Think about creating space in your work week ahead of time, because if you do that, then you build relationships. At the end of first year, you might want to do a research job for a couple of months, but I think also just by going to meet somebody in their clinical setting might spawn a conversation that leads to something generating more interest.

Students are welcome to come to any of our rounds – we have rounds with pizza and coffee during the

working week and we can easily plug students into that. You could attend an Ob/Gyn lecture - an intelligent medical student would be able to understand these. Students can also come to our U of T annual Research Day, and we have quite a few medical students who even present at this great event. Once you get to the point where you're doing clinical rotations, if you're going into that rotation and you're interested in the field, try and have a conversation and engage with staff beyond the basic teaching, as that can lead to recommendations for electives with strong teachers.

UTMJ: If you could go back to the medical student stage of your career, is there anything you wish you had known then that you know now?

JK: I think as a medical student I didn't realize that I would move around so much in my life. I went to live in Ireland when I was nine. My wife is Irish, and when we got married, we knew we were going to go to Glasgow because I had a good chance of getting into a training program, but I didn't foresee that later we'd move to central London. Then we faced the difficult decision to move to Canada, so I think having a very supportive spouse helps you to survive these things.

People do face difficult choices when they finish residency, particularly in today's climate. There are jobs, but there are a lot of people who are underemployed in our field - typically defined by no academic interest, and a perception that they cannot leave Toronto under any circumstances. By contrast, any graduate with a clear academic focus will always find a Chair/Chief to hire them!

One of today's solutions for generalist community graduates is that, since most are now women, both during residency and shortly following graduation, their next focus is building their families and having kids. So, we're now seeing a new phenomenon. I call it the "cascade phenomenon", where the new grads are taking [the place of] maternity leaves of those ahead of them, for a year at a time. People are essentially delaying their definitive career and final job by taking a maternity leave. This actually works very well, as both sides get to size up future employment, from serial locum work. I think every generation finds itself a solution. The market is a bit tight for jobs at the moment but when the older male Ob/Gyn's RRSP recovers, they will retire and the job opportunities will grow!

UTMJ: Is there anything else you would like to tell our readers?

JK: I don't want to be accused of putting Ob/Gyn on a different pedestal from everybody else - I just have my biases! No matter what residency position you want to do, there are people like me in all areas who are more than happy to engage with students and to help them. If you're reading this article and you're a student at U of T, then you're "on the pig's back", as people say in Ireland. You're at a great institution, and you're getting a fabulous education at half the market rate. As long as you listen to your inner self about what you want to do and take all the opportunities when you're a medical student, you'll find the right career and you'll have a good life.

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