Honey, you show me your article, I'll show you mine.

This is all I really picked up from the resident (at least I think she was – things were a bit confused at that point). I was curled in a little ball in a dim room shaking and trying not to let my mother see how much it hurt while my brain was looping, "You can do this, you can, people have been tortured to death for millennia, you can deal with a little childbirth." I had been induced, and it went badly, and everything was wildly out of control: my birth plan trashed, my tolerance for pain in shambles twelve hours ago, and now this resident who thought I was wrong. The exact topic of her words was irrelevant; all I knew was that I had made a medical decision while coherent and unrushed and with the evidence in front of me, and now she was questioning my sources while looming over me in the dim light. To me, I was a trained mathematician, a Ph.D. from Princeton with years of research in a STEM field and fully capable of performing a calculated risk analysis. I was qualified to decide. To her, I was "honey": in my native Georgia, a title of warmth and affection, but in upstate New York – not so much.

Perhaps the resident was correct, perhaps I was wrong. That isn't the point, though: I had made a reasoned decision which balanced the evidence about medical efficacy and side effects with my own knowledge of what and how I prioritized outcomes for myself and my baby. I did my best to act within my capabilities as an educated patient, but this provider wanted to overrule me. Her recommendation was static, an unexamined repetition of a panel's pronouncement, entirely blind to my preferences and value judgments, to my knowledge of my own health and risk tolerance. This medical professional treated me as a thing, a statistic, a foregone conclusion decided years ahead by some all-knowing professional body, not a person whose very individuality might be part of the decision-making process.

I gave in, in the end. I didn't have a contingency plan for a provider who overruled me, and I didn't have the capacity to deal with this new situation.

My next pregnancy, I selected providers with more care, a group of midwives with a reputation as compassionate and evidence-based, people who would treat me as myself, not a generic patient.

These midwives, though, came with their own limitations, not unrelated to the resident's: they had supervising obstetricians, and, outside a fairly expansive set of carefully negotiated areas, they were completely restricted from participating in the decision-making process. An email from the hospital linked a column by a maternal-fetal medicine specialist: "The COVID vaccine should be available to all pregnant women," she wrote, "talk to your provider to see if it's right for you." I did. "I'm sorry," the midwife said, "our supervising OBs have not yet decided on a recommendation. I'm not authorized to help you make that decision, but I'll support whatever you decide." She had been downgraded from active participant in the decision-making process to passive purveyor of information. I didn't want her to decide for me, but I did want some help.

The story intensified at 35 weeks when I had a blood pressure reading of 140. The midwife told me this was serious: new recommendations meant a second such reading would result in a diagnosis of gestational hypertension and immediate induction at 37 weeks for fear of pre-eclampsia.[i] I knew I had a family history of white-coat hypertension, which is estimated to account for 10-30% of hypertension diagnoses,[ii] so I borrowed a blood pressure monitor. I was low at home, never above 120 before my morning coffee. I later discovered that the COVID procedures at my clinic violated half the clinical guidelines for blood pressure monitoring (feet dangling, back unsupported, arm below the level of the heart, etc.),[iii] and the 140 was invalid

anyway as an official reading because it had immediately resolved.[iv] According to standard guidelines, it should not even contribute to a hypertensive diagnosis since it was contradicted by out-of-office readings.[v] A quick review of the literature also raised questions about whether 140 was clinically ideal for the threshold for gestational hypertension[vi] or whether induction was associated to significantly different outcomes from expectant management.[vii] But the moral here is not that such a diagnosis and treatment were mildly questionable, rather, it is that the clinical environment is not infallible and that guidelines are carefully crafted recommendations based on public health risk assessment and not foolproof rules that determine the future for any given individual.

Of course, next visit, while I sat on the exam table (feet dangling and all) and stared apprehensively at the little machine and listened with bated breath (well, I tried to breathe normally) as it went click – click – click ... it settled at 145. Off to the hospital with me! My blood pressure there (with my husband and a chatty nurse providing distractions) immediately resolved well below the threshold – good, now the guidelines recommend no diagnosis, though common sense indicates careful attention, like monitoring at home, yes? No! This practice stood by the office reading, and now I was labeled "gestationally hypertensive" and my chart annotated "high risk." I was visited by a rotating roster of midwife, nurses, and resident conveying the recommendations of an unseen supervising obstetrician, who declared we must induce. Everyone expressed relief that my blood pressure didn't actually seem to be high, and regret that I had now landed in a category that triggered a preset treatment strategy. All I had to do was comply. The resident's rhetoric was telling. When she entered the room, "We're worried the placenta is failing and the baby isn't growing properly, so we need to get him out immediately. Don't worry, he's almost full term, so the risk is low." After an ultrasound showing him 97th percentile in size, "Oh, that's great news! The placenta is so healthy and he's been growing so well that he probably won't even end up in the NICU. We'll definitely proceed with induction now." Reader, I declined.

Aside from the obvious clinical issues here, this is a case study in how not to manage risk. Besides being a mathematician, I am a commercial pilot and flight instructor. I have spent many hours talking to pilots about risk management, and I have spent many more hours thinking about how to foster a culture of safety as a check pilot and operations officer for an aviation organization. This goes far beyond the use of checklists, which have been shown to significantly reduce errors in the medical as well as the transportation industry.[viii] Behind any medical decision should be this whole process of active risk management: we identify hazards and the risks they pose, analyze causes and controls, make decisions and implement them, then monitor and evaluate – and repeat, in an endless cycle. Risk management is not one-and-done, it is on-going, not a recommendation from a practice bulletin two years ago, rather, a continuing cycle of judgment based on a changing situation. It considers direct risks, say the immediate risk of developing pre-eclampsia or of a trip to the NICU, but it also considers risks to mission, the risk that evicting a baby a month early will deny it the benefit of continued nurture in the womb, or deny mother and baby the experience of a normal birth. For each risk, it weighs both the probability of the risk and its severity, which is usually a value judgment heavily variable from person to person. Risk management is not enacted from above, a decision made by a professional organization or an distant supervisor and passed through intermediaries to a blindly trusting patient. It is a complex calculation executed in light of those professional recommendations but performed in the clinic, a dance of medical providers and patient and family, the people with the best knowledge of their own physical and psychological state as well as the best judgment of

what is truly risked. A medical decision is a process, and I the patient must perform this process not just because I have the legal right but because I am the only person qualified to do it.

I should communicate this to my midwives, or to the hospital, but I'm not sure how to be heard effectively. This is my open letter to all of you, instead: Providers, please, practice true risk management, and treat your patients as individuals, acknowledging the unique details of their situation and their full and active role in determining the best course of action. They do not merely accept (or reject) your wisdom and your right judgment; they must themselves decide, they must be full participants in performing a very nuanced and potentially complicated risk analysis. Enable them.

In the end, my personal risk management analysis concluded that my providers were still an essential emergency resource but sadly no longer effective in managing the day-to-day progress of my pregnancy. I minimized contact and questioned everything. Almost four weeks after that previous hospital visit, I could avoid them no longer, and I stumbled back into labor and delivery. Forty minutes later, the maternal-fetal ejection reflex triumphed, beautifully and fluidly and without any external interference. "Stop pushing, the head's out!" And so it was.

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[i] Croke L. Gestational Hypertension and Preeclampsia: A Practice Bulletin from ACOG. Am Fam Physician. 2019 Nov 15;100(10):649-650. PMID: 31730305.

[ii] Section 3. Unger T, Borghi C, Charchar F, et al. 2020 International Society of Hypertension Global Hypertension Practice Guidelines. *Hypertension*. 2020;75(6):1334-1357. doi:10.1161/HYPERTENSIONAHA.120.15026

[iii] Figure 1, Unger et al.

[iv] Table 1, Unger et al.

[v] Section 3, Unger et al.

[vi] See Shen M, Smith GN, Rodger M, White RR, Walker MC, Wen SW. Comparison of risk factors and outcomes of gestational hypertension and pre-eclampsia. *PLoS One*. 2017;12(4):e0175914. Published 2017 Apr 24. doi:10.1371/journal.pone.0175914

[vii] Cluver C, Novikova N, Koopmans CM, West HM. Planned early delivery versus expectant management for hypertensive disorders from 34 weeks gestation to term. *Cochrane Database Syst Rev*. 2017;1(1):CD009273. Published 2017 Jan 15. doi:10.1002/14651858.CD009273.pub2

[viii] Thomassen Ø, Espeland A, Søfteland E, Lossius HM, Heltne JK, Brattebø G. Implementation of checklists in health care; learning from high-reliability organisations. *Scand J Trauma Resusc Emerg Med*. 2011;19:53. Published 2011 Oct 3. doi:10.1186/1757-7241-19-53