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Gendered Innovations in Orthopaedic Science

Gendered Innovations in Orthopaedic Science: Family Planning: An Orthopaedic Issue

Alexandra E. Page MD

We mark our lives by milestones—birthdays, anniversaries, and graduations. I am writing this piece in the throes of such a milestone—my youngest child is graduating from high school. Amid the excitement, I wanted to reflect on the most profound events in my life: The birth of my children.

Family planning is an imprecise science. I created a residency rank list with an engineer's precision, crafting a complex table of weighted pros and cons. Yet the father of my children and I could not engineer a "good" time in my career as a young surgeon to have a child. Before we could create a mathematical model, the answer presented itself: An unplanned pregnancy. But if we did have the opportunity to plan our pregnancy, what would we have considered?

Timing in the context of career training and practice is probably most critical. Pregnancy can have long-term implications on financial stability and professional advancement. There are the challenges of maternity leave while facing student debt and practice start-up costs. In a group practice, pregnancy can impact time to partnership. In academics, mothers may worry about delays in tenure. For orthopaedic surgeons, there will never be an ideal time to start a family.

A Tale of Two Families

Of all the aspects of pregnancy and orthopaedics, perhaps the thorniest emerges around the pregnant resident. Residencies are carefully calibrated to provide the experience and workforce necessary to train safe and competent surgeons. In training, the orthopaedic residency team is like a family. The demands of our profession mirror those of our real family, and soon, the line between work obligations and home life blur. As such, when one member is down, everyone else needs to step up. Resentment can build among the residents left to shoulder the burden when a member of the team becomes pregnant [5]. As a perpetrator myself, I've always wondered how my fellow trainees perceived my pregnancy. From my perspective, we all stepped up when other residents were off duty from an injury sustained during a sporting event or from an alcohol-induced mishap. Did other residents see those events as "emergency" cases, and my pregnancy as "elective?"

Transparency offers a way to address the resentments and frustrations that pregnancy in training can engender. For me, transparency came

Note from the Editor-in-Chief:
We are pleased to present to readers of Clinical Orthopaedics and Related Research® *the next installment of "*Gendered Innovations in Orthopaedic Science*" by Alexandra E. Page MD. Dr. Page is a private practice orthopaedic surgeon from San Diego, CA, USA. This year, she will serve as Vice President of the Ruth Jackson Orthopaedic Society. Dr. Page provides commentary on sex and gender similarities and differences in orthopaedics.*

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A. E. Page MD (✉)
Musculoskeletal Health Care Solutions,
La Jolla, CA, USA
e-mail: alexe.page@gmail.com

A. E. Page MD
Private Practice, 3750 Convoy Street,
Suite 116, San Diego, CA 92111, USA

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more out of panic. There certainly was no formal leave policy (I was the first pregnant resident in the history of my training program), but the need for planning overwhelmed discretion. Even before the reasonable delay of the first trimester to assure a viable pregnancy, I informed my program and peers. Surprise may have trumped resentment, and I was fortunate that overall, my orthopaedic family was supportive.

However, there were some uncomfortable choices. In 1996, we had a different understanding and prognosis for human immunodeficiency virus (HIV)/AIDS. While disease transmission is a risk I would accept for myself, I refused to scrub a joint replacement case in an HIV-positive patient while pregnant. I don't think any of my male colleagues would have wanted this exposure to their unborn children, leaving me hurt and surprised at the negative grumblings over my request.

Fortunately, it was an easy pregnancy, and I worked until delivery. Cobbling my vacation over 2 years through trades, combined with coverage by the extra fellow on the hand service (thanks again) provided a full 4 weeks at home. At the time, I felt like I handled the pregnancy well. In retrospect, I wonder how the pregnancy, followed by competing obligations to my child and my residency, compromised my performance or created resentment, which may have influenced my ultimate professional path.

Maternity Leave

Women no longer have complete ownership of "family planning." Shifting priorities have made a baby about more than just the mother, reframing the "maternity" into "parenthood." Pregnancy now is about the family unit. Although possession of a uterus is a sex-based trait, the most important professional issues pertaining to pregnancy are gender-driven. Recognizing the values and prejudices which make pregnancy a challenging experience for orthopaedic surgeons offers a starting point for solutions. A recent survey of orthopaedic training programs [5] demonstrated a modest number offering formal paternity and adoption leave. Despite a federal Family Medical Leave Act, which provides for 12 weeks of maternity leave, a 2012 study [3] showed an average of 4 weeks for residents or fellows. Further, intentions to work until delivery can be undermined by unanticipated complications of pregnancy requiring months of bedrest.

Ire was raised about the 2-week maternity leave of Yahoo's Chief Executive Officer Marissa Mayer [1]; orthopaedic surgery likewise is a high-pressure profession. By the time we begin surgical residency, years of striving for excellence has been indoctrinated in men and women alike. And, quite frankly, the message I had in training was that any show of weakness was shameful. Leaving before the day of delivery would have been such a sign, not explicitly for pregnancy, but as part of the overall residency culture.

My second child was all about the plan—that golden August month between completion of fellowship and the start of my life as a practicing orthopaedic surgeon. Again, despite exacting research, events reminded me of our professional aphorism about measuring with a micrometer and cutting with an ax. Based on the statistical time to conception, we started 1 month ahead of desired delivery, and my baby daughter was born on June 17th during fellowship. Overall, my pregnancy during fellowship was a completely different experience. Part of my fellowship was structured to work closely with a single senior surgeon, a special learning experience with an expectation for a higher level of responsibility for his practice. Regrettably, unlike my first pregnancy, the first trimester was marked by fatigue and overwhelming nausea, which forced me to scrub out of the first case

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we did together and impacted my performance overall. Our relationship never recovered. I worked until delivery was induced, took my 1 week of vacation, and 18 years later I still feel guilt and sadness over how my pregnancy impacted my commitment to the fellowship.

Delaying the Family Plan

While pregnancy in training is fraught with challenges, delaying the start of a family until practice introduces different problems. Any woman facing advancing age must consider the risks involved, including lowered fertility, higher-risk pregnancies, and birth defects. According to Hamilton and colleagues [3] 56% of women had their first child prior to completing training, leaving many first and subsequent children delivered while in practice. The professional environment at the end of training shifts, with responsibility shifting to your patients and partners or employer who comprise your new orthopaedic family. While an intrinsic desire to support these groups likely persists, pressure from objective impacts such as financial stability and professional advancement become real concerns. What is the experience of, or the options for, women approaching pregnancy post-training? While the blogosphere offers extensive resources to the medical student or resident considering or experiencing pregnancy [2, 4], my research showed near silence from those beyond training, in practice. Perhaps these women could benefit most from advice and support of other orthopaedic surgeons with such an experience.

Changing the Environment

Identifying the issue is the first step, but as a larger orthopaedic community, minimizing the barriers and complications of pregnancy for females in our profession should be the goal. Ideas could include:

- Formalize (and perhaps standardize) maternity and parenting policies for orthopaedic training programs.
- Recruit surgeons who have balanced pregnancy or parenting at various professional stages as a resource for orthopaedic surgeons planning a family during or after training.
- Coordinate these educational and mentoring resources including training programs and professional societies.

Neither of my children are likely to face the specific issues raised here since they are avoiding the medical field. Two orthopaedic surgeon parents talking about operations over dinner and the colorful photos in our journals may have contributed to their distaste for surgery as a profession. Further, both children observed that we worked "way too hard." Looking back over their childhoods, I was lucky to be both a surgeon and a mother. The real "working way too hard" was trying to balance both. One of my few regrets was the challenge I had balancing pregnancy and early motherhood with my training. I hope my fellow residents (and fellowship directors) have forgiven me, and recognized through their own family lives the importance of pregnancy and parenting as part of the orthopaedic family. I also hope we can make it easier for the next generation.

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