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Supporting a Work-Life Balance for Radiology Resident Parents

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Despite being declared a public health crisis and receiving much attention in recent years, physician burnout continues to worsen (1–5). A unique work-related syndrome defined by the 11th revision of the International Classification of Diseases, burnout is characterized by feelings of energy depletion, increased mental distance from one's job or cynicism, and reduced professional efficacy, and it has been noted to have negative personal, professional, institutional, and patient-care-related outcomes (6). Early career physicians and residents in particular are prone to burnout during their training years, with recent surveys of residents demonstrating a high degree of burnout in nearly half of the trainees (7–11). Significant predictors of burnout in radiology residents is the feeling of being unsupported by attending staff or the department (10), and having poor work-life balance (10,11). In fact, Shanafelt et al. observed that work-home conflicts greater than double the risk of burnout when present (12).

Recognizing that radiology residency occurs during prime child-bearing years (13), one of the most frequent work-home conflicts to affect radiology trainees is likely to stem from balancing the demands of new parenthood with the rigors of radiology rotation schedules and call. Given this inference, along with data suggesting that physician parents of young children are at the greatest risk of burnout (14), it is imperative to consider how the work environment can be more conscious of the work-home conflict for this group. Due to the demographic shift of increasing mean age of child-bearing, radiology resident physician-parents are becoming a minority, as evidenced by only 21% of radiology residents in New England surveyed having one or more children (7). This underrepresentation may make this group feel further isolated and thus more vulnerable to burnout. Supporting this cohort by cultivating a community at work, in this case a subcommunity of physician-parents, employs one of the nine organization strategies proposed by the Mayo Clinic to promote physician well-being (15).

In addition, given that 27% of radiology residents are female (16), another potential source of burnout is the imbalance of the pressures of work on that of new motherhood, in particular as it relates to breastfeeding. Balancing pumping with the demands of radiology read-out sessions, patient procedures, and daily case and didactic conferences can be very challenging, with lactating residents frequently struggling to find the time and space to do so. This may be further anxiety-provoking for trainees, as their time and productivity are directly accountable to their supervising attending and providing constant accounts of their need to express milk may be disconcerting. In fact, studies demonstrate that although majority of resident-physicians begin breastfeeding their infants during their maternity leave, the percentage that continue precipitously drops as they resume work, with work demands and access to lactational facilities being cited as the main barriers for continued breastfeeding (17–19).

Appreciating these potential burnout contributing risk factors, our department of radiology implemented a two-part initiative to support physician-parent wellness, in addition to establishing a 12-week paid family leave policy for trainees (20). As with the motivation for our paid family leave policy (20), the other major impetus for implementing physician-parent wellness initiatives for our residents was support of gender diversity at the resident level as a means of investing in future parity in advancement and leadership for female faculty. The first initiative was the organization of a resident-physician parenting mentorship group. The second was to provide all new resident physician lactating parents who choose to breastfeed a wearable, wireless, silent pump.

RATIONALE: RESIDENT-PHYSICIAN PARENTS MENTORSHIP GROUP

Foreshadowing the burnout epidemic, and with the rise of two-parent households in the US, Kelly and Voydanoff astutely described the “work—family role strain” which results from the combined demands of multiple roles of the individual such as those of family and work (21). The authors note that although cumulative demands of multiple roles can result in strain, providing resources of support may diminish or alleviate it by providing the individual effective coping mechanisms (21,22). Support may take the form of physician groups, which albeit rarely described, have been shown to be quite effective (23,24). West et al. specifically tested the intervention of

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developing a physician small-group in affecting physician well-being. The authors noted that just 1 hour every other week to meet in a small group of physician colleagues to discuss topics related to their professional experience led to improved meaning at work and reduced burnout (25). For residents, it was further noted that good social support from one's co-residents is associated with improved personal accomplishment—a measure of physician well-being (8).

WHAT WAS DONE: RESIDENT-PHYSICIAN PARENTS MENTORSHIP GROUP

To provide our resident parents the support and resources to aid in the development of coping mechanisms for their newly increasing roles, as suggested by Kelly and Voydanoff (21), a resident-physician parents mentorship group was facilitated by a junior attending and associate program director. The initiative was introduced during a monthly program evaluation committee and approved by the department chair. The intention was not to dispense parenting advice but rather facilitating an organic network of information exchange such as tips and tricks of managing call with a colicky newborn or addressing the costs of living for a new parent on a resident's salary, as well as creating a sense of community where one's challenges can be validated and understood.

Groups were scheduled to take place in the radiology residency lounge, an informal space where residents frequently gather, in order to eliminate the sense of formal didactic content. Cognizant of not overscheduling resident-parents outside of the standard workday, meetings were slated prior to residents' daily noon conference time. Albeit residents' conferences are given from 12:30 to 2 pm, given the geographic spread of our various clinical sites and reading rooms, residents are dismissed at noon to be able to obtain lunch and make it to the conference room in time. We scheduled the parenting mentorship groups 11:45–12:30 at the resident lounge right next to the conference room where the lectures take place and provided a healthy lunch for the residents. This obviated their need to go elsewhere and spend the time traveling to procure lunch prior to conference, thus minimizing the time away from their clinical services compared to the remainder of the residents. Emphasizing inclusivity, the invitation for the mentorship group was sent to the entire residency, underscoring that having a child was not a prerequisite to attendance.

Initially, the meetings were slotted to take place on a quarterly basis; however, based on unanimous positive resident feedback, frequency was increased to monthly occurrence. The first few meetings did not have a specific advertised agenda and were held to allow the space for residents to express their concerns and needs. Subsequently, a resident-driven agenda with specific topics for discussion to frame the meetings was created. Topics included: sleep training, struggling with conception, “negotiating” home duties with your partner, having a second/third/fourth child, and finances of a parent on a resident's salary. Radiology faculty and fellows who wished to contribute to those particular topics, either

from personal experience or other expertise, were invited to participate in the meeting.

Topics and meeting dates were inputted into the residents' monthly calendar on the resident accessible webpage. Twelve of 36 residents regularly attended the meetings, with several nonparent residents joining depending on their interest level for the designated topic.

This gathering gave resident-physicians a space to share their vulnerabilities with their colleagues, a rare opportunity in medicine. Many residents who were also new parents, found the group to be the perfect workplace support, facilitating smooth and manageable transitions back to work for returning parents. Residents, fellows, and junior faculty commiserated over the common struggles of sleepless nights while maintaining professionalism, the stress of pumping, and the difficulty of maintaining an adequate breast milk supply. The opportunity to discover the shared difficulties of parenthood offered residents validation and support, essential ingredients to continued mental health and well-being, and ultimately promoted continued success in their radiology training.

RATIONALE: PORTABLE BREAST PUMP

Similar to the experience by Robbins et al. (26), a major hurdle to the development of our departmental lactation policy was the lack of conveniently available lactation spaces, in particular near the Department of Radiology. Although we initially investigated modifying underused offices to serve as lactation spaces, it became apparent that the number of needed spaces would be prohibitive. In addition, one of the hesitations expressed by our residents to utilizing lactation rooms for milk expression every 3–4 hours during the workday is the significant loss of case volume exposure and read-out opportunities. To circumvent these issues and give the freedom of time and space back to the breastfeeding parent, any interested resident was provided with a wireless, discreet wearable pump. The pump can be worn discreetly under regular clothing and is silent during operation. Thus, the resident would not need to leave the reading room, waste time commuting to a lactation room, or miss out on other educational opportunities, while maintaining control and freedom to pump whenever they need to.

WHAT WAS DONE: PORTABLE BREAST PUMP

There are two brands of portable breast pumps on the market at the time of this publication. Based on the experience and feedback of some of the members of our department, a single brand was selected and approved by the department chair, chief operating officer, and the finance department. An email was sent to every pregnant member of the department in their late third trimester stating that the department would like to offer a wearable silent pump, “*Many of your colleagues have found this compact and portable pump to significantly ease their pumping routine, allotting them more freedom and less hassle. You can find more information on the pump in the link*

TABLE 1. Major Challenges of Work-Life Balance Reported by Radiology Residency Parents and Feedback Postinterventions as It Relates to Each of the Four Major Challenges

Most Difficult Challenges for Resident Parents	Outcomes of the Two Initiatives
Time management	<ul style="list-style-type: none"> • “The portable breast pump was a gamechanger. Continuing breastfeeding once I returned to work was a priority and the fact that I was able to sit at my workstation, reading studies and learning from cases, while simultaneously pumping was incredible. It afforded me time to be present at work where I could be a productive member of the team while also helping me meet my breastfeeding goals.” • “[The pump’s] unique design allows the pump to be worn without the need to change into nursing gear, which saves me time during a busy day. In addition, its portable and silent features gave me the freedom to multitask by allowing me to scan, perform breast biopsies and speak to patients while wearing my breast pump” • “I have been using [the pump] during conferences. It’s very convenient and discrete. Breast feeding is like a full time job, this makes it doable” • “I have to say that it makes pumping so much easier at work and I am actually considering breast feeding longer because of how easy it is to use!” • “[The pump] is really amazing and I think will make a big difference in being able to continue to breastfeed when I return to work.”
Not knowing where to turn for unexpected questions and concerns that arise with a new baby	<ul style="list-style-type: none"> • “The parenting group has been an invaluable resource. We’ve been able to share resources regarding childcare, toys, books, and gear, which is very helpful.” • “I benefited from informal advice received from attendings and residents who preceded me in the mentorship group” • “The parenting group has been an invaluable resource for me as a new mother. The meetings were informative, and the people were very supportive.” • “Becoming more comfortable through the parenting mentorship meetings, I have reached out to, and gotten advice from, several of the parenting residents outside of the meetings. “ • “Though rewarding, finding the time and energy to balance new father responsibilities can at times be difficult. Having a parenting mentorship group has been helpful during this adjustment period by offering an environment in which residents can communicate openly about parenting, helping to feel supported and also to learn from others’ experiences and insights.”
Not feeling connected to peers	<ul style="list-style-type: none"> • “I really like that it’s a mix of peers and attendings who get to know each other in a different light.” • “These initiatives showed me that the department cares about both my education/training and my mental well-being!” • “It has given me the opportunity to connect with a unique group of people who understand the challenges I face everyday and who can provide me with advice, tips, support, etc.” • “I was a fourth year when this started and hopefully I was able to pass along a few tips that I’ve picked up along the way. “

(continued)

TABLE 1. (Continued)

Most Difficult Challenges for Resident Parents	Outcomes of the Two Initiatives
Finances	<ul style="list-style-type: none"> • “This is wonderful! It feels great to connect to my co-residents and I feel validated in all my concerns.” • “Since everyone is facing similar challenges, there is a sense of camaraderie. It significantly lessened the anxiety associated with becoming a new parent.” • “It allowed me to connect with my peers and attendings on a much more personal level and feel supported at work.” • “It was refreshing and insightful to be able to talk about such personal issues so openly as these are things that inevitably affect our lives.” • “The financial stress of purchasing the pump was removed which was a huge relief.” • “The pump has been an incredible asset. With all of the other expenses associated with having a baby, I probably wouldn’t have gotten it myself due to the price.”

below. Please let us know if the pump will be a useful addition to your routine; if so we will be happy to purchase one for you. Best wishes and congratulations again!” To date, every new breastfeeding parent in our department of radiology has elected to utilize the pump as part of their breastfeeding routine.

While well-being was the primary rationale for funding the portable breast pump by our Department of Radiology, the potential of realizing some cost savings helped ease the decision to finance the device. The cost of the breast pump (~\$500) was thought to be easily offset by fewer leave days due to infant illness (as breastfeeding has been shown to promote infant health and decrease rates of common childhood infections such as otitis media, and decrease hospitalizations for lower respiratory tract diseases in the first year (27,28)). After consultation with our finance department, the pumps were purchased as a work-related expense and were not considered taxable income to the employee. This achievement will hopefully aid in serving as a precedent to the entire Medical College and our institutional Graduate Medical Education, as well as to institutions nationally to help support similar initiatives for residents in other programs

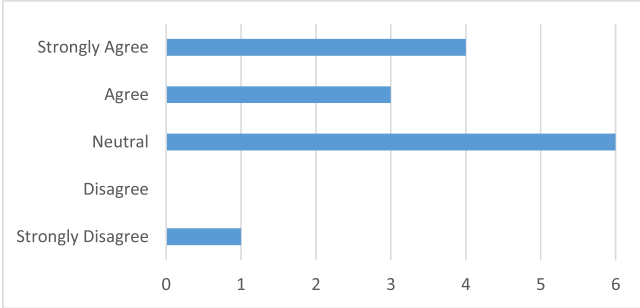
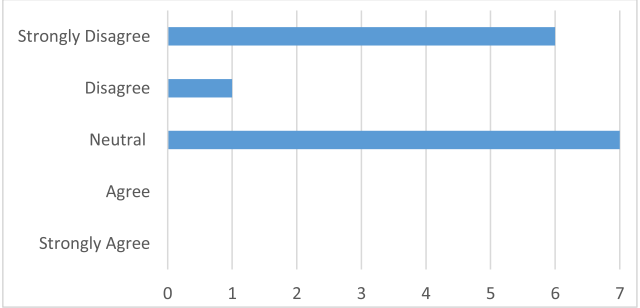
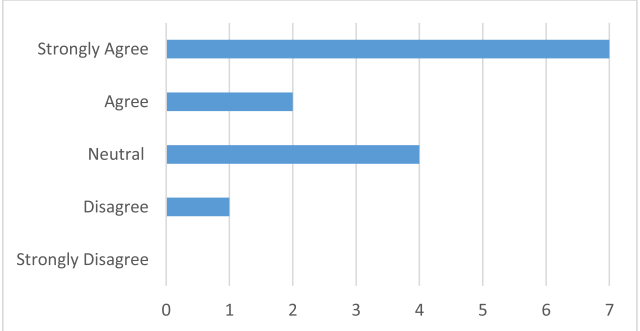
OUTCOMES

Four major challenges were reported by our resident parents in navigating their new work-life balance. These included: time management, not knowing where to turn with questions about new life challenges, not feeling connected to their peers, and financial strain. The response to the implementation of our parenting initiatives from resident parents was overwhelmingly positive and appreciative, with specific comments indicating that the initiatives seemed to ease and address the four preidentified challenges (Table 1).

For the parenting mentorship group the positive feedback was coupled with request for more frequent sessions, consistent attendance by a core group of resident-parents, and the expansion of the meeting time from 45 minutes to 1 hour. The supportive and community-building impact of the parenting mentoring group became clearly evident during the COVID-19 pandemic. Located in New York City, a US pandemic epicenter, our program was one of the first to reach Stage 3-“Pandemic Emergency Status” (29), re-deploying residents to high risk critical-care patient services and seeing a significant spread of the virus in our healthcare community. In the face of the pandemic, the residents requested to move up the scheduled monthly mentoring group and expand the time, in order to allow for discussion of concerns related to the effect of COVID-19 on pregnancy and children and to draw support from each other. While the meeting was virtual, the connection and comradery were palpable. Reliance on this group at a time of heightened anxiety, rapidly evolving medical information, and changes to their professional roles highlights the successful creation of a valuable resource for our trainees.

Albeit an invitation to the mentorship sessions was sent to all the residents, with continued emphasis on welcomed attendance from anyone interested which resulted in several nonparent residents attending select sessions of their topic of interest, we sought to assess any potential negative impact the initiative may have had on our nonparent residents. A survey was sent out to all nonparent residents evaluating their attitudes toward the parenting mentorship meetings in four questions. The first question posed as a free response, while the other three were presented with a five-point Likert scale response options: (1) *How did you feel about the Parenting Mentorship Meetings in general?* (2) *As a nonparent, I felt included and welcome to attend the parenting meetings.* (3) *As a nonparent, I thought the extra*

TABLE 2. Resident Nonparents' Attitudes Toward Parenting Mentorship Group

Question	Responses												
As a nonparent, I felt included and welcome to attend the parenting meetings.	 <table border="1"> <thead> <tr> <th>Response</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Strongly Agree</td> <td>4</td> </tr> <tr> <td>Agree</td> <td>3</td> </tr> <tr> <td>Neutral</td> <td>6</td> </tr> <tr> <td>Disagree</td> <td>0</td> </tr> <tr> <td>Strongly Disagree</td> <td>1</td> </tr> </tbody> </table>	Response	Count	Strongly Agree	4	Agree	3	Neutral	6	Disagree	0	Strongly Disagree	1
Response	Count												
Strongly Agree	4												
Agree	3												
Neutral	6												
Disagree	0												
Strongly Disagree	1												
As a nonparent, I thought the extra time allocated to residents to leave rotations early and attend the parenting meetings was unfair.	 <table border="1"> <thead> <tr> <th>Response</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Strongly Disagree</td> <td>6</td> </tr> <tr> <td>Disagree</td> <td>1</td> </tr> <tr> <td>Neutral</td> <td>7</td> </tr> <tr> <td>Agree</td> <td>0</td> </tr> <tr> <td>Strongly Agree</td> <td>0</td> </tr> </tbody> </table>	Response	Count	Strongly Disagree	6	Disagree	1	Neutral	7	Agree	0	Strongly Agree	0
Response	Count												
Strongly Disagree	6												
Disagree	1												
Neutral	7												
Agree	0												
Strongly Agree	0												
As a nonparent, I feel that having parenting groups/meetings are necessary for resident wellness in general.	 <table border="1"> <thead> <tr> <th>Response</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Strongly Agree</td> <td>7</td> </tr> <tr> <td>Agree</td> <td>2</td> </tr> <tr> <td>Neutral</td> <td>4</td> </tr> <tr> <td>Disagree</td> <td>1</td> </tr> <tr> <td>Strongly Disagree</td> <td>0</td> </tr> </tbody> </table>	Response	Count	Strongly Agree	7	Agree	2	Neutral	4	Disagree	1	Strongly Disagree	0
Response	Count												
Strongly Agree	7												
Agree	2												
Neutral	4												
Disagree	1												
Strongly Disagree	0												
Comments:	<ul style="list-style-type: none"> ○ “Helpful initiative that gives insight for the early parents/parents-to-be” ○ “Great Idea!” ○ “Improves sense of program wellness” ○ “Helps sense of community” ○ “Great supportive interface” ○ “It was great to have this forum even for those of us who don't have kids yet” ○ “As a nonparent but someone contemplating future parenthood, I was happy to hear that there existed a forum to discuss parenting topics.” ○ “I felt that it was a great way to learn about the unique challenges facing parents and to find ways to support my co-residents and glean some useful tidbits of parenthood advice for my future.” ○ “I would hope these meetings continue for when I consider having kids.” ○ “We had one particular session on infertility which was insightful and healing honestly. It was reassuring to hear from people who went through similar experiences and are doing well now.” 												

time allocated to residents to leave rotations early and attend the parenting meetings was unfair. (4) As a nonparent, I feel that having parenting groups/meetings are necessary for resident wellness in general.

Fourteen of 24 (58%) – nonparent residents responded to the survey (Table 2). Of these, the majority, thirteen of fourteen (93%), of resident nonparents felt either welcome and included

or not unwelcome to attend the meetings, while one responder did not feel included nor welcome. Nearly all of the responders, thirteen of fourteen (93%), did not feel that the extra time allocated to the resident parents to leave rotations early was unfair. Majority, nine of fourteen (64%), of the resident nonparents felt that the parenting mentorship meetings are necessary for resident wellness in general, and only one responder nonparent resident disagreed. Free response feedback provided by the resident nonparents was very positive (Table 2), with one resident describing the mentorship meetings as “a great way to learn about the unique challenges facing parents and to find ways to support my co-residents,” while another nonparent resident stated that it helped further promote a “sense of community” in the department.

Providing a wireless wearable breast pump to any interested lactating resident has had a beneficial effect both on their education and breastfeeding practices by eliminating time away from their clinical and educational opportunities while maintaining the ability to express milk as frequently as needed. The ease of pumping that the wearables provided allowed lactating residents to remain in the reading room and continue to interpret all of their daily assigned cases. In fact, some trainees chose not to leave the reading room throughout the workday, even to place and remove the pumps, which can be easily done discreetly at the workstation. This allowed trainees to see every case they would have otherwise missed had they needed to leave every few hours to pump. Some residents expressed that the pumps abated the guilt of stepping away from clinical responsibilities that would otherwise require a fellow co-resident’s time and attention. Attendance at resident conferences and after-hour educational opportunities has increased by our lactating residents as they are no longer pressured to rush home to pump or breastfeed. Several residents commented that they are actually considering breastfeeding longer because of how easy breastfeeding has been made with the wearable pump. The benefits in support of breastfeeding were so clear, that our department expanded the initiative and offered the wearable pump to all interested faculty and fellows, in addition to residents.

As our city and hospital became the epicenter of the COVID-19 pandemic, our radiology residents re-deployed to ICUs who were also lactating parents encountered a new, unique kind of stressor: how to continue breastfeeding while caring for COVID-19 patients and donning and doffing appropriate personal protective equipment. The portable breast pumps proved of particular benefit in this unprecedented situation. As one of our residents stated: “these pumps provided me with immense stress relief during a very stressful situation, simultaneously allowing me to continuously provide the best care to my critically ill patients, while comforting me that my parental goals of breastfeeding could be met during this time of crisis.”

SUMMARY

With little evidence of the abatement of the burnout epidemic, it is critical that we address the well-being of the next

generation of physicians, and physician-parents in particular—a cohort at the greatest risk. Deliberate creation of dedicated time and space for trainee colleagues to meet and share experiences unique to their professional and personal roles as physician-parents in training can counteract two of the greatest predictors of trainee burnout: that of feeling unsupported and the strain of poor work-life balance. Similarly, offering a wearable breast pump to lactating trainees and faculty improves their ability to efficiently balance clinical responsibilities with the demands of breastfeeding, underscores the support of the department of the wellness needs of all its members and is a step further toward improving gender parity in advancement and leadership in radiology.

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