

Development of a Night Float Call Model for Obstetrics and Gynaecology Residency: The Process and Residents' Perceptions

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Abstract

The 2013 pan-Canadian consensus *Report on Resident Duty Hours* identified that traditional 24-hour duty periods pose risks to the well-being of residents and should be avoided. In anticipation of duty-hour restrictions, the Obstetrics and Gynaecology Residency Program at the University of Toronto developed and implemented a night float (NF) call model over a three-year span. Quarterly resident surveys have consistently shown that the NF system is preferred to traditional 24-hour call and has resulted in reduced fatigue and improved continuity of patient care. Through many iterations, the NF model achieved levels of resident morale, surgical experience, and impact on family relationships that are comparable to the 24-hour call system. We review here our process for developing an NF call model and the perceptions and experiences of residents, with the goal of providing insight for other residency programs that are considering or instituting NF call systems.

Résumé

Le rapport *Un consensus pancanadien sur les heures de travail des résidents*, publié en 2013, indiquait que les périodes de garde traditionnelles de 24 heures pouvaient compromettre le bien-être des résidents et devaient donc être évitées. En prévision des restrictions qui seraient imposées sur le nombre d'heures de garde, le programme de résidence en obstétrique et gynécologie de l'Université de Toronto a créé et mis sur pied, sur une période de trois ans, un modèle de garde de nuit. Des sondages trimestriels réalisés auprès des résidents ont montré invariablement que le modèle de garde de nuit est préféré au modèle traditionnel de 24 heures, qu'il réduit la fatigue et qu'il améliore la continuité des soins. Dans de nombreuses mises à l'essai du modèle, celui-ci a entraîné des résultats comparables à ceux du modèle de garde de 24 heures pour ce qui est du moral des résidents, de l'expérience en chirurgie et des répercussions sur les relations familiales. Le présent rapport vise à

rendre compte du processus de création d'un modèle de garde de nuit ainsi que des points de vue et des expériences des résidents, en vue d'ouvrir la voie à d'autres programmes de résidence qui envisagent de mettre sur pied un système de garde de nuit.

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BACKGROUND

Debate regarding ideal resident duty hours has gathered increasing attention.¹ In the United States, the Accreditation Council for Graduate Medical Education introduced national regulations in 2003 that limited resident duty periods to 80 hours per week, capped overnight shift lengths, and mandated minimum off-duty hours between shifts.^{2,3} There were no formal duty-hour restrictions in Canada until 2011, when a Quebec arbitrator ruled that 24-hour call responsibilities have detrimental effects on the safety of patients and medical residents.⁴ This ruling led to maximum in-house shifts of 16 hours in Quebec; other provinces have not yet introduced similar restrictions.

In 2013, in an effort to move towards a pan-Canadian consensus on resident duty-hour restrictions, the National Steering Committee on Resident Duty Hours released an evidence-based report with recommendations.⁵ The report encouraged residency programs to develop strategies for management of resident fatigue, to introduce innovative call schedules, and to use metrics to monitor the impact of changes to resident duty hours.

In 2016, a randomized, controlled, non-inferiority trial was conducted to compare flexible duty-hour scheduling with restricted hour scheduling for general surgery trainees.⁶

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The study found no significant differences in resident well-being, the quality of education, or outcomes related to patient care. The authors of this study argued, therefore, that surgical training programs should be permitted more flexible restrictions on duty hours. However, the results also highlighted the fact that duty-hour restrictions do not compromise patient care and can be safely adopted.

The Obstetrics and Gynaecology Residency Program at the University of Toronto viewed these events as an opportunity to develop a workable night float (NF) call model that was different from its traditional 24-hour call system. While NF call systems have existed since the 1980s,^{7,8} they have been met with mixed opinions from residents.^{8–12} Concerns have been raised about fatigue,^{12–14} well-being,¹⁵ quality of life,¹⁶ and continuity of patient care.^{16,17} We describe here how we developed, implemented, and evaluated the NF call system in the Obstetrics and Gynaecology Residency Program at the University of Toronto. We reviewed residents' perceptions and experiences to provide insight for residency programs that are considering or instituting NF call systems.

CREATION OF AN NF CALL MODEL

We aimed to create an NF call system that provided round-the-clock resident coverage at three major teaching hospitals. Residents at these hospitals had traditionally worked in a 24-hour call system. A NF system was pilot tested at one hospital in April 2011, with expansion to a second hospital one year later. Residents reported a reduction in fatigue and improved continuity of care.¹⁸ By July 2013, three hospitals had implemented a NF system. Residents on core rotations were scheduled for three consecutive weeks of shifts running from Monday morning to Thursday evening in each three-month block, with an additional Sunday night shift prior to the second week (Table). Residents also worked two day or night shifts every second weekend. Night shifts lasted 12 to 14 hours depending on hospital site, with residents typically covering both obstetrics and gynaecology services. For the system to work, we developed a "relief pool" of residents. Relief residents were residents in their second to fifth year who were on subspecialty or selective rotations (maternal-fetal medicine, ambulatory gynaecology, colposcopy, urogynaecology, ultrasound, and research). They typically provided one week of float call service, including weekends, according to their level of training and their rotation. All residents were exempt from daytime duties when pre- or post-call and did not work on the weekends preceding or following their three NF weeks. To facilitate scheduling, a template was created outlining schedules for

individual residents, allowing them to request a specific assignment.

PROCESS FOR EVALUATION AND IMPLEMENTATION

Following the introduction of NF in July 2013, a survey to evaluate residents' perceptions of the NF template system was developed and distributed. Residents were asked to compare NF to traditional 24-hour call (eAppendix). Questions in the survey focused on residents' preferred call system and their level of fatigue, morale, quality of life, surgical experience, and use of sleep aids; they also asked about the impact of the call system on family relationships and on the continuity of patient care. Residents were also asked for their opinion about the ideal number of consecutive nights of call and any suggestions for improving the system. Quarterly surveys were sent to both core and relief residents (13–20 residents per survey). Survey response rates throughout this process remained high at 71% to 92%.

While a preference for the NF system was emerging (62% in favour), concerns were identified after the second survey. Residents disliked the lack of flexibility associated with NF template scheduling. Although most residents felt less fatigued during NF than during 24-hour call, this did not result in improved morale or quality of life. Further, adjusting between weekday nighttime alertness and weekend daytime activities for three consecutive weeks proved challenging and had a negative effect on family relationships, quality of life, and morale (survey questions are shown in the eAppendix). The majority (76%) of residents felt that template NF scheduling had a negative impact on their family relationships, and 26% of residents surveyed had dependents living with them.

Because a majority of residents preferred NF call despite its many challenges, a resident-led NF committee was created to review feedback and consider ongoing changes to the NF system. Thirty percent of residents volunteered to serve on this committee. The NF committee consisted of four second- and third-year residents randomly selected from the volunteers, the Residency Program Director, and the program's resident representative to the provincial resident association. Beginning in February 2014, the NF committee met regularly to review and disseminate survey feedback and to suggest and implement changes to the NF call system.

Because of concerns regarding the difficulties of having three consecutive weeks of night calls and template scheduling, the NF committee proposed a flexible NF

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