

*National-Level Cross-Cluster Rotation Training in Obstetrics and Gynaecology:
Through the Looking Glass of Residents*

Chun Phoy Cheng Rachel, KK Women's and Children's Hospital, Singapore
Manisha Mathur, KK Women's and Children's Hospital, Singapore
Citra Mattar, National University Hospital, Singapore
Yang Liying, Singapore General Hospital, Singapore
Jill Lee Cheng Sim, KK Women's and Children's Hospital, Singapore

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Abstract

In Singapore, there are 2 sponsoring institutions (SI) under the Obstetrics and Gynaecology (OBGYN) residency program, namely SingHealth and National University Health System. The compulsory cross-cluster rotation training (CCRT) exercise was introduced in 2023 as an additional component to the six-year OBGYN residency program. Thirteen fifth-year residents (R5) in both SI underwent CCRT in the 2023/2024 academic year. This study aims to explore the R5s' perceived views on CCRT experience. Findings from this study will allow opportunity for better curriculum development at national level. R5s were invited to write a reflection essay on their CCRT experience. Resident identities were anonymized. Using a constructivist approach, these essays were analysed and grouped under the six core competencies of the Accreditation Council for Graduate Medical Education (ACGME). Residents reported medical knowledge gains as each SI had a different spectrum of OBGYN patients. The area of greatest gain was in system-based practice. Residents observed different models of care and identified areas to benefit patients' care. Residents recognised that CCRT provided lessons that would revise their practice in their institutions, in keeping with practice-based learning and improvement. Additionally, residents reported improved interpersonal communication across institutions and various faculty members. Whilst all residents expressed anxiety prior to CCRT, host programs offered adequate support through close faculty and peer support. Interestingly, there were different opinions regarding the sufficiency of CCRT duration. Overall, the residents agreed that CCRT exercise was a useful and good experience to enrich their existing residency training and further develop their core skills.

Keywords: ACGME, Residency Training, Obstetrics and Gynaecology, Postgraduate Medical Education

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Introduction

In 2010, the postgraduate medical education in Singapore successfully transitioned from the old United Kingdom-based specialists' accreditation system to the new United States-based residency program under the provision of MOH Holdings (MOHH), the holding company of Singapore's public healthcare clusters. The Obstetrics and Gynaecology (OBGYN) residency program is sponsored by two institutions, namely SingHealth and National University Health System (NUHS).

In the pre-residency era, the specialists' accreditation system was a six-year program, divided equally into two phases - Basic Specialist Training (BST) and Advanced Specialist Training (AST). The trainees did their cross-cluster rotation during AST period for a total of six months. Similarly, the OBGYN residency program consists of a six-year comprehensive training program, which includes four years of junior residency and two years of senior residency.

The BST/AST specialist training program involved skill-based clinical training and a summative examination of three years of BST, followed by three years of AST. Progression in training was time-based with an emphasis on the summative examination, consisting of the specialist Member of the Royal College of Obstetrics and Gynaecology (MRCOG).

The new United States-based residency system was adapted because of its structured training framework and a curriculum based on the six core competencies introduced by the Accreditation Council for Graduate Medical Education (ACGME) which consist of: patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice (Figure 1) (Yin et al., 2015; Leach D. C., 2001).

Core
competencies

Medical knowledge

Patient care

Professionalism

Practice-based learning and improvement

System-based practice

Interpersonal and communication skills

Figure 1: Core Competencies of ACGME

Under the new residency system, the cross-cluster rotation training (CCRT) was temporarily placed on hold to concentrate on other aspects of competencies. In 2020, the residency

faculty under MOHH made plans to resume CCRT. Once again, the CCRT project was deferred due to the emerging Covid infection. Fast forward three years later into 2023, the CCRT was implemented. The institutions selected for CCRT were KK Women's and Children's Hospital (KKH) which is part of the SingHealth institution and National University Hospital (NUH) which is part of the NUHS institution.

Objectives

The compulsory CCRT exercise was created to enhance residency training in both institutions and to strengthen the six core competencies set out by ACGME committee.

This study aims to explore the perceived views of all residents affected by CCRT on the experience of CCRT, a new and additional component to the familiar OBGYN residency training.

We hypothesize that residents would have both positive and negative experiences from the compulsory CCRT exercise which was introduced at short notice.

Findings from this study will allow opportunity for better CCRT curriculum development at national level and open possibilities of considering the introduction of compulsory CCRT in other residency programs around the world.

Methods

A total of 13 OBGYN R5s from both SIs underwent CCRT exercise in the 2023/24 academic year (Chart 1). There were eight SingHealth residents and five NUHS residents involved in this assignment. The rotation periods varied due to the difference in numbers of residents. To ensure manpower allocation in both institutions were balanced, NUHS residents spent 2 months in KKH, while SingHealth residents spent 1-2 months in NUH. The postings included in this rotation were Reproductive Medicine (RM), Maternal Foetal Medicine (MFM), and General Obstetrics and Gynaecology (GOG) which were the core postings in R5 rotation (Figure 2 and 3). Arrangements were made to ensure the residents' training were not compromised in any way. The residents were supervised by the program director, associate program director or the core faculty members during their CCRT.

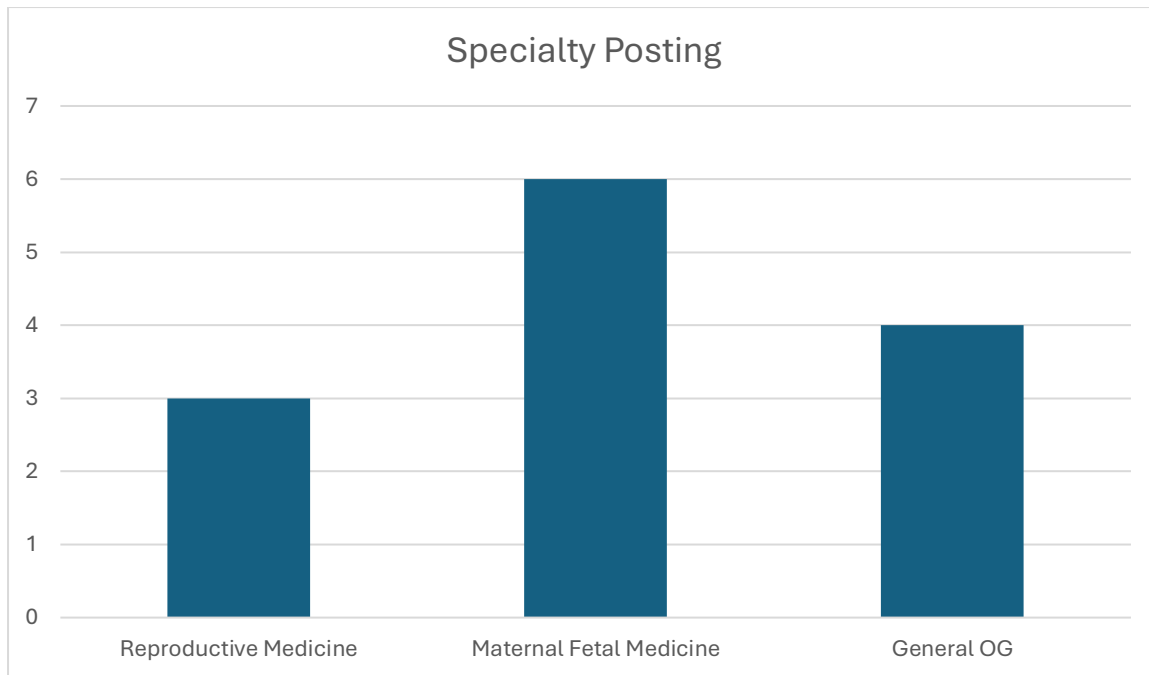


Chart 1: Number of Residents in Each Specialty Posting During Cross Cluster Rotation Training

R5	Reproductive Medicine (3 months)	Maternal Fetal Medicine (2 months)	Benign Gynaecology (2 months at NUHS/KKH, 2 months at KKH)	Benign Gynaecology at SGH (2 months)	Gynae Oncology at SGH (1 month)
R6	Maternal Fetal Medicine (3 months)	Reproductive Medicine (3 months)	Gynae Oncology (4 months)	Maternal Fetal Medicine at SGH (1 month)	Reproductive Medicine (1 month)

Figure 2: Sample Rotation Chart for Senior Residents of SingHealth OBGYN Residency Program

R5 & R6						
Training Objectives						
POSTING	Stations to cover	Learning objectives	Patient Care	Medical Knowledge	Communication Skills	Systems-based Practice
MFM	Obs ward (pre/postnatal), Jade OBS, FCC, GDM + HRC, FCC + fetal anomalies/genetic counselling, supervise EL LSCS, EM LSCS	Antenatal and postnatal care, low and high risk pregnancies, Priming Suite, MTPT, discharge summaries and audits. Intrapartum care, operative deliveries, Em + EL CS, acute complications. Senior Resident OSATS.	• Comprehensive understanding of varying presentations and treatment options for OBGYN conditions.	Demonstrates advanced knowledge necessary for management of OBGYN conditions.	• Counsels patients/families about complications/bad outcomes. Incorporates risk management in process.	• Compassion, integrity, respect for others. Punctuality, responsiveness; Reliability. Coaches others to do the same.
GYN-ONC	Gyn-Onc ward, pre-/post-surgery care, Cancer clinics. Colposcopy, MBOT Gyn Onc + Robotics	Pre-/Post-surgical care, RT/chemotherapy care, ordering TPN, Tumour Board, proficiency in major abdominal surgery. Senior Resident OSATS.	• Effectively supervises and educates lower level residents regarding OBGYN conditions.	• Effectively supervises and educates R1-4.	• Participates in patient/family education	• Self-awareness of fatigue and stress, management of stressors.
REI	REI ward (pre/post surgery) + Jade GYN + Menopause/Adol outpt + Subfertility clinic + CHR + MCOT/IVF + MBOT/MIS	Gyn pre-/post-op care, complex conditions (OHSS, TOA, AUB), EMD gyn admissions, discharge summaries and audits. Senior Resident OSATS.	• Recognizes atypical presentations of OBGYN conditions.	• Collaborates and provides consultation to other members of the OBGYN team regarding care of patient.	• Leads interdisciplinary health care teams	• Reports errors / near misses to the institutional surveillance systems.
BG	MCOT (minors) + Jade GYN + NTF GYN + MBOT (majors) + BG/UG wards + Outpt hysteroscopy / UG + MIS Accreditation (To reach Level 2) + Robotics SR training	Inpatient pre-/post-surgery care, proficiency in major operations, independence and safety in emergency surgeries, ambulatory care, outpatient procedures. To complete Senior Resident OSATS.	• Manages patients with complex and atypical OBGYN conditions and complications.	• Collaborates and provides consultation to other members of the OBGYN team regarding care of patient.	• Leads effective transitions of care and team debriefing.	• Able to conduct root cause analysis.
CCR	2 months (minimum of 1 month) in whichever posting they are assigned by their PD. The R5 will continue with the subspecialty training programme in the host institute, and this will be accredited towards their 6 month posting at their parent institute.	Subspecialty training mirroring the R5's assigned posting + general OG; R5 will fulfill existing list of requirements. The content/skill to achieve during the cross-cluster rotation will need to ensure that the residents' training needs are not compromised in any way and will not result in the need to make up for them in other rotations. The appropriate handover of supervision will be handled between the PDs.	• Effectively supervises and educates R1-4.	• Manages or co-manages critically ill patients.	• Responds to requests for consultation in a timely manner and communicates recommendations to the requesting team.	• Actively participates in quality improvement /patient safety projects. Organises and leads institutional QI /patient safety projects.

Figure 3: Sample Rotation Chart for Senior Residents of NUHS OBGYN Residency Program

They were invited to write a reflection essay on their experience of CCRT at the mid-point or endpoint of their CCRT posting. Resident identities were anonymized prior to qualitative analysis. Using a constructivist approach, these essays were analysed thematically and grouped under the six core competencies of the ACGME.

Results/Discussion

Eight out of 13 reflection essays were analysed according to the six core competencies of the ACGME.

Residents from both sponsoring institutions (SI) agreed that this CCRT rotation allows them to enrich their medical knowledge via evidence-based practice and practice-based learning. They were able to experience the outpatient services in both general clinics and specialty clinics and participate in active counselling during clinic sessions which builds their confidence and further enhance their knowledge. Practice-based learning enhances the trainees' ability in various aspects of self-learning and self-improvement (Yang, B, 2024). One resident recommended tagged clinic session before running the clinic independently to allow time to adapt to the new institution's practice.

The area of greatest gain was in system-based practice. System-based practice allows the residents to understand complex systems and the physician's role in them, navigate them for the benefit of patients, and participate in continually improving them (Guralnick, S., 2021). Residents observed different models of care and reflected on strengths, challenges and recognized areas to benefit patients' care and safety. The NUH residents acknowledged the significant heavier workload and valued the extensive range of OBGYN case varieties in KKH, especially the non-obstetric related conditions in pregnant patients. The exposure to such cases was beneficial to their clinical development. In addition, they were impressed with the multi-disciplinary care provided by the STORK (One Stop Obstetric High Risk) Centre for obstetric patients with medical conditions and hope that this service can be started in NUH. Similarly, the KKH residents agreed that the daily morning meetings in NUH with teaching didactics protected from clinical service commitments were very educational and mind-stimulating. However, one resident reported a disadvantage of these daily meetings – very early daily ward round before the meetings.

Each OBGYN resident in KKH has a mentor which changes every 6 months. This allows a one-to-one assessment and supervision which includes surgical procedure opportunities. On the other hand, the NUH residents do not have a specific mentor, but they have a protected operating time as per rotation schedule. All SingHealth residents reported limited surgical exposure during their CCRT, and one resident reported unequal division of surgical cases among the residents. On the contrary, the NUH residents appreciated the mentor-mentee relationship in SingHealth institution but felt that this may compromise the learning opportunity for other trainees in the same subspecialty rotation. Another resident felt that the junior residents' involvement in surgical cases was limited.

About half of the residents reported good exposure to procedures such as assisted vaginal deliveries and foetal-related procedures during their CCRT rotation. At the end of their rotations, the SingHealth trainees felt more empowered and pro-active in guiding the junior residents through procedures and surgeries which is a common practice in NUH.

Both SI have different electronic system platforms - Sunrise Citrix Manager in KKH and Epic Systems Corporation in NUH. Majority of the residents reported difficulty adjusting to the new electronic systems. In addition to the anxiousness that came with new working environment, this technical issue created unnecessary stress to the residents during this transition. This can adversely affect the residents' training and overall experience in the SI.

One resident suggested to take into consideration the resident's subspecialty of interest when planning CCRT exercise. This may help to create positive attitude and attentiveness during the rotation.

Interpersonal communication is paramount for forming and maintaining relationships (Govindaraju, 2021). The residents reported improved interpersonal communication not just across institutions but also for their individual skills as they learn from and observe a greater number of faculty through the CCRT. New friendship was formed, social circles were expanded, and the residents did not report any struggle in forming peer relationship with colleagues and faculty.

Whilst all residents expressed anxiety prior to CCRT, host program directors provided adequate support to visiting trainees through close faculty and peer support. The consultants and residents in both the SI were helpful, friendly and approachable.

Interestingly, there were different opinions regarding the adequacy of CCRT duration. Some residents felt a 2-month rotation was adequate while the others felt it was relatively short. A resident who did a 1-month rotation preferred a longer posting while another resident felt the CCRT exercise was not beneficial and minimised the learning opportunities in their own institution.

Conclusions

CCRT allows the residents to enhance their existing residency training, further develop their core skills, and push them to achieve greater heights in their professional career. The residents felt their medical knowledge significantly improved since the CCRT as they learned the different practices in both institutions.

Additionally, interpersonal interaction and communication among the healthcare personnel in both institutions which were fortified during this exchange further ensure a holistic care for our large population of OBGYN patients.

Most of the residents expressed slight anxiety at the beginning of their rotation. Nevertheless, they felt adequately supported during their CCRT exercise. This allows the residents to adapt and build resilience, a quality that would come in handy in their lifelong learning journey.

Recommendations from the residents should be taken into consideration to improve CCRT planning for the upcoming R5 residents in the 2024/2025 academic year.

In conclusion, majority of the residents felt that CCRT was beneficial, and it was a good experience.

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Contact email: Phoycheng.chun@mohh.com.sg