

Rural Rotations at Core: Rarefied Exposure or Real Experience?

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OBJECTIVE: Surgical rotations involving rural General Hospitals (rGH) are frequently associated with recruitment challenges, partly because of adverse perceptions regarding distances from social support networks and training opportunities. The aim of this study was to determine the outcomes of core surgical training rotations involving rGHs when compared with urban hospitals in a single UK Deanery.

DESIGN: Online Intercollegiate Surgical Curriculum Programme portfolios from 163 core surgical trainees (CST) were examined related to postlocation, operative experience, workplace-based assessments, and academic achievement. Of the 163 CSTs, 27 had completed at least 50% of their 2-year training posts at rGHs and were compared with 136 control CSTs completing rotations in urban general and teaching hospitals (uGH). The primary outcome measures were MRCS pass rate and success at national ST3 selection.

SETTING: A core surgical training program serving a single UK Deanery.

PARTICIPANTS: Consecutive 177 CSTs appointed to a single UK Deanery between 2010 and 2016.

RESULTS: Success at MRCS and national ST3 selection were similar for CSTs from rGH vs uGH rotations—MRCS success: 70.4 vs 72.8% ($p = 0.816$), and ST3 success: 22.2% vs 27.0% ($p = 0.811$). Median rGH vs uGH curriculum-based outcomes were operative case load: 378 vs 422 ($p = 0.300$); workplace-based assessments completed: 79 vs 94 ($p = 0.499$); audits performed: 4 vs 4 ($p = 0.966$); learned society communications: 1 vs 2 ($p = 0.020$); and scientific publications: 0 vs 0 ($p = 0.478$).

CONCLUSION: CST rotations including rGHs produced a different spectrum of training experience compared with

uGH rotations but overall primary outcomes were similar. (J Surg Ed ■■■■-■■■. © 2017 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: Surgical training, Rural hospital, Rural surgery, Core surgical training

COMPETENCIES: Medical Knowledge, Professionalism, Practice-Based Learning and Improvement

INTRODUCTION

District General Hospitals in the UK are the backbone of clinical service and surgical training delivery, yet this invaluable resource is under intense pressure because of the heat and burden of workload, allied to a target culture, and increasing scrutiny from regulatory bodies. Rural General Hospitals (rGH), a term pioneered by NHS Scotland, defined as a consultant-led secondary care unit that provides around the clock emergency care in addition to elective, diagnostic, and therapeutic services, to sparsely populated remote communities, are arguably under the most threat regarding providing training at every level.¹ As much as a third of the population of Wales and Scotland, and a fifth of England live in areas classed as rural, related to settlement type and geographic context (sparsity).^{2,3} In Wales, one-fifth of all surgical postgraduate training posts are in rural hospitals, and recruitment to rotations involving these hospitals remains challenging. Arguably, because of trainee's adverse perceptions regarding long distances from individuals' social support networks, magnified by a fear of suboptimal training environments, and relative professional isolation when compared with rotations centered on larger urban centers, where trainees have often received most of their undergraduate and foundation training.⁴⁻⁷

Reconfiguration of postgraduate surgical education and the adoption of a competence-based system, in which

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curricular achievements are evidenced, is now an integral part of the assessment of trainee progression. The use of quantifiable markers such as operative logbook numbers and workplace-based assessments have been facilitated by the Intercollegiate Surgical Curriculum Program (ISCP)⁸ online portfolio system, which provides access to both individual trainee and composite unit data that were not recorded previously. Moreover, modernization of surgical training allied to the reduction in working hours, has demanded scrutiny of individual hospital posts to ensure these curricular targets can be satisfied.^{9,10} Consequently, benchmarking of specific hospital training posts can be accurately performed. The aim of this study was to determine the outcome of core surgical training (CST) rotations involving rGHs when compared with hospital rotations centered on urban conurbations (uGH), regarding specific Joint Committee on Surgical Training (JCST) defined curriculum requirements in a single UK deanery.¹¹ The primary outcome measures were success at MRCS examination and national higher surgical training (HST) selection.

MATERIALS AND METHODS

A total of 177 core surgical trainees (CSTs) commenced Wales Deanery training posts between 2010 and 2016. No ISCP data was available for 14 (8.0%) trainees who left the rotation within weeks of appointment. Data was obtained regarding the remaining 163 CSTs (115 males and 48 females) and none were lost to follow-up. Trainees appointed between 2010 and 2012 were allocated 4- and 6-month rotations within a 2-year CST program. Following reconfiguration in 2012,¹² to improve the breadth of surgical exposure and allow for a specialty-themed 2nd year, appointments to posts from 2013 were allocated three 4-month placements in the 1st (CT1) and two 6-month placements in the 2nd (CT2) year. Online ISCP portfolios and Deanery held data were analyzed and the primary outcome measures were MRCS examination and ST3 national selection success. Hospital training units were

categorized into either rural District General Hospitals (rDGH), serving rural geographical populations, or urban District and Teaching General Hospitals (uGH). The definition of rurality is controversial as no single all-purpose definition exists. Definitions differ according to subject matter, whether population based, land use, activities, or access to health care and other social services. The ONS (Office for National Statistics) uses a number of measures of rurality, which include settlement size (<10,000 persons), sparsity measures, land measures, dispersion measures, access measures, or a combination of the aforementioned.^{2,13} Referring to these definitions, the rGH was defined at Deanery level as a District General Hospital requiring a significant commute from a major city, serving a largely rural population. Outcome measures were compared and analyzed according to the proportion of time spent at a rGH. Formal permission under the ISCP Data Governance Structure was not required because the study represented service evaluation.

Statistical Analysis

Statistical analysis appropriate for nonparametric data was performed using SPSS Statistics for Macintosh version 23.0 (IBM Corp, Armonk, NY).

RESULTS

The 12 training hospitals within Wales (3 in North Wales and 9 in South Wales) were categorized as shown in [Table 1](#). Of the 163 trainees, 148 (90.8%) completed the full 2-year CST program, and all data were analyzed, with the proportion of time spent in rural rotations calculated accordingly. Data were available for 669 individual rotations (107 rGH and 562 uGH). A breakdown of the placement numbers related to specialty is shown in [Table 2](#). [Table 3](#) shows a comparative analysis of the overall 2-year outcomes of CSTs that spent $\geq 50\%$ of their rotations in rGHs, with those that spent $< 50\%$ of rotations in rGHs. MRCS pass rates and successful ST3 appointment rates from both

TABLE 1. Hospital Categorization; Rural (rGH) and Urban (uGH)

Hospital	Classification	Region
UHW & Llandough, Cardiff	uGH	South Wales
Morrison & Singleton, Swansea	uGH	South Wales
Royal Gwent, Newport	uGH	South Wales
Prince Charles, Merthyr	uGH	South Wales
Princess of Wales, Bridgend	uGH	South Wales
Royal Glamorgan, Llantrisant	uGH	South Wales
Wrexham	uGH	North Wales
Ysbyty Gwynedd, Bangor	rGH	North Wales
Glan Clwyd, Rhyl	rGH	North Wales
Nevill Hall, Abergavenny	rGH	South Wales
Glangwilli, Carmarthen	rGH	South Wales
Withybush, Haverford West	rGH	South Wales

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