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Research Letter

Impact of COVID-19 on surgical training

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Dear Editor

The COVID-19 pandemic poses enormous challenges to the delivery of healthcare worldwide. This is paralleled by a reduction in surgical training opportunities. The COVIDSurg research collaborative predicted cancellation of over 28 million elective cases during the first wave of the pandemic in early 2020[1]. As the world combats new waves of infection, and increasingly virulent strains of COVID-19, health services have seen a return to restraints on elective activity similar to those of early 2020. This raises barriers to the traditional model of surgical training. Although vaccines provide hope, the future remains uncertain.

It is therefore important to count the cost of this pandemic to trainees and to consider correctives. A recent questionnaire delivered to Irish surgical trainees showed that most respondents believed the pandemic had negatively impacted their access to elective activity[2]. There are few data, however, to quantify that impact or how it is distributed across training grades. An analysis of theatre registry data from a Dublin teaching hospital was performed, comparing activity in the second quarter of 2020 with the same period in 2019 (*Table 1*). Theatre activity consisted of general and local anaesthetic procedures, as well as emergency and therapeutic endoscopy. Overall, 382 fewer operations were performed during the second quarter of 2020 than in the same period in 2019, representing a 66 per cent decrease in training opportunities. When the impact was correlated with training grade, all grades experienced large decreases in their opportunities as lead operator between the two periods: specialist registrars suffered a greater than 70 per cent decrease to six cases per month per person; service registrars suffered a 66 per cent decrease to five cases per month per registrar; senior house officers on the core surgical training scheme suffered an over 80 per cent decrease to less than two cases per month each; and senior house officers in service positions suffered a 70 per cent decrease to less than two cases per month. Similar reductions in training opportunities as first assistant were also observed across all grades.

Table 1 Comparison of theatre registry data for 2019 and 2020

	April–June 2019	April–June 2020	% change
	579	197	−66
Consultants (*n* =5)			
First operator	141	64	−55
First assistant	20	9	−55
Specialist registrars (*n* =2)			
First operator	123	36	−71
First assistant	40	26	−35
Service registrars (*n* =5)			
First operator	220	74	−66
First assistant	59	49	−17
BST SHOs (*n* =2)			
First operator	53	10	−81
First assistant	114	20	−82
Service SHOs (*n* =3)			
First operator	43	13	−70
First assistant	104	15	−86

BST, basic specialist training; SHO, senior house officer.

While operating time has been decimated by the pandemic, trainees have focused their attention on non-technical skill sets. Collaboratives such as the COVIDSurg[1] and Young BJS[3] groups, involving participants from over 60 countries, have allowed trainees to develop team working and academic skills, and training institutions such as the Royal Colleges of Surgeons have embraced video-conferencing technology to facilitate trainee engagement and continued learning. Learning to operate safely, however, remains the bedrock of surgical training. Although the ability to deliver hands-on clinical operative training is impaired, increased use of novel technologies, including online platforms such as TouchSurgery™ (https://www.touchsurgery.com) and home laparoscopic box kits, have been shown to help in key skill acquisition and may, partially, fill this gap.

Future training programmes, however, first need to assess the impact that the pandemic has had on trainee skill sets, as trainees may not be best judges of its impact on their competencies[4]. They will then need to correct any deficit. With bold innovation and leadership, such deficiencies can be corrected. The CholeS study[5] revealed that only 17 per cent of all cholecystectomies were performed by senior trainees, with consultants performing over 80 per cent. This is probably representative of all other major procedures. When current elective surgery restrictions are lifted, consideration must be given to suspending the current 'efficiency' model in favour of ensuring that trainees are proctored through these cases to rectify the accumulated training deficit exacerbated by the pandemic. This may help to mitigate the effects of the pandemic and ensure the continued production of

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the high-quality trainees for which our training programmes are internationally renowned.

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