Using day surgery to recover elective surgery

Operating theatre teams will have a 'marathon' ahead as they battle to reduce waiting lists for elective surgery. The British Association for Day Surgery's annual virtual conference highlighted the need to tackle national variation in day case surgery, as part of the road to recovery.

At the British Association for Day Surgery annual conference on '*Using day surgery to recover elective surgery in the era of COVID-19*', held in March this year, the pressures facing theatre teams in the wake of the pandemic were high on the agenda. Professor Tim Cook, consultant in anaesthesia and intensive medicine, Royal United Hospital NHS Trust, Bath, discussed the current issues facing elective surgery and the scale of the challenge ahead. He showed evidence of the huge backlog of patients awaiting elective surgery and stressed there is a "pressing practical and moral imperative to address the waiting lists".

He opened the discussion by highlighting the latest research which shows that the timing of surgery for patients who have had COVID has a significant impact on outcomes.[1] Led by experts at the University of Birmingham, more than 25,000 surgeons worked together as part of the COVIDSurg Collaborative to collect data from 140,727 patients in 1,674 hospitals across 116 countries. The study found that patients are more than two-and-a-half times more likely to die after their operations, if the procedure takes places in the six weeks following a positive diagnosis for SARS-CoV-2.

Publishing their findings in *Anaesthesia*,[1] the researchers discovered that patients operated 0-6 weeks after SARS-CoV-2 infection diagnosis were at increased risk of postoperative death, as were patients with ongoing symptoms at the time of surgery.

Following a delay of seven weeks or more, patients with ongoing COVID-19 symptoms (6.0%) had higher mortality than patients whose symptoms had resolved (2.4%) or who had been asymptomatic (1.3%).

Prof. Cook pointed out that it is important to remember that 80% of the population hasn't had COVID-19 and the percentage of the surgical population who are post-COVID will be very small. However, shared decision-making regarding the timing of elective surgery after COVID-19 must consider:

- Severity of the initial infection
- Ongoing symptoms of COVID-19
- Comorbid and functional status, both before and after COVID-19
- Clinical priority and disease progression
- Complexity of surgery

Planned surgery should not be considered during the period that the patient is infectious. This is 10 days after mild/moderate disease or 15-20 days after severe disease. Specialist advice will be required for the severely immunosuppressed (including post-dexamethasone or tociluzimab). It should also be noted that surgery should be avoided if the individual is symptomatic as there is an increased risk to the patient. However, if emergency surgery is vital, full-transmission-based precautions should be undertaken.

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unless outweighed by the risk of deferring the procedure – such as disease progression or clinical priority. If patients have ongoing and persistent symptoms, surgery should be delayed even further.

"These seven weeks should be used to optimise patients. It is not a waiting list; it is an activity period," commented Prof. Cook.

The time should be used for functional assessment, rehabilitation, prehabilitation, and multidisciplinary optimisation. National bodies should also decide whether such patients can be prioritised for vaccination.

Restarting surgery

Prof. Cook highlighted the challenges caused by the pandemic – not only has the elective surgery backlog increased, but a fifth of hip fracture patients caught COVID-19 while in hospital (based on evidence from the Scottish IMPACT data, March to April 2020).[2] Keeping patients safe, while tackling the backlog, will be crucial as hospitals resume elective surgery.

So, what exactly is the scale of the challenge? Prof. Cook highlighted figures from the *Anaesthesia and Critical Care COVID Activity Survey*, which compared surgical activity in December 2020 and December 2019, indicating that one-third of non-cancer elective surgeries, a quarter of cancer surgeries, one-third of paediatric surgery, and 10% of emergency surgeries had not been performed. This represents around a 28% loss of surgery compared to December 2019, with an estimated loss of 5,503 operations per day in all UK hospitals. He added these figures were recorded before the second wave hit and the UK went into lockdown once again.

Prof. Cook pointed out that safe surgery requires the 'four Ss': "space, staff, systems and stuff" (equipment), but the impact of COVID-19 on these areas will be felt for some time to come. In December 2020, 1 in 5 theatres were closed. Those theatres that remained open were operating at 50-75% of their normal activity, compared to 2019. Prof. Cook said this reduced productivity is likely to continue for many months. In December 2020, 1 in 5 anaesthetists were not available to perform anaesthesia because they were working in intensive care. So, what is the solution?

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Prof. Cook commented that innovation and strategic thinking will be required, adding: "To clear the backlog, we could double our normal activity and clear it in a year, increase activity by almost 50% and clear it in three years, or increase activity by 10% and clear it in around 10 years. Currently, there aren't any additional operating theatres; there aren't any additional staff; and there isn't any additional money. It won't be a sprint to the finish; we should be preparing for a marathon."

Prof. Cook co-authored a report titled *'Towards safe, stable and sustainable resumption of planned surgery after COVID-19'*. Supported by the Royal College of Anaesthetists, Association of Anaesthetists and The Faculty of Intensive Care Medicine, the document was published in *Anaesthesia* in February 2021.[3] The key points highlighted in the report included:

- The need to pause the majority of planned surgery for almost a year is unique in the history of the NHS. Resuming planned surgery also presents enormous challenges. To make this resumption safe, stable and sustainable will require planning, patience, understanding and novel ways of working.
- Planned surgery may restart only when the necessary minimum four Ss (space, staff, systems and 'stuff' (equipment) are in place to support this in a safe, stable and sustainable manner.
- Surgical activity will resume in a setting in which COVID-19 is an endemic disease requiring additional precautions compared to pre-pandemic care. This will impact capacity and capability. Flexibility will also be needed to enable re-expansion of critical care services and reduced planned activity if future pandemic surges occur, particularly in Winter 2021.

He pointed out that there have been 2,251 more ICU beds compared to January 2020, the equivalent to 140-200 additional ICUs, without any increase in substantive staffing numbers. This has been reliant upon increased hours worked, redeployment of staff and decreased patient-to-staff ratios, thereby increasing work intensity posing challenges to the delivery of optimal care. Prof. Cook reported that the system is "extraordinarily stressed".

"We are only just managing to cope…Staff have been sick and staff have been stressed… Staff are not 'tired' – they have been depleted and damaged," commented Prof. Cook.

A study by Greenberg *et al* revealed very high rates of psychological harm among healthcare workers, during the first wave, comparable or exceeding that reported by troops returning from active military deployment.[4]

"While the rates of significant psychological harm were reported to be 45% in the first wave, we know that this has increased even further with the second wave," said Prof. Cook.

Around 40% reported post-traumatic stress disorder, 6% had severe depression, 11% experienced severe anxiety and 13% reported frequent thoughts of being better

off dead or self-harm. A Royal College of Anaesthetists' snapshot survey showed that 39% of anaesthetists wish to reduce working hours and 18% are considering stopping work altogether. (Source: Medical Workforce Census 2020)

"There will be a crisis if we don't get this right," commented Prof. Cook. He highlighted a paper by Professor Neil Greenberg, titled: *'Going for growth: an outline NHS recovery plan post COVID-19'*.[5]

In this paper, Greenberg commented: *"A poorly implemented post-COVID-19 plan, leading to seemingly false promises of support or of time to readjust to the new normal or managers making high work demands on staff who have been working 'flat out' has the potential to derail staff support efforts to date and to cause serious psychologically harm. Put another way, the unwritten psychological contract between NHS staff, their managers, and the public, has been that staff members will give their all to save lives and in return the nation will give them the support, and time they need, to be able to recover."*

"Psychological wellbeing for anaesthetists and critical care staff is not just a useful 'add on'. It is vital and something that needs to happen," said Prof. Cook. "Most psychological distress occurs after a crisis, not during it, and we are yet to reach the end of this."

Sustaining the perioperative and critical care workforce and capacity will require workforce planning on a local, regional and national basis. In addition, the resumption of planned surgery will need to accommodate the training needs of all doctors in training of all specialties.

"Many doctors in training will have had their training impacted, during the past year, and their needs must not be forgotten," said Prof. Cook. He added that planned surgery requires reliable and consistent supply chains of drugs and equipment, while

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changes in surgical condition or perioperative health and fitness will necessitate further work-up, consent or shared decision-making for many patients. The period in which this takes place could provide an opportunity for planned rest and recuperation for critical care and perioperative staff.

In conclusion, he highlighted a quote by Mark Udall (a mountaineer and US senator): "You don't climb mountains without a team; you don't climb mountains without being fit; you don't climb mountains without being prepared; and you don't climb mountains without balancing the risks and rewards…"

Recovery: defaulting to day surgery

Professor Tim Briggs CBE, national director for clinical improvement at NHS England and chairman at Getting It Right First Time (GIRFT), went on to discuss: *'Why and how should you default to day surgery to maintain elective pathways'*.

Pre-COVID, GIRFT's clinically-led programme led to a reduction in length of stay for TKR/THR, a reduction in appropriate arthroscopy rates, a reduction in emergency readmissions, lower revision rates, a year-on-year reduction in litigation claims, less unwarranted variation, and lower costs. Overall, the orthopaedic pilot resulted in improved outcomes, helped free up bed capacity, and improved theatre productivity and efficiency. GIRFT has now become a national programme, with over 40 specialties and 12 national reports published. It is having a significant impact on quality improvement. One of the key focus areas has been the perioperative medicine workstream.

"We know there are huge variations in day case rates. Day case surgery is better for patients and better for the service," commented Prof. Briggs.

"We need to understand why this variation exists," he continued, adding: "We need to maximise our day case rates if we are going to improve our efficiency and provide patients with their surgery at the correct time. As we know, COVID-19 has hit surgical activity hard and, in London, the impact has been particularly profound – in April 2020, we were only doing 11% of 'business as usual', but all regions have been affected."He reported that more than 300,000 patients are waiting more than 52 weeks for surgery, with orthopaedics and ophthalmology accounting for the two largest groups in the elective backlog. However, he pointed out that the situation is much worse than this – COVID-19 has resulted in a hidden backlog of more than 4.5 million unreferred patients [since the conference this has now increased to 5.1 million as of 10 June 2021]. Many patients have stayed ▶

away from their GPs due to the pandemic and they are likely to start being referred, potentially leading to another surge.

In London, Prof. Briggs was asked to be the clinical lead of the high volume, low complexity elective day case surgery pathways, to oversee the clinical scope of the Getting it Right First Time (GIRFT) programme. The aim was to drive equity of access, excellent clinical outcomes and productivity through the standardisation of pathways and adoption of best practice. Standardised procedure level day case pathways were agreed across all providers in London, supported by expert advisory panels and professional societies. The programme included expectations on productivity, such as 10 cataract operations per half-day list, or four joint replacements on a full day list. The theatre principle was day case by default, for 85% of all procedures.

"Clinicians stepped up to the plate and pathways were developed in just seven weeks. This would have been unthinkable before COVID," said Prof. Briggs.

Twenty-nine pathways, which were mostly day case by default, were signed off by the London Clinical Advisory Group and supported by specialist societies and Royal Colleges. Suitable locations for fast-track surgery hubs across London have been identified, based on analysis of the waiting list and its growth trajectory, alongside a review of theatre and perioperative care capacity.

"These have been working very well," he commented. "So why is there a need to achieve 85% day case rates for elective surgery? It is safer for patients, it ensures resilience if you have surges of infection such as COVID, the top decile of outcome is better for patients, and it will allow us to maintain elective care." He added that this requires leadership, support from the GIRFT programme, data (via the Model Hospital initiative), anaesthetic support (i.e. topical, local anaesthetic, regional blocks), as well as operational support. So, what are the potential opportunities in the London region for top decile performance in orthopaedics and fracture neck of femur?

"If we reach the top decile for one-year readmissions, 30-day readmissions, day case rates and length of stay, we can free up 83 beds, allowing us to perform an extra 7,279 THR/TKR procedures, improving productivity and efficiency," he commented. "Similarly, for ophthalmology, if you aim for the top decile, extra capacity could total an extra 33% cataracts per year (or around 4,000 cataract procedures), while also yielding 9,000 outpatient slots. Day case surgery is an important part of this and can transform services."

London now has the lowest number of ophthalmology patients waiting more than 52 weeks for treatment. For orthopaedics, the waiting list has also grown significantly slower than the national picture.

Current national day case rates will need to improve to tackle the backlog, but Trusts will also need to improve productivity. There is significant variation in terms of late starts, early finishes and inter-case downtime at Trusts, which need to be addressed.

Prof. Briggs commented that there is a huge opportunity to reduce unwarranted variation across Trusts in terms of the rates of day case surgery. With the collection of data, it is now possible to challenge Trusts, while they can also learn from the best performing providers. Current national day case rates will need to improve to tackle the backlog, but Trusts will also need to improve productivity. There is significant variation in terms of late starts, early finishes and inter-case downtime at Trusts, which need to be addressed.

"Recovery in the future will mean that we have to do something different. It is urgent; it is not an option. We need to use the GIRFT methodology to deliver clinical transformation, use the surgical pathways to standardise care and outcomes, and we need top decile performance to become the 'new normal'. Maximising day case rates is absolutely imperative to success," Prof. Briggs continued. He emphasised that theatre principles need to maximise efficiency and productivity – the hub site model, in London, not only ensures this, but also resilience. He asserted that the health service will need to maximise elective capacity at 130%-150%, in order to put elective surgery back on the path to recovery.

"We cannot default to pre-COVID behaviour. We will need to have some difficult conversations with colleagues, systems and hospitals, using granular data," he concluded. CSJ

References

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The British Association of Day Surgery

The British Association of Day Surgery (BADS) is a multidisciplinary organisation, promoting excellence and enhancing education in the delivery of day surgery. The BADS annual virtual conference was held 18 March 2021 and featured a variety of topical presentations from leading experts, poster presentations, and a virtual exhibition. To view the full programme on demand, visit: **https://bads.co.uk/conference/virtual-conference-2021/**

To support the delivery of day surgery, BADS has also published a 'National Day Surgery Delivery Pack', developed in collaboration with GIRFT and The Centre for Perioperative Care, Royal College of Anaesthetists, which outlines the key principles and best practice. To access this resource, visit: **www.gettingitrightfirsttime.co.uk/wp-content/uploads/2020/10/National-Day-Surgery-Delivery-Pack_Sept2020_final.pdf** To access the BADS Directory of Procedures 6th Edition, visit: **https://publications.bads.co.uk/bads-directory-of-procedures-6th-edition-1-p.asp**