Overcoming COVID-19 challenges in Ambulatory Surgery: Reflections of a Junior Doctor

Jessica Griffin

Abstract

The COVID-19 pandemic has affected the UK in many ways; with the NHS being put under unprecedented pressure. It led to the cessation of elective surgery for months; causing a back log of deteriorating patients. With the introduction of COVID vaccines and a call for return to normality, new ways of delivering elective surgery to waiting patients, presents an opportunity to find sustainable ways to ensure continuity of treatment in an unstable health economy.

The challenges of Covid to ambulatory surgery are outlined and strategies to overcome these challenges discussed.

Keywords: Ambulatory Surgery, Covid-19, Recovery of Day Surgery.

Author's Address: The Royal Brompton Hospital, Sydney Street, London, UK. SW3 6NP.

Corresponding Author: Doctor Jessica Griffin. The Royal Brompton Hospital, London, UK. SW3 6NP. *Email:* jgriffin10@hotmail.co.uk

Introduction

When the COVID-19 epidemic was declared a pandemic by the World Health Organisation in March 2020 [1], the impact and duration of the disease could not have been foreseen. As of November 2021, there have now been more than 5 million deaths worldwide with over 140,000 being in the UK [2]. In the 18 months since the UK first went into lockdown, the impact of COVID-19 on surgery within the UK has been far reaching; with both short and long-term consequences for both patients and staff [3]. The impact was compounded by second and third waves of infections especially when experienced in the winter months; a time when hospitals in the UK are normally overstretched.

COVID-19 has adversely affected all elective surgery, including day surgery. The pandemic has restricted the surgical footprint in many hospitals as the challenge of accommodating Covid cases peaked. In many hospitals, day units were ideally used as covid surge areas due to their self-containment and in others the day unit provided an ideal setting for overflow intensive care units. Despite day surgery proceeding in some hospitals as the only way to perform elective surgery, covid cancellations and postponements have created a surgical backlog of unprecedented proportions [4].

With patients waiting ever longer for surgical treatment, there is mounting pressure on the National Health Service (NHS) to resolve the issue. With time, patients are liable to deteriorate, both physically and mentally [5], adding to the urgency of the problem. A strategy to address the waiting list issue is required.

Challenges to day case surgery during the COVID pandemic

Ambulatory surgery faces a multitude of challenges to return to pre-pandemic levels of activity. These can be considered direct or indirect factors leading to delays in performing their surgery.

Direct Factors

Preoperative Testing

One of the biggest challenges facing surgery is the availability of PCR testing to allow procedures to proceed as planned. The UK government's guidelines suggest patients should have a negative PCR test 3 days prior to surgery [6]. Many patients do not receive their results in time, due to factors including postage delays, technical errors and lost samples [7], leading either to cancelled procedures or delays to their procedure while an urgent 'on the day' request is ordered. Delays and postponement of surgery may even invalidate the 72hour PCR Test itself, contributing further to delays in planned surgery.

When test results are not available, patients by necessity, are considered positive unless proven otherwise, adding further delays to surgery due to extra covid precautions [8]. This impacts theatre scheduling timelines, causing further delay to the backlog of day surgery cases [9,10]. If the patient is cancelled, the theatre slot is usually left unfilled, adding to theatre inefficiency. An alternative is self-testing but trusting a negative test poses further issues in relation to user error, false negative tests [11] and the resultant risk to clinicians and other patients.

Changing Government Advice

Advice from governmental bodies on the length of isolation pre surgery also varies from the time of PCR test [12] to 2 weeks prior to procedure if the patient is considered at higher risk of complications from COVID [13]. The terms social-distancing and self-isolation also appear to be used interchangeably, causing further confusion. The result is that individual hospitals formulate their own guidelines regarding precautions before surgery with regard to COVID-19 [12]. The changing variants of COVID-19 and the variability in vaccines and vaccine doses also contribute to the uncertainty of preoperative patient information and places an evolving burden on ambulatory services throughout the UK.

Indirect Factors

Healthcare Personnel

There is an ever-present threat that a member of the surgical team contracts COVID or is forced to self-isolate [14] as a covid contact, leading to a cancelled or delayed list as the team searches for a last minute replacement. In addition to this, many departments across the UK are also having to manage with exhausted staff members from what they have endured [15] and the threat of what is yet to come in this COVID-19 pandemic [16].

Access to Imaging

Most day surgery procedures require little, if any, imaging. However, where complex imaging such as MRI or CT scanning is involved, patients may require negative covid tests before attending for diagnostics and delays in performing the imaging may result in further delayed surgical procedures [17].

Surgical Complications

There is a risk of a surgical complication even in low-risk ambulatory surgery. The unplanned overnight admission may not have an identified bed, leading to low-risk day surgery being prioritised over higher risk day surgery procedures or patients leading to further delays to treatment.

Discharge Planning

Day surgery discharge requires a responsible adult to ensure a safe return home and depending on the surgery, someone at home on the first night after discharge. The pandemic has impacted this recognised pathway in several ways. New cases of COVID among family members, isolating or restricted movement by government stay at home orders [18] and deaths in family units have all had effects on current surgical lists and may impact the preassessment process as yet another consideration in determining the suitability of a patient for day surgery.

Overcoming the challenges to day surgery during the Covid-19 pandemic

There is no single strategy to return Ambulatory surgery to Pre-Covid levels but there are a number of philosophies which may improve efficiency.

Reduce clinical contacts on the patient pathway

The introduction of a baseline assessment to check the patient's suitability for day surgery at the start of the pathway can reduce later workload and reduce unnecessary clinical contact. This initial baseline can be provided by a primary care health screen or a preclinic questionnaire. The fewer contacts the patient has with healthcare personnel, especially in the hospital environment, the lower the risk of hospital-acquired covid. The pandemic has accelerated the introduction of the remote consultation to the patient pathway. This is most appropriate where the patient's history is more important than physical examination in determining the diagnosis. Pictures of physical signs are an adjunct to diagnosis.

Where the patient requires physical examination, the clinic appointment should be combined, where possible, with any necessary diagnostics and preassessment to create a one-stop clinic, a concept well-recognised in other fields of medicine such as cancer care [19]. One of the effects of patients on long waiting lists relates to out-of-date preassessments or diagnostics which may have to be repeated closer to the operation date

Infrastructure

Covid infections are likely to be with us for the foreseeable future. It is clear that the critical factor in conducting efficient ambulatory surgery is the timely availability of Covid testing. Hospital specific sites with capacity for patient testing in the required preoperative timeline would allow rapid confirmation on site of problematic test results and allow the hospital to be in control of its own preoperative testing. Some hospitals have overcome the risk of delayed results by arranging a courier service to transfer their patients' Covid tests to the laboratory for analysis [20]. The financial implications of both of these innovations would perhaps be prohibitive if considered nationwide.

Maintaining a designated ambulatory surgery unit within hospitals is also key in continuing to work through the backlog of cases. At the start of the pandemic, hospital-integrated day surgery units were the ideal facility for conversion to overflow intensive care or high dependency units. They were often self-contained within the hospital and could easily be quarantined from other clinical facilities. However, with the restart of elective surgery as the initial covid peak waned, day surgery capacity was significantly curtailed, despite being the ideal management for surgical patients in times of pandemic: short time in hospital and less contact with other hospital departments. As the pandemic progresses, ringfencing these day-case beds has been cited as being key in maintaining elective surgery lists [21].

Human Resources

The COVID-19 pandemic has enabled teamwork of unprecedented levels between different departments and specialties; allowing the NHS to rise to the challenge of COVID-19. Of course, this is unsustainable in the long term as team members return to their own duties.

Currently, healthcare workers are Covid-fatigued and the NHS is chronically understaffed [23]. The NHS has run on minimal staffing for some time and the vacancy rate overall is currently greater than 10% [24]. However, the admiration for front-line healthcare workers during the pandemic has seen applications for nursing and medicine increase by about 30% [25,26]. However, it will take several years for these new recruits to become productive members of the NHS workforce.

In the operating theatre, the absence of a single member of the team can often result in widespread cancellation of activity as staffing levels may be considered unsafe. Therefore, it makes sense, going forward, to consider a contingency or back up team to stand in should they be required [22]. This has cost implications, but with £5.4bn (6.5bn Euros) already allocated for waiting list recovery [27] these extra staff costs are certainly affordable

Patient Selection

The key for day case surgery to be effective and efficient, is correct patient selection. With a deteriorating patient population and the fragility of surgical lists, this has never been more important to allow surgery to go ahead [28]. Patient criteria will need to be more stringent and tightly controlled than ever before; with age, pulmonary co-morbidities, obesity, heart disease and other health factors, dependent upon the surgery required, considered more carefully. This approach is twofold; in ensuring the patient is able to go home on day of surgery as well as mitigating risk of them catching COVID-19 and suffering associated complications post-operatively [29]. In addition, it allows appropriate planning of both surgically fit and unfit candidates to aid their perioperative experience as required [30]. Once selected, pre-assessing patients as close to their day of surgery as possible allows their condition to be accurately assessed, diagnostics to be relevant and useful and enables the creation of an effective surgical plan [31]. Elective surgery in Covid times involves additional risks to pre-pandemic surgery [32] and the consent form in the UK usually includes the risks on contracting Covid.

Conclusion

While COVID-19 has presented challenges to day surgery cases, it has also provided a stepping stone for innovation and novel approaches to improve the field in the future.

The ever-evolving situation with COVID-19 presents additional layers of complexity to ambulatory surgery services to enable them to overcome and plan for their services to recover and exceed pre-COVID levels in order to solve the backlog of surgical cases.

There have been many suggestions and trialled methods for overcoming restrictions of COVID-19 from across the globe and within the UK; showing that necessity breeds innovation and a desire by healthcare providers across the world to get back to doing what they do best… helping others.

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