

University of Rwanda
Department of surgery
Global Surgery Research Hub
Press release



COVID positive patients should delay surgery to reduce death risk

Surgery should be delayed for seven weeks after a patient tests positive for COVID-19 – as operations taking place up to six weeks after diagnosis are associated with increased risk of death, according to a new global study.

Researchers discovered 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.

Led by experts at the University of Birmingham, more than 25,000 surgeons including those from the University of Rwanda, worked together as part of the *COVIDSurg Collaborative* to collect data from 140,727 patients in 1,674 hospitals across 116 countries including Australia, Brazil, China, India, the UAE, UK, Rwanda and USA - creating one of the world's largest and broadest studies on surgery.

Publishing their findings in *Anaesthesia*, 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.

Co- author Dr JC Allen Ingabire, from the University of Rwanda, department of surgery commented: “*We recommend that elective surgery should be delayed for at least seven weeks after a positive SARS-CoV-2 test result*”.

Prof Faustin Ntirenganya, head of department of surgery at the University of Rwanda and one of the lead authors, added: *“Decisions regarding delaying surgery should be individualized for each patient and advantages of a minimum seven-week delay following SARS-CoV-2 diagnosis be balanced against the potential risks of delay. For some urgent surgeries, for example for advanced tumours, surgeons and patients may decide that the risks of delay are superior to COVID related risks.”*

While it is known that infection with SARS-CoV-2 during surgery increases mortality and international guidelines recommend surgery should be delayed for patients testing positive for COVID-19, there is little evidence regarding the optimal duration of delay.

Participating hospitals included all patients undergoing a surgical procedure in October 2020. Patients who became infected with SARS-CoV-2 after their surgery were excluded from the study. The primary outcome measure was 30-day postoperative death.

Statistical modelling was used to adjust for patient, disease, and operation variables and calculate adjusted 30-day mortality rates for different time periods from SARS-CoV-2 diagnosis to surgery.

Time to surgery from SARS-CoV-2 diagnosis was 0-2 weeks in 1,144 (0.8%), 3-4 weeks in 461 (0.3%), 5-6 weeks in 327 (0.2%), 7 weeks or more in 1,205 (0.9%), and 137,590 (97.8%) did not have SARS-CoV-2 infection. Adjusted 30-day mortality in patients who did not have SARS-CoV-2 infection was 1.5%. This was increased in patients operated at 0-2 weeks (4.0%), 3-4 weeks (4.0%), and at 5-6 weeks (3.6%), but not at 7-8 weeks (1.5%) after SARS-CoV-2 diagnosis.

These findings were consistent across age groups, differing severity of the patient’s condition, urgency of surgery, and grade of surgery and in sensitivity analyses for elective 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%).

- **List of participating countries**

Country	Participating hospitals	Country	Participating hospitals	Country	Participating hospitals
Albania	3	Hong Kong	4	Qatar	3
Algeria	3	Hungary	6	Rep. North Macedonia	4
Argentina	9	India	56	Romania	18
Aruba	1	Indonesia	10	Russian Federation	23
Australia	44	Iran	16	Rwanda	6
Austria	27	Iraq	7	Saudi Arabia	26
Azerbaijan	2	Ireland	17	Senegal	1

Bahrain	4	Israel	3	Serbia	15
Bangladesh	3	Italy	115	Singapore	4
Barbados	1	Japan	47	Slovakia	2
Belarus	2	Jordan	17	Slovenia	2
Belgium	8	Kazakhstan	5	Somalia	1
Benin	5	Kenya	4	South Africa	9
Bosnia & Herzegovina	2	Korea (Republic)	1	South Sudan	1
Brazil	38	Kuwait	7	Spain	97
Bulgaria	5	Latvia	3	Sri Lanka	11
Cameroon	1	Lebanon	9	Sudan	17
Canada	17	Libya	35	Sweden	9
Chile	9	Lithuania	5	Switzerland	9
China	5	Luxembourg	1	Syrian Arab Republic	14
Colombia	22	Madagascar	6	Taiwan	1
Congo	2	Malaysia	10	Thailand	2
Croatia	8	Malta	1	Trinidad and Tobago	1
Cuba	1	Mexico	26	Tunisia	3
Cyprus	3	Moldova	2	Turkey	47
Czechia	6	Mongolia	1	Uganda	11
Denmark	3	Morocco	7	Ukraine	4
Dominican Rep.	2	Namibia	5	UAE	12
Ecuador	1	Nepal	1	UK	205
Egypt	33	Netherlands	17	USA	69
El Salvador	1	New Zealand	11	Uruguay	2
Estonia	1	Nigeria	31	Yemen	5
Ethiopia	24	Oman	2	Zambia	1
Finland	2	Pakistan	30	Zimbabwe	5
France	44	Palestine	6		
Gabon	2	Panama	1		
Georgia	1	Paraguay	11		
Germany	54	Peru	15		
Ghana	8	Philippines	10		
Greece	30	Poland	4		
Guatemala	9	Portugal	23		

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