



# Recommendation for Resuming Elective Surgery during the Normalising Period in COVID-19 Pandemic

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## Introduction

Coronavirus disease 2019 (COVID-19) is an infection caused by the severe acute respiratory syndrome coronavirus 2. It began at the end of 2019 in the Hubei province of China and quickly expanded worldwide. The World Health Organisation announced the determination of the Public Health Emergency of International Concern on 31 January, 2020, and later proclaimed a global pandemic on 10 March, 2020. The first case in Turkey was officially declared on 11 March, 2020.

On 17 March, 2020, the Turkish Ministry of Health published a circular number 14500235-403.99, which regulated precautions to minimise the workload of healthcare systems as well as that of caregivers. This involves the cancellation of elective surgeries to ensure rational and effective use of healthcare resources during the pandemic to reduce viral transmission between patients and healthcare staff and to manage rationally critical care utilisation. In contrast, maintenance of non-COVID-19 healthcare and resumption of critical procedures are serious issues after 60 days of the pandemic. Oncological surgery, procedures to rescue affected limbs, operations to improve function or quality of life and alleviation of pain should be revised in this context and should be scheduled.

Per the Turkish Association of Anaesthesia and Reanimation, we aimed to compile our suggestions about the elective surgery schedule, share them with public authority and guide our colleagues in decision making. Local factors with institutional features and opportunities should be considered with local authority coordination for these recommendations.

Essential factors to consider while planning elective surgery are the regional incidence of the disease and patient population of the relevant institution before the pandemic. Evaluation of logistic conditions and institutional status within the pandemic would allow a reliable planning. Clearly redefining elective surgery would be advantageous in terms of a common language between departments and would improve collaboration.

This guideline based on actual data involves recommendations for the management of anaesthesia and reanimation. Newer data or evidence will possibly weaken these suggestions. As a part of professional responsibility, one should follow current knowledge and regulations by communication channels of the Ministry of Health.

### Evaluation before planning elective surgery

It is recommended to manage the transition period with an institutional scientific board committee. Collaboration with the head nursery is rational in this time course. Before resuming scheduled surgery, institutional opportunities should be assessed and coordination with local health authorities should be established. Moreover, local conditions of COVID-19 infection should be evaluated with a period of fall in the past 14 days (1).

#### a) Assessment of patients with COVID-19

- It is recommended to determine the prevalence for the relevant institution as well as the local rate, availability of ward beds and intensive care units (ICUs), discharge status and mortality rate before resuming.
- It is recommended to have a local policy for retest and follow-up for patients who are positive. Because COVID-19 is associated with high perioperative morbidity and mortality, surgery is conceivable only in life-threatening conditions for patients who are positive for COVID-19.

#### b) Coronavirus disease 2019 diagnostic opportunities

- Diagnostic opportunities should be reviewed and updated before resuming scheduled surgery. Local policy for COVID-19 diagnosis would be rather established considering local factors with incidence of asymptomatic ratio.
- Despite the high incidence of false negatives (30%), reverse transcriptase-polymerase chain reaction (RT-PCR) testing is actually a standard tool. Resuming elective surgery can be planned when adequate diagnostic facilities for patients and staff are all available.

#### c) Healthcare workers

- Considering fatigue and stress during the pandemic, it is recommended to carefully plan for working hours. Staff assigned in high-risk areas would benefit from a flexible programme.

#### Main Points:

- Each institution should generate its roadmap in resuming elective surgery with a multidisciplinary team considering local factors, volume and variety of patients, resources planning and its role within the pandemic. Before resuming elective surgery, a period of fall in the past 14 days both in the region and the hospital is recommended.
- Availability of diagnostic tests as well as personal protective equipment for health workers and patients would be ensured. It is also recommended to establish appropriate settings and precautions within the institutions that treat both patients with coronavirus disease 2019 (COVID-19) and those without COVID-19.
- Because it is a highly dynamic period, an update would be possible once the master plan is designed.

- The availability of diagnostic tests for healthcare workers is crucial, and it would affect the development of local policy.
- High-sensitive antibody tests, whenever obtained, would be primarily suitable for caregivers working in high-risk areas. Administration of an immune chart would be appropriate, especially for this group.
- The safety of healthcare workers should be accepted as the first and most critical step of organisation. Prevalence in this special group should be closely monitored with vigilant follow-up.
- Before resuming elective surgery, a task distribution close to that of the pre-pandemic period would be suitable. Staff working out of their own places would rather return. Apart from operating rooms (ORs), adequate staff should be reserved for outpatient clinics or post-anaesthesia care units for perioperative period.

#### d) Institutional facilities

- Normalisation should be established for ICU beds (ORs, paediatric ICUs used for patients with COVID-19 and so on) with an approximate capacity to that of the pre-pandemic period.
- COVID-19-dedicated building, OR, ICU or any department for diagnostic or therapeutic procedures should be revisited. Similar organisations should be ensured for patients without COVID-19. If these groups are to be treated in the same building, isolation standards, transport conditions between sections and disinfection or sterilisation protocols should be planned in detail (1).
- Staff should receive training in personal protective equipment (PPE), disinfection or sterilisation topics.
- Surgical timetables for elective procedures should be organised considering emergent cases, such as trauma. Other facilities for surgical patients, such as laboratory, radiological suits and postoperative care units, should be included in the preliminary plan. Any change in construction or acclimatisation would be planned with the technical department.

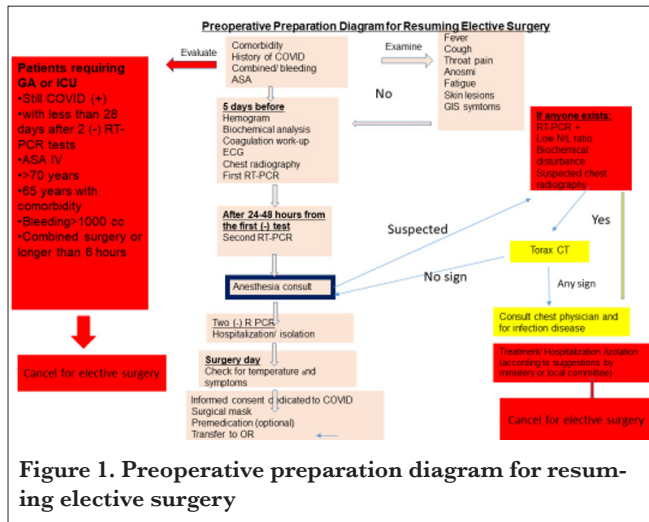
#### e) Personal protective equipment

- It is mandatory to have an appropriate number of PPEs as described in guidelines (N95/FFP2 masks, face shield, gloves, gown, cap, shoe cover and antiseptic solutions) to ensure staff safety.
- PPE supply chain should be reliably assumed in collaboration with the local authority. A stock of at least 30 days for PPE is recommended in a hospital before the start of elective surgery.

### Elective surgery schedule

#### a) Planning patients' preparation (Figure 1)

**Infection control:** Surgery is indicated only in life-threatening conditions with COVID-19 (2, 3). In the early stage of



the pandemic, mortality has been reported to be 20%–50% in patients with an inadequate assessment. The essential goal of these precautions is to minimise the risk for elective surgery candidates (4, 5).

- A checklist would be useful to investigate COVID-19-associated symptoms and suspected contact in preoperative assessment. Figure 1 summarises the roadmap dedicated to patients scheduled for elective surgery.
- Routine use of computed tomography (CT) is not recommended for screening COVID-19 in asymptomatic patients.
- CT is recommended in suspected patients with fever, cough and respiratory distress for diagnosis and evaluation.
- PCR is recommended except for emergent cases. According to hospital test availability and test results, 2 samples in the past 5 days for each elective patient are recommended (6, 7).
- Ward or ICU for postoperative follow-up would be arranged in accordance with the PCR results.
- Each patient can be assessed as suspected considering the false-negative ratio of the PCR and should wear a mask in the OR.
- Patients with positive PCR and presenting with mild symptoms (anosmia, fatigue, myalgia or gastrointestinal system disturbance) without any radiological finding could be considered for elective surgery exclusively after 28 days. Current knowledge affirms that transmission vanishes after 28 days.
- We have insufficient data for recovery of COVID-19 pneumonia (with positive PCR, respiratory symptoms and radiological findings). In this group of patients, individual factors (age, comorbidities, etc), extent of surgery and respiratory function in the recovery period should be assessed by consulting with the pulmonology department in elective surgery planning.

- Surgical indication should be reassessed in elderly patients who are more susceptible to COVID-19; conservative treatment seems suitable.
- Surgical timetables should be prepared weekly with back-up.

## b) Planning surgery

- A master plan should be prepared in collaboration with the scientific board and whole partners, with predetermined hospital priorities and in consideration of facilities (8, 9).
- During the transition period, COVID-19 diagnosis would not be excluded for a significant number of patients. The organisation of ward and ICU beds should be well established with appropriate distinction.
- Considering the spread of the disease, it is recommended that postoperative follow-up could be achieved in COVID-19 dedicated hospitals with the local authority.
- Dedicated hospitals for oncological care or cardiovascular surgery would determine their own roadmap for the transition period.
- The first step of elective surgery would be planned either with cancelled cases or with low-risk patients (American Society of Anaesthesiologist classifications I and II, outpatient surgery or diagnostic procedures).
- Hospitals with a large variety of surgery types would utilise scoring systems to schedule elective surgery (2).
- Resuming OR in a gradual manner would be better to assess the appropriate capacity for elective procedures by hospital administration, departments of surgery and anaesthesiology and reanimation. Similarly, conditions that would limit the increasing capacity should be determined in collaboration.
- In addition to COVID-19-dedicated ORs, theatres for trauma or other emergencies should be established.

## c) Executive decisions

When the transition period is planned, it should be shared clearly with health workers. A checklist should be designed considering patient safety.

## d) Constitutional settings

- Clean zone should be obviously defined in the hospital with connections. Healthcare workers should be informed about the setting or new changes. Transport issues would be described clearly.
- Either elective or urgent patients without antibody formation should be accepted as suspected cases within this time period, at least for 6 months. Ward should be organised with single rooms and restricted to 1 sitter. Care standards should be organised under scientific board guidance with an appropriate distance between patients,

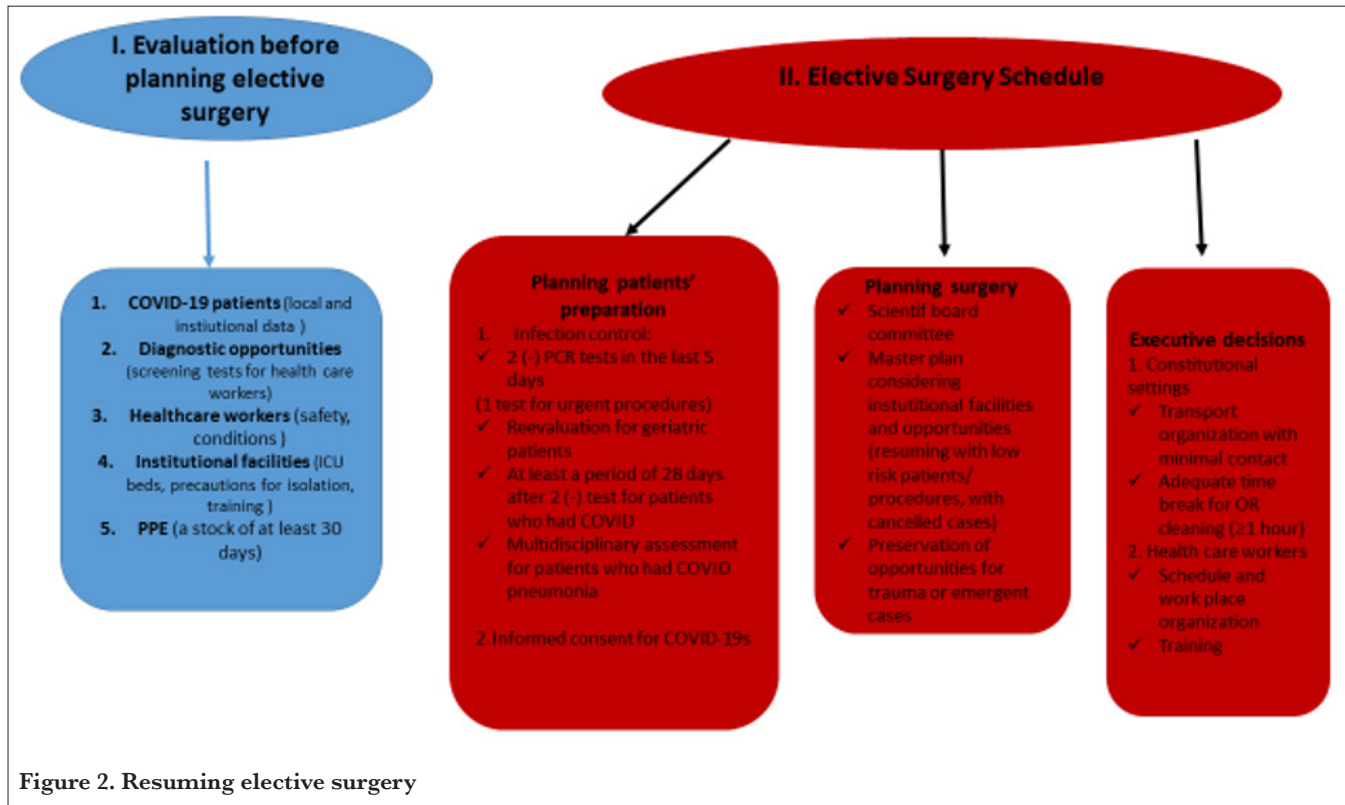


Figure 2. Resuming elective surgery

transport opportunities and use of PPE conforming to protocols.

- a. Patients should be transferred immediately from ward to OR, and any waiting should be prevented during the transition period.
- b. Circulation should be restricted in the hospital. Any visitor or sitter in the ward should be limited. Similarly, staff would be minimised in the OR while reducing entrance and exit. In this context, healthcare workers would rather be charged in only 1 theatre.
- c. Actually, OR cleaning should be carefully planned in the pandemic (1). Timeout should be at least 60 minutes. Scientific board recommendations could be adopted. Ultraviolet or hydrogen peroxide vaporiser is recommended if viral decontamination exists. Surface disinfection should be achieved with sodium hypochlorite (1/100) or 70% alcohol-based solution if the former cannot be used. Any material infected with patient's secretion should be cleaned with sodium hypochlorite (1/10).

#### e) Healthcare workers

- Schedule and workplace would be reorganised in the resuming period. Staff who had to change their departments should get training courses for appropriate PPE use according to new duty (for example, from COVID-19 ICU to OR).

- A checklist should be available for donning and doffing PPE. Staff should be informed of this checklist with local policy and trained for the preparation of patients undergoing elective surgery.

## Conclusion

Each institution should generate its roadmap with a multidisciplinary team considering local factors, volume and variety of patients, equipment supply with sustainability and its role in the pandemic. Healthy, well equipped and competent staff is the basis of the healthcare system. It is recommended to resume elective surgery after the following steps (Figure 2):

1. A period of fall in the past 14 days both in the region and the hospital before resuming;
2. Availability of diagnostic tests for health workers and patients;
3. A stock of at least 30 days for PPE in the hospital;
4. Return of staff working out of their own place;
5. Appropriate settings and precautions within the institutions that treat both patients with COVID-19 and those without COVID-19;
6. Developing local policy with the guidance of the scientific board committee for the transition period;
7. Preparation for RT-PCR screening of patients undergoing elective surgery;

8. Informing patients about possible viral transmission in the transition period with a relevant consent and
9. Establishment of revisited timetables and working conditions for outpatient clinics, radiological suits and surgical wards subsequent to resuming elective surgery.

Because it is a highly dynamic period, an update would be possible once the master plan is designed.

**Informed consent:** Patients should be informed about infection possibility within institutions while providing both COVID-19 and non-COVID-19 healthcare. Patients and/or relatives should be aware of this risk and consent.

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