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## Local Resumption of Elective Surgery Guidance

### Introduction

In order to focus local resources on managing the new coronavirus (COVID-19) pandemic, “elective” surgery has been largely postponed and stopped. As the COVID-19 rates have already reached their peaks, or will do so over the next week or two (depending on location), the current focus for an increasing number of facilities is toward “ramping up” to prepare for elective operations.

**The current document offers a set of principles and issues to help local facilities plan for resumption of elective surgical care.**

**While the effect of the COVID-19 pandemic on local communities or facilities is a spectrum, we suggest facilities use this checklist as a guide to ensure issues have at least been considered.** Understanding both the local facility capabilities (e.g., beds, testing, operating rooms [ORs]) as well as potential constraints (e.g., workforce, supply chain), while keeping an eye on potential subsequent waves of COVID-19 will continue to be important.

Within the categories of **I. COVID-19 Awareness, II. Preparedness, III. Patient Issues, and IV. Delivery of Safe High-Quality Care**, there are 10 distinct issues to be addressed locally before elective surgery may be safely reinstated. Evaluating and addressing each of these **10 issues** will help facilities to not only optimally provide safe and high-quality surgical patient care, but also to ensure that surgery resumes, and doesn’t stop again.

## Document Sections

### I. **COVID-19 AWARENESS**

1. Know your community's COVID-19 numbers, including prevalence, incidence, and isolation mandates
2. Know your COVID-19 diagnostic testing availability and policies for patients and health care workers

### II. **PREPAREDNESS**

3. Promulgate personal protection equipment (PPE) policies for your health care workers
4. Know your health care facility capacity (beds, intensive care units (ICUs), ventilators), including expansion plans (e.g., weekends)
5. Ensure OR supply chain/support areas
6. Address workforce staffing issues
7. Assign a governance committee

### III. **PATIENT ISSUES**

8. Patient communication
9. Prioritization protocol/plan

### IV. **DELIVERY OF SAFE AND HIGH-QUALITY CARE**

10. Ensuring safe, high-quality, high-value care of the surgical patient across the Five Phases of Care continuum

## I. COVID-19 AWARENESS

### 1. **KNOW YOUR RATES: Knowing your community's COVID-19 numbers, including prevalence and incidence rates, as well as local isolation mandates, will help dictate timing of ramp up.**

- The 75th percentile of the incubation period prior to developing symptoms of COVID-19 is seven days, and the maximum estimated incubation period is approximately 14 days. Thus, it has been recommended that a **decrease in measures of COVID-19 incidence for at least 14 days** should be considered before transitioning to provide surgical services for patients without immediately life- or limb-threatening conditions. A Roadmap to Reopening [reference](#) is provided.
- Once the COVID-19 crisis has been mitigated locally, it is still vital to continually know the latest local COVID-19 rates (such as incidence rates of new cases, as well as hospitalizations), particularly as there is a threat of subsequent waves of COVID-19 infection regardless of whether isolation/physical distancing mandates are reversed.
- Consider defining specific criteria and/or a threshold COVID-19 incidence rate for a **re-entering mitigation phase** in the facility if COVID-19 rates locally resurge.
- Ensure compliance with state or local community executive orders and regulations.

### 2. **DIAGNOSTIC TESTING: Know your COVID-19 diagnostic testing availability, and develop operational testing policies for patients and health care workers.**

- Know, understand, and update your **local COVID-19 diagnostic testing capabilities** and turnaround times. The testing availability will likely change during the ramp-up period. While it is to be hoped that availability is on the rise, some predict that *availability may actually decrease* as the community testing demands increase.
- Develop **local diagnostic testing policies for patients**. Rapid testing for COVID-19 infection through real-time reverse transcription polymerase chain reaction (RT-PCR) testing may be considered for all patients undergoing planned surgery, or for selected patients after screening with or without mandatory preoperative quarantine. The prevalence of asymptomatic/presymptomatic patients is unknown, but likely varies according to the pretest probability, i.e., prevalence of disease in the community. Surgeons should be involved in institutional policymaking since the risk to the patient and the staff varies with the type of procedure, the patient's condition, local circumstances, and over time. Some surgeon discretion is necessary and should be permitted.
- Develop diagnostic screening testing **policies for health care workers**. With near-future reversal of physical distancing, local incidence may increase, including among health care workers. As ramp up proceeds, screening and testing policies and planning for staff should be considered.
- **Consider false negative test rates** and need for retesting. False negatives have been reported as high as 30 percent. Guidelines for potential retesting in negative patients might be considered. A particular challenge to health care worker safety is

our current lack of understanding of duration for transmissibility of the virus in either asymptomatic COVID-19-positive patients or individuals who have recovered from a COVID-19 illness. There is evidence that even after respiratory samples are negative in patients who have recovered from a COVID-19 illness, viral RNA remains in the stool for >30 days. The clinical significance of fecal RNA is not well understood.

- **Consider guidelines for postoperative COVID-19 testing** of symptomatic patients/patients under investigation (PUI). Atelectasis, fevers, etc., are not uncommon in the postoperative course. Establishing operational guidelines for COVID-19 testing in these patients and concurrent testing results should be considered.
- There is not likely to be a highly sensitive and specific **mass testing ability** in the U.S. for at least several months. Therefore, reasonable alternative methods of determining risk versus benefit to the patient and public health in all facilities, inpatient and outpatient, will be required in the interim in order to continue the care of patients now waiting for surgeries previously delayed during the first phase of the pandemic. If optimal screening/testing is unavailable locally, implementation of such alternative screening methods is a local decision and should be done in conjunction with local public health officials.

## II. Preparedness

### **3. PERSONAL PROTECTIVE EQUIPMENT: Know your local PPE availability and developing policies for your health care workers and procedures.**

- Sustaining a productive workforce while ramping-up surgical cases requires adequate PPE availability and the continued adherence to protocols established to protect workers from virus exposure.
- PPE supplies: Stored inventory—or a reliable supply chain—of PPE for both airborne/aerosol and droplet/contact precautions optimally for at least 30 days of operations should exist in a hospital prior to relaxing restrictions on surgical activity.
- A Centers for Disease Control (CDC) PPE [calculator](#) is provided as an example for determining supply needs.
- PPE guidelines should include PPE recommendations for COVID-19+, PUI, and non-COVID-19 patients for all patient care, including high-risk procedures (e.g., intubation, chest tubes, tracheostomy).
- Consistent with CDC and Centers for Medicare & Medicaid (CMS) recommendations for PPEs outside the OR, facilities may consider having all health care workers and staff wear appropriate-level PPE, while patients wear cloth masks during the ramp-up period, and possibly beyond.

### **4. LOCAL FACILITY CAPACITY: Know your health care facility capacity (e.g., beds, ICUs, ventilators), including capacity in expansion strategies (e.g., weekends).**

- The approach to restoring the elective surgery caseload depends greatly on the hospital's available resources, including **OR capacity** and alternative sites of care. Sufficient facility capacity for providing care to surgical patients must be present in the system, including—in addition to ORs and peri-anesthesia units—critical care, emergency, diagnostic imaging, and laboratory services.
- Consider potential sites for resuming elective surgery, including those facility areas that were converted or closed during the surge, such as ORs, ambulatory surgery centers, and hospital outpatient departments.
- Facility cleaning policies in context of COVID-19 should be considered. **Cleaning**—in all areas—along the continuum of care should be addressed (e.g., clinic, preoperative, ORs, workrooms, path-frozen, recovery room, wards, ICUs, ventilators, scopes, etc.).
- Certain select procedures may be appropriate for the office setting as long as safety concerns are identified and addressed.
- Collaboration and coordination of timing and site designation among clinically integrated networks, Accountable Care Organizations, and other key partners may accelerate the scaling of surgical activity.
- The **OR schedules** should change to accommodate the rapid influx of cases. Modifications may include limiting block time assignments to increase open time and extending hours of elective operations later into the evening and on the weekends. Rooms may be outfitted with new equipment to expand the capacity for specific procedures. Scheduling cases according to priority and grouping like cases together may increase scheduling efficiency.
- Ensure that a post-corona elective surgery surge will not overwhelm the local facility throughout preoperative, intraoperative, postoperative, and post-acute care phases.
- Other areas of the hospital that support perioperative services must be ready to commence operations, including the clinical laboratory, diagnostic imaging, and sterile processing. If these areas are not ready, it may be feasible to consider engaging outside partners in providing temporary support, such as national laboratory services.
- **Facility capacity and expansion** should include estimating the anticipated demand.
- Need to consider numbers of canceled/postponed patients.
- Need to consider facility capacity for usual levels of emergency care, trauma care, and others.
- **Engineering issues** (e.g., reversing negative flow ORs for COVID-19 to positive flow ORs for surgery).

##### 5. **RESOURCES AND SUPPLIES: Supply chain/support areas.**

- A resumption to normal levels of surgical supplies, implants, and equipment must be in place prior to reactivating elective surgery and commensurate with anticipated ramp-up procedures (e.g., anesthesia-sedation medications, minimally invasive surgery trocar desufflation filters, PPEs, other).

- Ensuring a supply of products is available from traditional or new vendors as well as vendor support is necessary.
- ORs should take **inventory of existing supplies** for the particular service lines, prioritized with a focus on those with expiration dates.
- **Cleaning supplies** for all areas where COVID-19 or PUI patient care was/is being delivered.

#### 6. HEALTH CARE WORKERS: Workforce staffing issues.

- **Multidisciplinary** staffing coverage for routine and “expanded” hours.
- Ensure coordination among surgery, anesthesia, nursing, engineering, housekeeping, and others.
- Consider creating and/or updating PPE policies to protect workers from a new infection.
- **Contingency planning** in potential situation of newly diagnosed health care workers.
- Consider levels of **stress and fatigue** in otherwise healthy workers. Workers returning to work following a COVID-19 infection may especially be at risk for physical and emotional exhaustion.
- Additional staff may need assistance with childcare, particularly with expanded hours.
- Institutions may consider mitigating **workforce shortages** through creative staffing, e.g., retired surgeons may be available to work as first assistants. Hospitals may grant independent privileges to chief residents who have met graduation requirements. Hospitals should consider flexibility in other OR roles, and strategies to expedite the training of nurses and surgical technicians.
- Ensure adequate health care worker staffing to accommodate a COVID-19 surge if a **second wave** occurs.

#### 7. REVIEW-GOVERNANCE COMMITTEE: Assign a governance committee to clarify, interpret, and iterate policies, make real-time decisions, and initiate and communicate messaging.

- Function: **Real-time** governance, decision-making body
- Members: **Multidisciplinary** (e.g., surgery, anesthesia, nursing, others)
- Frequency: At least **daily huddles** during ramp-up period and possibly beyond
- **Data-driven**, e.g., utilization, efficiency, COVID-19 awareness data, errors/near misses, complications.
- **Additional topics for consideration**
  - Prioritization
  - PPE
  - Newly diagnosed patients/staff
  - Pandemic assessment
  - Patient backlog
  - Clinical priorities
  - Community backlog

- Patient access
- Newly uninsured plan, low income plan
- Safety/quality
- Certification

### III. Patient Issues

#### 8. **PATIENT COMMUNICATION: Surgery patients may have myriad questions and concerns regarding the ramp-up period. Clear messaging and communication will be paramount.**

- Consider a multidisciplinary committee (e.g., may be review-governance committee, see above) to organize patient messaging and communication.
- Potential **messaging-communication** topics include:
  - Procedure prioritization
  - COVID-19 testing policies for patients
  - COVID-19 counseling
  - Safety for patients receiving care within the health care system—facilities, health care workers
  - PPE use
  - Patient family/visitor guidelines
  - Postdischarge care/follow-up
  - Advance directives
  - All-payor class strategies:
    - Medicare/Medicaid
    - Commercial insurers
    - Newly uninsured coverage
    - Uninsured

#### 9. **SURGERY PRIORITIZATION: Prioritization protocol/plan.**

- As the ramp-up period is being planned, the prioritization of surgical procedures should follow a **collaborative process** to identify principles and a framework for prioritization. Input should be considered from surgery, anesthesia, nursing, and others.
- A prioritization process should be created that adjusts to local, regional, and national epidemiological trends, changes in COVID-19 diagnostic and treatment strategies, and is **sensitive to the institution's resources, priorities, and patient needs**. The process should be optimally applicable both within and across surgical specialties, disease processes, and practice environments.
- **Transparency** of the principles, framework, and prioritization process to hospitals, surgeons, patients, and the public will provide assurance, consistency, and reliability, as it will help to standardize the integration of decision-making factors not usually considered in clinical judgment outside the pandemic/postpandemic setting. It also

will help to reduce ethical dilemmas and potential for moral injury for surgeons, anesthesiologists, nursing, surgical leadership, and others.

- During development of the local prioritization process, the following may be considered:
  - List of previously cancelled/postponed cases.
  - Consider objective priority scoring (e.g., Medically Necessary Time-Sensitive [MeNTS] Scoring [System](#) for prioritization).
  - Defer to specialties' prioritization.
  - OR availability and expansion. Strategy for allotting daytime "OR time"—block time, revised blocks, prioritization, other.
  - Strategy for phased opening of ORs:
    - All ORs
    - 50 percent vs. 25 percent vs. outpatient/ambulatory first
  - Consider local strategies for increasing "OR time" availability, e.g., weekends, extended hours (see following for issues related to OR expansion).
  - Supply chain.
  - PPE availability.
  - Establish review-governance committee, see above, to review such issues as process of prioritization for ORs.
  - The prioritization process and criteria may vary in real time according to institutional resources, capabilities, business priorities, and other issues. Issues in question should be evaluated in concert with the governance committee.
  - Prioritization criteria will likely be modified as our knowledge of diagnosis and treatments of COVID-19 evolve, and as more COVID-19-related surgical outcome data become available.
  - Prioritize/integrate emergent/urgent operative cases (e.g., trauma, emergency general surgery).
  - Issues to consider associated with increased OR volume/OR expansion:
    - Ensure primary personnel availability commensurate with increased OR volume/OR hours (e.g., surgeon, anesthesia, nursing, housekeeping, engineering, etc.)
    - Ensure adjunct personnel availability (e.g., pathology, radiology, gastrointestinal, other)
    - Ensure supply availability (e.g., medications, suture, minimally invasive surgery instruments, trocar desufflation filters, other—a more comprehensive list will be helpful)
    - Ensure hospital bed/ICU/ventilator availability
    - New staff training
    - Other



## IV. Delivery of Safe High-Quality Care

### 10. Ensuring safe, high-quality, high-value care of the surgical patient across the Five Phases of Care continuum.

- Utilize quality improvement programs/care standards to help support achieving safe, **high-quality**, high-value patient care.
- Use of risk-adjusted **data** to evaluate patient care and outcomes.
- Ensure optimal patient care across **Five Phases of Care**:
  - **Phase I: Preoperative Period**
    - Consider guideline for repeating laboratory results, radiology, history and physical, re-consent vs. use of prior results.
      - Consider use of telehealth.
    - Consider guideline to (re)assess comorbidities especially if COVID-19/PUI or extended length of time of postponed operation.
      - Consider use of telehealth.
    - The composite assessment, in conjunction with sound clinical judgment, provides the surgeon and other decision makers with the information needed to make decisions regarding clinical appropriateness as well as surgical prioritization.
    - Office, clinic, hospital public areas (e.g., waiting room) should continue to practice physical distancing (e.g., six-foot spacing of chairs)
    - Consider review of patient advance directive, especially older adults, frail, COVID-19+, other.
    - Evaluate and discuss patient's potential need for post-acute care facility (rehabilitation medicine, skilled nursing facility, other) before operation (given known COVID-19 outbreaks in post-acute care-type facilities).
    - Preoperative setting (e.g., clinic, office, or non-COVID-19 care (NCC) areas) should consider screening all patients before the appointment for symptoms of COVID-19 disease, including temperature checks, and routinely screen all staff and others who would be working in the facility (physicians, nurses, housekeeping, delivery, and others).
    - As stated above in PPE section, aligning with CDC and CMS recommendations, consider a policy for all health care providers and staff to wear surgical face masks at all times. Procedures on the mucous membranes, including the respiratory tract, that have a higher risk of aerosol transmission should be done with great caution, and staff should utilize appropriate respiratory protection such as N95 masks and face shields.
    - Patients should wear a cloth face covering that can be bought or made at home.
  - **Phase II: Immediate Preoperative Period**
    - Review nursing, anesthesia, surgery checklists for potential need to be revised re: COVID-19+, other?

- **Phase III: Intraoperative Period**
  - Review whether time-outs and briefings need revision with regard to COVID-19 risk, COVID-19 testing results, and ensure PPE use guidelines are being followed.
  - Consider guideline for personnel to be present during intubation, and consider including waiting time (e.g., with regard to air circulation cycling time) before beginning operation.
  - PPE use guideline (see above).
  - Review specimen pick-up protocol.
- **Phase IV: Postoperative Period**
  - Adhere to standardized care protocols as much as possible (e.g., enhanced recovery protocols) for increased reliability in light of potential different personnel as standardized protocols optimize lengths of hospital stay and efficiency and are associated with decreased complication rates.
- **Phase V: Post Discharge Period**
  - Post-acute care facility availability.
  - Post-acute care facility safety (COVID-19, non-COVID-19 issues).
  - Home setting.

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