**Supplemental Table 1.** Domains, questions and statements. Percentage of agreement in the corresponding Delphi. Approval rates in first Delphi (D1), second Delphi (D2) and Virtual Meeting (VM3).

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| FINAL STATEMENTS | D1/D2/VM3 |
| Domain 1 - **Reappraising the terminology** |  |
| Question 1. Consider the clinically relevant COVID-19 based classification (see below) |  |
| 1A. Level of surgical urgency during the pandemic (what is elective, semi-elective, and urgent in relation to factors like disease malignancy and benignity) during the pandemic. |  |
| Statement 1.1 Urgent: Immediate surgical treatment is indicated for a condition that, without surgery, has adverse vital consequences and cannot be equally managed through alternative methods (percutaneous, endoscopic, or medical). | 92.9% |
| Statement 1.2 Semi-elective: Surgical conditions (benign and malignant, adding or not an intermediate therapy) for which treatment may be delayed some days/weeks without jeopardizing the disease outcome. | 88.1% |
| Statement 1.3 Elective: Conditions that may be delayed some days/weeks, without expecting a general deterioration of the patient’s clinical condition. | 88.1% |
| 1B. Escalation and de-escalation to action plans for COVID-19 Phases. |  |
| Statement 1.4 De-escalation to an action plan for phase 3 means a progressive resumption of semi-elective or elective procedures taking into account the patient and disease characteristics, local COVID-19 burden, and institutional and staff resources. This includes the capability of maintaining COVID-19 free areas within the institution.  | 95.2% |
| Domain 2 - **True impact of COVID-19 on surgical services** |  |
| Question 2A. How should the true impact of COVID-19 on surgery and endoscopy be measured regarding patient care and outcomes and risk to staff? |  |
| Statement 2.1 Health care institutions should track patients whose elective benign and oncologic surgeries have been postponed during COVID-19. | 95.2% |
| Statement 2.2 A comparison with previous year(s)’ surgical caseloads including elective, semi-elective, and urgent surgical procedures as well as endoscopic procedures should be used as a reference to estimate the impact of the COVID-19 pandemic on case volumes. | 92.9% |
| Statement 2.3 The effect of suspension of cancer screening programs should be assessed by comparing the cancer stage at presentation to the ones recorded in prior year(s). | 92.9% |
| Statement 2.4 The cancer stage at surgery should be compared to the stage recorded in prior year(s) in order to assess the effect of delaying surgery on these patients. | 85.7% |
| Statement 2.5 The effect of delaying surgery and of extended chemotherapy and/or radiation therapy on outcomes should be assessed. | 92.9% |
| Statement 2.6 Evaluation of patient’s experience and consumer’s confidence during the crisis may be considered as a reflection of response plans to the COVID-19 pandemic, as well as a measure of operational effectiveness. | 71.4%\*\* |
| Statement 2.7 Hospitals should keep tracking the number of surgeons/endoscopists (staff and residents), anesthesiologists and surgical nurses who developed COVID-19 during the pandemic by measuring the work days lost per provider (surgeon, resident, staff) due to COVID-19 infection or quarantine as a patient under investigation (PUI). | 85.7% |
| Statement 2.8 Cancer stage at endoscopic diagnosis should be assessed in comparison to the baseline pre-COVID-19 incidence as a potential reflection of the impact of delaying diagnosis. | 83.3% |
| Question 2B. What should be the role of surgical leadership in assessing, managing, and decision making regarding the return to elective work amid the pandemic? |  |
| Statement 2.9 Surgeons, endoscopists, anesthesiologists and nursing leadership should actively participate in hospital recovery teams and contribute to governance decisions during the pandemic and the recovery period. This includes the development and implementation of policies and procedures to mitigate risk to staff and patients in perioperative care, screening and PCR testing, and defining aerosol generating procedures and the enhanced personal protective equipment (PPE) required. | 97.6% |
| Statement 2.10 Surgical/endoscopy leadership should collaboratively work with policy makers to decide upon patient treatment priority during the recovery period, including careful assessment of the risk of delay, complications, and worsening outcomes. | 78.6% / 74.3% / 100% |
| Statement 2.11 Surgeons and endoscopists should Implement communication pathways with hospital staff, referral providers, and patients. | 88.1% |
| Domain 3 - **Timing** |  |
| Question 3A. What is the appropriate timing to restart elective surgical services in relation to the Phases of COVID-19? |  |
| Statement 3.1 Procedures for time-sensitive (medically urgent) conditions may proceed in Phase 2 if sufficient hospital resources (including personnel and PPE) are available. Planned (elective and semi-elective) cases should be started in Phase 3 of the pandemic (CVGSC classification). | 78.6% / 77.1% / 94.1% |
| Statement 3.2 Cases that may have been delayed early in the pandemic and were classified as semi-elective should be prioritized. These can be considered in Phase 2. | 85.7% |
| Question 3B. How does one determine hospital readiness to restart elective surgery based on hospital bed/intensive care unit (ICU) COVID-19 burden? |  |
| Statement 3.3 Elective and semi-elective procedures scheduling may begin once there are sufficient logistic and personnel resources available to provide the standard of care (hospital capacity including ICU beds, OR availability, surgical supplies, PPE and nursing staff). | 90.5% |
| Statement 3.4 Performing procedures in ambulatory surgical centers (ASC) could be considered if rigorous patient and staff PCR-testing protocols are utilized and the use of required PPE will not impact hospital safety. | 92.9% |
| Domain 4 - **Service provision** |  |
| Question 4. What measures and resources should be in place to restart elective surgical practice? |  |
| Statement 4A. For institutions – mixed or clean hospitals? |  |
| Statement 4.1 COVID-19 free facilities, or separate pathways and areas to minimize overlap between COVID-19 and non-COVID-19 patients for mixed hospitals, should be established. | 95.2% |
| Statement 4.2 Bed and staffing plans must be in place to quickly revert to as necessary to accommodate a potential COVID-19 resurgence. | 100.0% |
| Statement 4.3 Within the COVID-19 free areas everyone must be screened for active infection, including patients, staff and visitors. If the local COVID-19 burden is high, visitors should not be allowed. | 42.9% / 80.0% |
| Statement 4.4 Tele-presence technologies, online interfaces, and SMS messaging are recommended to minimize exposure and can be employed for surgeon-to-surgeon mentorship, proctorship, preceptorship, and/or training. | 92.9% |
| Statement 4.5 Social distancing, masks, and other measures to diminish exposure should be employed in the COVID-19 free area. | 90.5% |
| Statement 4.6 In the operating room the surgical timeout should include the COVID-19 status of the patient. | 88.1% |
| Statement 4.7 For the care of patients with active COVID-19 infection undergoing an aerosol generating procedure, high volume air exchange is recommended. Alternatively, the availability of a negative pressure anteroom and isolated recovery space are recommended. | 76.2% / 85.7% |
| Statement 4.8 Personal protective equipment, including N95 masks, should be available for at-risk personnel for all cases. | 81.0% |
| Statement 4.9 Electrosurgical devices should be used with plume evacuation routinely in open and minimally invasive surgery (MIS). | 71.4% / 85.7% |
| Statement 4.10 A closed system for management of plume/particulate evacuation using smoke evacuation and filtration of pneumoperitoneum is recommended. | 83.3% |
| 4B. For the surgical team – testing type and frequency of testing? |  |
| Statement 4.11 Before entering the hospital, patients and staff must be screened for symptoms, temperature, and potential contact with COVID-19 infected individuals. | 90.5% |
| Statement 4.12 PCR testing is recommended for diagnosis of active infection. | 78.6% / 97.1% |
| Statement 4.13 The diagnostic clinical relevance of antibody testing is unclear at this time and should be considered more valuable for epidemiological studies. | 90.5% |
| Statement 4.14 Highly symptomatic individuals should undergo a second PCR-test if the first test result is negative. | 97.6% |
| Statement 4.15 Staff PCR testing should occur upon any exposure/contact, upon development of any concerning clinical symptoms, and in accord with hospital employee health directives. | 88.1% |
| Statement 4.16 For a patient undergoing elective procedures, triage should begin with a virtual/phone contact for initial screening. For any patient with potential COVID-19 symptoms, the triage process should be repeated after two weeks. Only after negative screening does the patient proceed with PCR testing. | 85.7% |
| Statement 4.17 Surgeons, endoscopists, and staff should be cognizant and follow local health guidance in regard to COVID-19 testing and return to work policies. | 54.8% / 71.4% / 100% |
| Statement 4.18 COVID-19 free care areas within a hospital or surgical suite must include both a program for screening and PCR testing. Screening should include checking for symptoms and temperature assessment on a daily basis. | 81.0% |
| Statement 4.19 All in-person meetings/case attendance should be limited and approved in advance as necessary by the surgical team. | 97.6% |
| Statement 4.20 Industry personnel should be allowed into the operating room (OR) if they are deemed essential by the attending surgeon/endoscopist and should follow the individual hospital policies for COVID-19 screening and testing. | 69.0% / 77.1% / 82.3% |
| Domain 5 - **Patient Safety** |  |
| Question 5. What patient characteristics should be considered when starting elective surgical practice? |  |
| 5A. Type of Surgery |  |
| Resumption of surgical activities should be staged as follows: |  |
| Statement 5.1 Stage 1: low risk cases, procedures that do not require general anesthetics (GA), and ambulatory procedures under GA. | 81.0% |
| Statement 5.2 Stage 2: General anesthesia (GA) cases that are not likely to require postoperative admission to an intensive care unit. | 83.3% |
| Statement 5.3 Stage 3: GA cases that are likely to require postoperative admission to an intensive care unit. | 71.4% / 94.3% |
| Statement 5.4 Baseline comorbidity assessment of each patient should be performed, taking into consideration their risk and consequences of acquiring COVID-19 during their hospitalization. | 92.9% |
| 5B. Testing |  |
| Statement 5.5 For non-COVID-19 or low risk patients undergoing endoscopy, PCR-based testing for active COVID-19 infection should be performed wherever possible. Testing should be performed within 72 hours of the procedure. If COVID-19 PCR testing cannot be conducted, patients should keep a daily temperature log for 7 days before the procedure and be screened on the day of the procedure by completing a specific questionnaire and having their temperature checked on arrival. In all COVID-19-negative and low risk patients, standard PPE (see definitions) and infection control protocols should be adhered to. | 42.9% / 88.6% / 94.1% |
| Statement 5.6 Patients undergoing a day procedure requiring a GA should be PCR-tested within 72 hours prior, complete a pre-procedural questionnaire, and have their temperature checked on arrival. | 81% |
| Statement 5.7 In addition to the measures suggested in 5.4, patients undergoing an in-patient procedure requiring a GA should be PCR-tested within 72 hours prior, complete a pre-procedural questionnaire, and have their temperature checked on arrival. | 64.3%\* |
| 5C. Patient Protection and isolation |  |
| Statement 5.8 Institutions should have sufficient resources to ensure patient and staff safety. In addition, they should have appropriate screening and PCR testing protocols in place. | 97.6% |
| Statement 5.9 Institutions should have revised informed consent forms for patients who are COVID-19 negative that include the potential risks of developing COVID-19 in the perioperative period and detailing the choice between undergoing the procedure, rescheduling, and non-operative management. | 83.3% |
| Statement 5.10 Hospitals should emphasize those pathways that favor a prompt recovery and short hospital stay (e.g. enhanced recovery after surgery [ERAS] protocols) during the pandemic. | 90.5% |
| Domain 6 - **Backlog** |  |
| Question 6. How should the backlog be prioritized and managed when restarting?A. Endoscopic procedures B. Surgical Procedures |  |
| Statement 6.1 The creation of a multidisciplinary institutional case review committee including surgeons, endoscopists, anesthesiologists, intensivists, nursing leads, and administrators that can offer guidance regarding priorities and selection of backlogged cases for scheduling deserves consideration. | 73.8% / 88.6% |
| Statement 6.2 National and international scientific societies’ published guidelines on prioritization of patients during COVID-19 pandemic serve as a guide. However, the final decision should be made by multidisciplinary management teams and should take precedence over pre-pandemic room/endoscopy suite scheduling assignments. | 95.2% |
| Statement 6.3 Existing care models in the perioperative process and endoscopy suites need to be re-evaluated in an open and transparent fashion to identify opportunities for increasing efficiency. Including review team members from other institutions is advocated. | 90.5% |
| Statement 6.4 To avoid personnel shortages during resumption of backlogged cases, hiring back furloughed or retired staff, cross training health care professionals (e.g. training ICU or emergency room [ER] nurses to work in post-anesthesia care unit [PACU]) and training medical students to work as buddy of ICU nurses, PACU nurses, OR technicians and endoscopy nurses is advocated. | 81.0% |
| Statement 6.5 Redirection of patients to different institutions across healthcare organizations in order to optimize resource utilization is recommended. | 88.1% |
| Statement 6.6 Availability of psychological services and support groups to alleviate the emotional toll on health care professionals is recommended. | 95.2% |
| Statement 6.7 There should be an option for healthcare professionals to adjust work responsibilities or assignments based on personal perceived risks and individual circumstances. | 90.5% |
| Statement 6.8 Designation of patient advocates is recommended in order to guide patients through logistical issues and complex decision-making arising from changes due to the pandemic. | 88.1% |
| Domain 7 - **Measures** |  |
| Question 7A. What are the optimal measures that should be in place in the operating room and endoscopy suite when returning to surgical/endoscopic activities?A. Personal Protection Equipment (PPE) B. Team membersC. Patient flow (including perioperative pathway) |  |
| Statement 7.1 For aerosol generating procedures (including endoscopy, bronchoscopy, endotracheal intubation, and surgery of the head, neck, and oropharynx), proper PPE is recommended. This includes at least N95/FFP2 level respirators, gloves, impermeable gowns, facultative head cover (cap or bonnet), safety glasses/face shields, and face covers. | 97.6% |
| Statement 7.2 For non-aerosol generating procedures, including surgery after endotracheal intubation, standard PPE (see definitions) are recommended. N95-level masks and eye protection in all cases during the COVID-19 pandemic can be considered. | 73.8% / 88.6% |
| Statement 7.3 Education, including simulation training, about standard operating procedures and the use of PPE equipment, is recommended. | 97.6% |
| Statement 7.4 Minimization of non-essential staff in the endoscopy/surgical areas is recommended. | 100.0% |
| Statement 7.5 During intubation, only necessary members of the anesthetic team should be present in the operating room. | 81.0% |
| Statement 7.6 All patients should be PCR-tested within 72 hours prior to the procedure, and emergent cases at admission. | 83.3%% |
| Statement 7.7 A separate perioperative pathway for COVID-19 and non COVID-19 patients should be established. | 100.0% |
| Statement 7.8 A separate testing area for symptomatic/high risk patients may be considered. | 90.5% |
| Question 7B. What are the additional measures for known COVID-19 patients, if any? |  |
| Statement 7.9 All elective and semi-elective surgeries in COVID-19 positive symptomatic patients should be delayed until they become asymptomatic or are PCR-test negative. | 95.2% |
| Statement 7.10 General endotracheal intubation to control aerosolization is recommended for all patients with known COVID-19 except in cases suitable for monitored anesthesia care (MAC), local or regional anesthesia. | 66.7% / 88.6% |
| Statement 7.11 Ideally, endotracheal intubation should be performed in a negative pressure room. Regardless, a period of delay of up to 20 minutes before re-entering the operating room after intubation should be considered to allow for air recirculation and aerosols to subside. | 81.0% |
| Domain 8 - **Sustainability** |  |
| Question 8. What measures should be in place for a second COVID-19 wave, should it arise? |  |
| 8A. Definition of a second wave |  |
| Statement 8.1 A second wave is a phenomenon that can develop during a pandemic when the infection appears to decrease in the initial infected group and then increases in a different part of the population. A better term would be “recurrent outbreak” as this is more consistent with the science of pandemics and captures the variability in geography and time, and aligns with mitigation efforts. | 85.7% |
| Statement 8.2 Mathematical epidemiological models should be used to explore the dynamic behavior of infectious diseases to assess the likelihood and timing of recurrent outbreaks. | 90.5% |
| 8B. Preparation (equipment, training, pathways to trigger activation) |  |
| Statement 8.3 Healthcare facilities should be prepared to care for a sudden increase of infected patients through careful resource planning and preparation. | 95.2% |
| Statement 8.4 Hospitals should determine their maximum ability to increase ICU beds/ventilators should a COVID-19 recurrent outbreak occur. | 92.9% |
| Statement 8.5 In preparation for a recurrent COVID-19 outbreak in their community, hospitals should have in place plans to adequately increase bed capacity, ICU bed and ventilator capacity, modify non-COVID-19 patient care, and provide adequate staffing (PPE), and maintain adequate supplies of appropriate personal protective equipment. | 100.0% |
| Statement 8.6 Sufficient PPE stocks should be in storage for a recurrent outbreak that could last several months (at least three). | 90.5% |
| Statement 8.7 Until global control of the pandemic is achieved, healthcare facilities should maintain safety policies including separate areas for the care of COVID-19 and non-COVID-19 patients, screening, PCR testing staff and patients, as well as appropriate isolation of COVID-19 positive healthcare individuals. | 88.1% |
| Statement 8.8 In between recurrent outbreaks, healthcare facility staff must maintain competence in managing rapid influxes of COVID-19 patients through training. | 85.7% |
| Statement 8.9 In between recurring outbreaks, local guidance for patients, family members, and healthcare individuals must be implemented. | 85.7% |
| 8C. Surveillance and prevention |  |
| Statement 8.10 Healthcare professionals should collaborate with local health authorities and primary health care providers to ensure that epidemiological surveillance indicators are developed to identify early, isolate suspected, and control confirmed cases of COVID-19. | 95.2% |
| Statement 8.11 Primary care services should be strengthened and supported for prevention and control of a recurrent outbreak at a community level. | 92.9% |
| Statement 8.12 Policy makers are encouraged to develop and implement a globally coordinated response to control the virus and prevent a recurrent outbreak. | 95.2% |
| Statement 8.13 Hospital mitigation strategies for long term sustainability of the surgical recovery plan should continue until novel effective treatments or a vaccine for COVID-19 is made available and globally accessible. | 97.6% |
| Statement 8.14 International collaborative groups should lead global efforts to find an effective vaccine and treatments for COVID-19, ensuring they are widely available. | 90.5% |
| Statement 8.15 Healthcare facilities should reassure the public about the rigorous policies that are being followed to maintain a safe environment for patients and providers. | 90.5% |
| Domain 9 - **Surgical education and training** |  |
| Question 9. What should be the process to reinstate the traditional role of the trainees in the operating room and endoscopy suites |  |
| Statement 9.1 Hands-on procedural training, including in the operating room, endoscopy suites, and clinics, should be resumed in Phase 3, as long as trainee safety can be maintained. | 78.6% / 97.1% |
| Statement 9.2 Safety of residents and fellows in the operating room must be ensured. As case volumes increase, there must be sufficient supplies of personal protective equipment and perioperative protocols that reduce exposure risks for everyone on the team. | 92.9% |
| Statement 9.3 Training programs should maintain vigilance to support and accommodate trainees’ individual needs. | 100.0% |
| Statement 9.4 Traditional schedules should be revised during Phase 3 to focus on meeting the needs of individual trainees to maximize their learning opportunities, while maintaining a balance with service provision. | 92.9% |
| Statement 9.5 Every educational opportunity in the operating room and endoscopy suites, including video-based education, should be maximized and training opportunities tailored to meet educational needs. | 95.2% |
| Statement 9.6 Strategies to maintain physical distancing during educational activities should be maintained through use of on-line didactics and conferences. | 97.6% |
| Statement 9.7 Trainees should be included in telehealth clinics with a particular focus on pre and postoperative continuity opportunities. | 100.0% |
| Statement 9.8 Accrediting and credentialing bodies should modify their requirements for case volumes and consider postponing examinations. They should also provide guidelines about policies for trainees who may require additional experience prior to completing training. | 97.6% |
| Statement 9.9 Accrediting and credentialing bodies, as well as training programs, should place emphasis on mitigating strategies for learners affected by the pandemics. Focus is to be placed on providing competency-based assessments and intended practice endpoints. | 97.6% |
| Statement 9.10 The professionalism of medicine should be modeled as elective cases are resumed, prioritizing patient need. It should take into account our educational duties as well as fiscal throughput, and economic, institutional, and provider group benefit. | 95.2% |
| Statement 9.11 Institutions should assemble multidisciplinary educational task forces to guide optimal deployment of learners during fluctuations in elective procedure capability in order to balance top priorities of patient care and education. The task force may include administration, institutional educational overseers, program directors, business planners, inventory and equipment managers, resident and student representatives, and public health officials. | 90.5% |
| Domain 10 - **Surgical Research** |  |
| Question 10. What should be the optimal timing to consider reinstating non-COVID-19 clinical research? |  |
| Statement 10.1 COVID-19 studies with potential impact on the management and outcomes of COVID-19 patients should be prioritized during Phases 1-3 of the COVID-19 pandemic. Upon appropriate expansion of institutional resources, non-COVID-19 research can be resumed in order to maintain a balance between COVID-19 and non-COVID-19 research. | 78.6% / 94.3% |
| Statement 10.2 At institutions where non-COVID-19 studies have been suspended, the decision and timing to restart a research study should be based on the relative benefits vs risks of study participation as well as anticipated strain on institutional resources. | 95.2% |
| Non-COVID-19 observational studies: |  |
| Statement 10.3 Studies that do not include additional study visits (as compared to routine care) and can be conducted remotely/virtually, can be resumed at the discretion of individual principal investigators (Phases 1-3). | 97.6% |
| Non-COVID-19 interventional studies (surgical and drug trials): |  |
| Statement 10.4 Interventional studies where the benefits of the intervention clearly outweigh the risk of study participation during the COVID-19 pandemic (e.g., life-prolonging or life-saving investigational drug trials in cancer patients), can be reinstated or continued during Phase 1-3 at the discretion of the institutional ethical committee and the principal investigator. | 95.2% |
| Statement 10.5 Studies that do not require additional study visits or procedures beyond what is considered standard of care and require minimal institutional resources/support can be reinstated when hospitals resume outpatient visits, testing, and elective procedures (Phase 3), at the discretion of individual principal investigators. | 100.0% |
| Statement 10.6 Studies where study visits and procedures can be deferred until institutions resume outpatient visits, testing, and elective procedures (Phase 3), without compromising the integrity of the study, can be resumed at the discretion of individual principal investigators. | 90.5% |

\*Not approved in D1 but revised in VM3. \*\* Not approved and discarded.