
THE ORTHOPAEDIC FORUM

Guidelines for Ambulatory Surgery Centers for the Care of Surgically Necessary/Time-Sensitive Orthopaedic Cases During the COVID-19 Pandemic

Nicholas N. DePhillipo, PhD, ATC, Christopher M. Larson, MD, Owen R. O'Neill, MD, and Robert F. LaPrade, MD, PhD

Investigation performed at Twin City Orthopedics, Edina, Minnesota

Overview

The current pandemic caused by the novel coronavirus disease 2019 (COVID-19) has created unprecedented times. As communities strive to control infectious outbreaks, the virus continues to cause substantial economic, social, and political disruption. As emergency departments are preparing for increased volume because of infected patients, the closure of non-emergency health-care facilities may further increase inappropriate demand on emergency medical staff. Approximately 77% of all injury-related health-care visits in the U.S. are for musculoskeletal injuries¹, totaling >65 million visits in 2010 and 2011. Thus, to lessen the burden on emergency department personnel, it is vital for continued limited operation of orthopaedic outpatient centers. Additionally, recent government mandates are now excluding medical care and treatment for elective procedures, thus causing ambulatory surgery centers (ASCs) to cease operations for non-urgent orthopaedic-related procedures; however, for certain pathologies, inability to operate or failure to recognize injuries that are “surgically necessary” may result in serious long-term health consequences, including neurological, vascular, and joint morbidity.

Currently, the Centers for Disease Control and Prevention, the Ambulatory Surgery Center Association, the Centers for Medicare & Medicaid Services, and the American College of Surgeons have provided guidelines on the postponement of elective surgical procedures because of the current COVID-19

outbreak. In addition to minimizing the exposure of patients to the coronavirus, the purpose of this recommendation is to also limit the use of essential items, such as personal protective equipment (PPE), ventilators, and cleaning supplies². These recommendations also aim to minimize the potential for complications following elective procedures that would result in further depletion of the aforementioned items and increase need for the hospital beds required to care for COVID-19 patients, as well as to prepare for a potential surge of critically ill patients at all inpatient centers. Guidelines allow a health-care provider the time and availability necessary care for COVID-19 patients, and minimize potential exposure to COVID-19 for patients and health-care workers.

Currently, these guidelines note that elective procedures should be rescheduled and that urgent or emergency procedures may still be performed. Elective or non-urgent cases have been reported to be those for which there would be no anticipated short or long-term negative impact in delaying the procedure³. Surgical necessity in the context of the current pandemic can be defined as urgent pathologies that could lead to long-term disability and/or chronic pain if acute surgical treatment is delayed. These decisions regarding elective versus elective-urgent cases should be made concurrently with the input of local and state governmental officials (such as the Department of Health) with the input of the individual surgical facility and hospital system leadership, as well as the treating surgeon. In addition, these

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TABLE I Types of Acute Orthopaedic Injuries Recommended as “Surgically Necessary” for Elective-Urgent Procedures, Stratified by Joint*

Joint Location	Acute Injury Details	Justification
Shoulder	<ul style="list-style-type: none"> • Locked labral tears • Unstable glenohumeral joints following dislocation • Grade 4-5 acromioclavicular joint separations with severe pain or tenting of the skin • Acute/severe rotator cuff tears • Pectoralis major ruptures 	Irreducible joint dislocations, patients with high risk of recurrent instability/dislocation causing further injury, young patients with chondral injuries that are repairable, large tendon ruptures that are susceptible to retracting and becoming irreparable with delayed surgical treatment, any injury with neurovascular compromise
Elbow	<ul style="list-style-type: none"> • Distal biceps tendon tears • Unstable elbow subluxations or dislocations • Locked osteochondral defects of the elbow • Triceps tendon tears 	Young patients with chondral injuries that can be repaired, any patient who has high risk of compromised or unreparable tendon rupture with delayed surgical treatment
Hand/wrist	<ul style="list-style-type: none"> • Carpal subluxations or dislocations • Unstable scaphoid fractures • Acute tendon tears • Unstable wrist/carpal or phalangeal subluxations or dislocations 	Unstable scaphoid fractures that cannot be treated in a cast/conservatively, patients with high risk of recurrent instability of carpal, metacarpal, or phalangeal dislocations/subluxations that would lead to loss of function
Foot/ankle	<ul style="list-style-type: none"> • Dislodged or unstable osteochondritis dissecans lesions • Ankle dislocation or subluxation • Syndesmosis disruption • Jones fracture • Acute tendon tears (e.g., Achilles) • Acute unstable ligament tears 	Young patients with chondral injuries that are repairable, irreducible joint dislocations, severe/acute unstable ankle sprains with low likelihood of success with nonoperative management, fractures susceptible to nonunion with conservative treatment
Knee	<ul style="list-style-type: none"> • Locked knees • Bucket-handle tears of the menisci • Young patients with vulnerable/repairable meniscal tears • Meniscal root tears • Acute osteochondral fractures • Lingering knee instability due to a patellar dislocation or multi-ligament knee injury • Acute tendon ruptures (patellar or quadriceps) • Dislodged osteochondritis dissecans lesions • Anterior/posterior cruciate ligament osseous avulsion fractures • Manipulations after total knee replacement or ligament reconstructions 	Young patients with chondral injuries or acute meniscal tears that would lead to long-term decreased function, meniscal root tears at risk for cartilage wear progression, patients with bucket-handle meniscal tears, acute patellar dislocation with loose body/chondral fracture, knee dislocation, high risk of lower function or unreparable tendon rupture with delayed surgical treatment, locked knee
Hip	<ul style="list-style-type: none"> • Dislocated/unstable arthroplasties • Hip subluxation or dislocation that is not reducible or is unstable post-reduction • Acute proximal hamstring ruptures • Acute disability due to a locked hip secondary to intra-articular loose body/bodies or an incarcerated labrum 	Irreducible hip subluxation/dislocation, high risk of unreparable proximal hamstring rupture with delayed surgical treatment, locked hip
Spine	<ul style="list-style-type: none"> • Neurological deficit or impending deficit that can be prevented by decompression • Spinal instability such as fractures 	Cauda equina syndrome, loss of bladder/bowel control, persistent nerve compression, unstable vertebral fracture or spondylolisthesis that could lead to permanent dysfunction

*Accordingly, this list is advisory in nature. It is not nor should be considered a medical directive or standard of care in and of itself.

decisions should be refined on the basis of the duration of the COVID-19 crisis, current and projected prevalence of COVID-19 cases, health and age of the patient, staffing availability, and the local PPE supply until officials are confident that the COVID-19 cases have peaked and that the local health-care infrastructure can support a return to normalcy⁴. As reported, there is a current critical shortage of PPE, and thus the priority remains to secure adequate PPE for front-line medical professionals⁵. As the supply chain is mobilized and front-line demand is met, ASCs could be resupplied. This would allow ASCs to then unload the burden of outpatient cases from

larger facilities. Critical aspects of the virus, such as the reproductive number, morbidity, and mortality, must be established to determine allocation of resources, including the use of outpatient surgery centers. The initial response to a pandemic will evolve and thus the evaluation around the allocation and utilization of health-care resources must be a dynamic process. The manner in which resources are utilized in the initial phases could potentially be different from that in latter phases.

Although these guidelines are considered definitive for most inpatient centers, in orthopaedic surgery, many

procedures are now performed in outpatient surgery centers. In particular for this COVID-19 crisis, outpatient surgical procedures that are scheduled for inpatient facilities should be considered for rescheduling to outpatient facilities whenever possible in order to minimize asymptomatic individuals being exposed to facilities that have relatively higher levels of exposure to COVID-19 (e.g., hospitals). In addition, limiting visitors to all but minor patients, the mentally/physically disabled, and elderly patients who require assistance should be performed. Furthermore, to help reduce the likelihood of disease transmission, ASCs should institute additional measures to maximize patient safety, such as the administration of appropriate screening tests (e.g., travel history and/or history of recent illness), body temperature, respiratory symptoms, and screening of staff for signs of illness or other risk factors until an accurate and highly sensitive rapid test for the diagnosis of COVID-19 illness or antibodies is available. We recommend that each outpatient facility should follow protective guidelines for staff during procedures and ensure that all who are present during intubation and extubation have access to appropriate PPE, including N95 masks, and ensure that terminal cleaning of all operating rooms and equipment be performed between cases.

Recommended Guidelines for “Surgically Necessary” Orthopaedic Cases in an ASC Setting

It is essential to follow the principles of social distancing, hand washing, and avoidance of crowds to help flatten the curve of the COVID-19 trajectory. It is also important to be forward-thinking and clearly define those patients who could suffer long-term consequences if a surgical procedure is postponed. Currently, although there are recommendations on which surgical procedures to avoid and which are emergencies (such as fractures, vascular compromise, compartment syndrome, and infection), there are no clear recommendations on which procedures should be considered important enough to be performed in outpatient centers because of the long-term negative impact that a delayed procedure could pose to these patients. A rationale and data-driven process to assess and communicate which procedures should be allowed to be performed is essential. In order to both limit orthopaedic surgical procedures and best manage health-care resources during this public health emergency, detailed criteria are needed to indicate which patients are deemed necessary candidates for acute surgical treatment for elective procedures. In general, surgical procedures ought to be considered necessary for:

- Acute and/or disabling injuries to health-care workers, first responders, and members of the military and police and fire departments.
- Osseous fractures and/or irreducible joint dislocations.
- Wound/joint infections or postoperative wound dehiscence.

Specifically, surgical necessity ought to be considered for pathologies that could lead to long-term disability

and chronic pain if acute surgical management is delayed (Table I).

Because of the unforeseeable duration of the global quarantine, there is a need for continuous reassessment of the changing situation, which will influence the delivery of clinical care and, under major pressure, might restrict the indications and narrow the list of procedures considered surgically necessary. The decision must then be determined by the assessment of the real risk of proceeding or delaying, the availability of the facility and resources, the safety of the community in the particular region, and the regulations dictated by the local authorities. On the other hand, if the lockdown periods are extended, it might be prudent to consider fewer restrictions on elective procedures for low-risk individuals, which might allow those who are currently restricted from work or unemployed the opportunity to have and recover from these procedures and be better ready to reenter the work force when the governing bodies release restrictions. Not allowing these low-risk patients the opportunity to have a surgical procedure sooner would result in further delays in return to work.

The current extraordinary circumstances warrant extraordinary efforts from all sectors involved in public health, including health administrators, medical professionals, and those in political offices. In order to best care for acutely injured patients during this pandemic, communication between health-care providers and government representatives is vitally important. Although the aforementioned list cannot be all-inclusive, nor serve as an exclusive evidence-based surgical recommendation, it does provide a general guideline that has practical implications that can serve to educate and legislate for acutely injured patients during the COVID-19 outbreak. History will judge us on how we respond to this crisis. Although it is essential to best utilize resources in the battle against COVID-19, it will also be important to ensure we delineate our responsibilities and avoid long-term disability, pain, and, if restrictions are substantially prolonged, further loss of employment and production by performing these important orthopaedic procedures in patients who cannot wait until the U.S. health-care system returns to normal operations. ■

Nicholas N. DePhillipo, PhD, ATC¹

Christopher M. Larson, MD¹

Owen R. O'Neill, MD¹

Robert F. LaPrade, MD, PhD¹

¹Twin Cities Orthopedics, Edina, Minnesota

Email address for R.F. LaPrade: Laprademdphd@gmail.com

ORCID iD for N.N. DePhillipo: [0000-0001-8946-4028](https://orcid.org/0000-0001-8946-4028)

ORCID iD for C.M. Larson: [0000-0002-9910-0145](https://orcid.org/0000-0002-9910-0145)

ORCID iD for O.R. O'Neill: [0000-0001-9931-0671](https://orcid.org/0000-0001-9931-0671)

ORCID iD for R.F. LaPrade: [0000-0002-9823-2306](https://orcid.org/0000-0002-9823-2306)

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