University of Wisconsin Guidelines for Treatment of Facial Trauma While Minimizing the Risk of COVID-19 Transmission

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ABSTRACT

Background: The COVID-19 pandemic has forced many practices to completely change the interface between health care providers and patients. Patients presenting with facial trauma present a special risk for COVID-19 transmission, as contact with respiratory and ocular secretions is common, and so special precautions must be taken in managing them.

Methods: We created guidelines and a triage/management algorithm for patients presenting with facial trauma to decrease the risk of COVID-19 transmission.

Conclusions: In this paper, we present a set of guidelines and a triage algorithm we have successfully implemented to mitigate the spread of COVID-19 while managing facial trauma. We believe that these guidelines can help other providers restructure their practices during this pandemic.

BACKGROUND

As the COVID-19 pandemic has spread across the globe, it has become evident that health care workers—especially those who come in close contact with respiratory and ocular secretions—are at increased risk of contracting SARS-CoV-2.[1] In addition, the high rate of undocumented infections and risk of spread by asymptomatic or mildly symptomatic people presents a significant burden of transmission, particularly in areas with low testing rates.[2] In an effort to mitigate the spread of infection and reduce the health care burden of the disease, specialty organizations and surgical departments across the world have created COVID-19 response plans to help guide front-line providers.[3,4] The facial trauma population presents a challenging subgroup of patients as their presentation is not planned, their treatment is rarely elective, and it involves significant contact with respiratory and ocular secretions.

At the University of Wisconsin Hospital and Clinics, a tertiary Level 1 trauma center, we have developed a system for triage and treatment of facial trauma patients that we believe significantly reduces risk of exposure both to physicians and patients. This approach is multipronged, with 3 major goals: (1) reduce potential exposure of facial trauma patients entering our system to patients with COVID-19; (2) reduce the presence of facial trauma residents and attendings in the emergency department (ED), where there is a much higher risk of exposure to patients with active disease; and (3) reduce in-person contact between health care workers and patients to necessary contact for the provision of appropriate care.

METHODS

In an effort to reduce exposure of facial trauma patients to multiple EDs and providers, we developed a triage algorithm for consults and transfer calls that focuses on maximizing local evaluation and management with guidance from the facial trauma team (Figure). Notable in this system is the liberal use of telemedicine to support ED providers and performing all follow-up by telemedicine if possible.[5]

Nonoperative fractures and soft tissue injuries that can be triaged and treated via telemedicine are not transferred for further care, with the local ED provider performing laceration closure under guidance if needed. To reassure local providers and patients,

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Figure. Triage and Treatment Algorithm

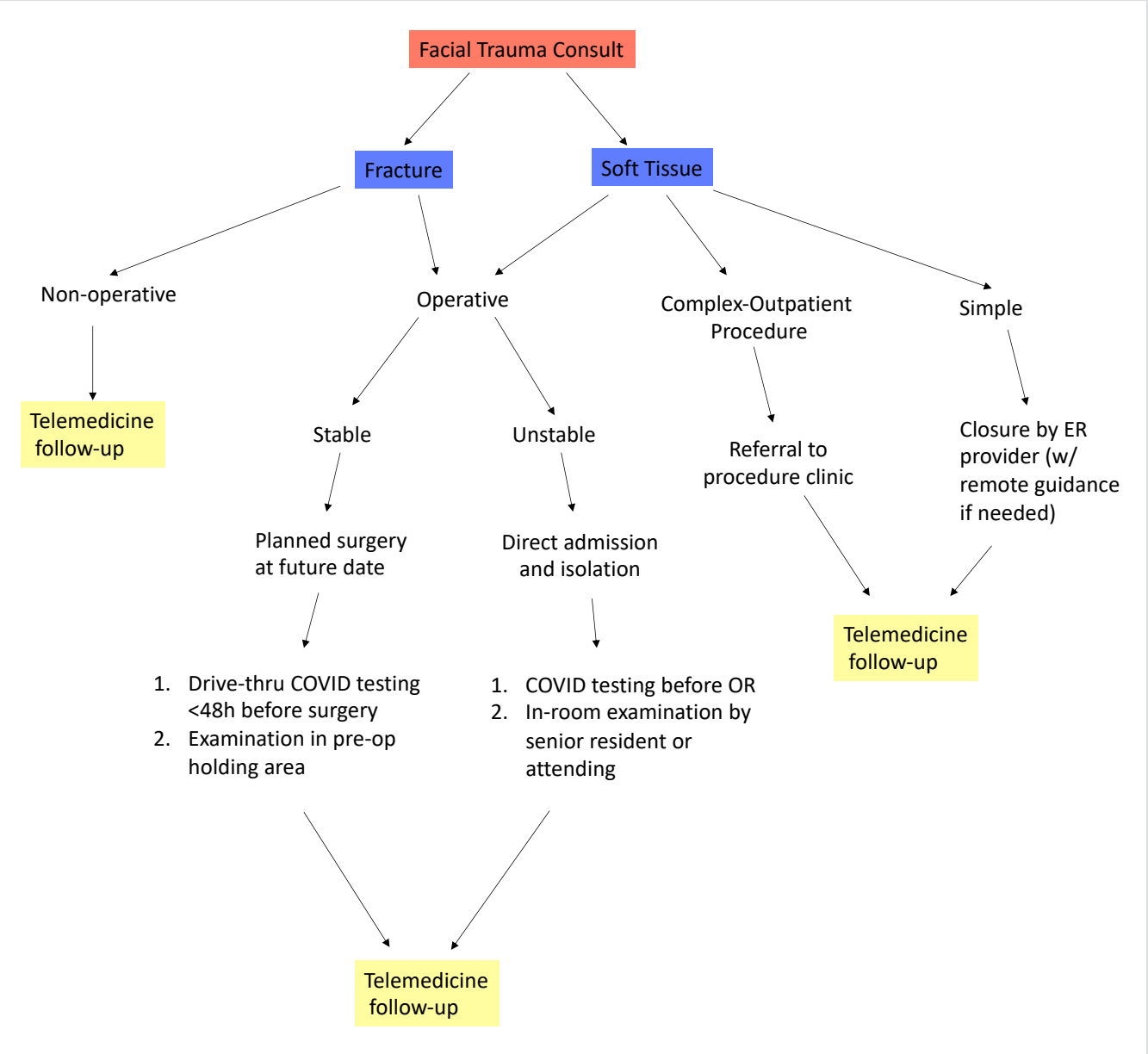

Table. Facial Trauma Perioperative Guidelines

Preoperative	Intraoperative	Postoperative
All facial trauma inpatients to be treated as COVID-19 positive until testing complete	Suture closures to be performed with dissolvable suture only to reduce need for removal	Limit in-person contact to those necessary for examination (ie, limit "social rounds") and expedite discharge
COVID-19 testing to be performed on all patients <48 before surgery	Single facial trauma provider at induction and emergence from anesthesia	Telemedicine follow-up within 7-10 days of surgery
	Prioritize intraoperative imaging over postoperatove imaging to reduce need for transport	All patients screened for symptoms of COVID-19 at follow-up, referred for testing if appropriate
	Limit product reps to outside operating room or through video consultation only	Treating physicians notified for evaluation by employee health if patients are COVID+ at follow-up
	Limit trainees in operating room to 1 assistant	

telemedicine visits are performed by the on-call surgeon for all patients—even those treated by the ED physician—with the understanding that some patients may need revisions. For soft tissue injuries requiring technically complex closures, we have proposed opening a laceration clinic at our outpatient clinic site where lacerations can be repaired without a visit to the ED.

Patients with isolated facial fractures requiring operative intervention are scheduled for surgery at a future date if stable, or, if unstable, directly admitted to the inpatient ward. All patients undergo COVID-19 testing before planned surgery. Patients requiring immediate surgical intervention are treated as if COVID-19 positive, with maximal personal protective equipment and surgery in negative pressure operating rooms. Finally, we created a set of perioperative guidelines for physicians (Table).

DISCUSSION/CONCLUSIONS

During an approximately 2-month period at the University of Wisconsin Hospital and Clinics, we triaged 52 patients using this protocol. Twenty-eight patients (>50%) with significant trauma, including nonoperative fractures, were managed completely remotely. Twelve patients required operative intervention, and only 3 patients required in-person intervention in the ED by the on-call facial trauma team.

We believe that this system has significantly reduced the risk of in-person contact and transmission of COVID-19 during the treatment of facial trauma and hope that it can serve as a template for other health care systems to mitigate the spread of this pandemic.

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