

Evolving perceptions regarding receiving orthopaedic care during the Coronavirus 2019 (COVID-19) pandemic: a follow-up survey

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ABSTRACT

Background:

As the Coronavirus 2019 (COVID-19) pandemic evolves, it is critical to understand how patients' feelings and perceptions have changed. The aim of this study was to understand current feelings and concerns about seeking and receiving orthopaedic care 9 mo into the global pandemic.

Methods:

Utilizing a survey developed to evaluate the attitudes and beliefs from healthcare respondents about receiving care during the COVID-19 pandemic, an updated and revised version, evaluating changes in perception of respondents 9 mo into the pandemic, was distributed to a group of panelists by email.

Results:

Out of 1200 individuals, 197 (16%) completed the survey. A majority of respondents reported high level of comfort in the immediate or near-term receiving care in an orthopaedic clinic, urgent care clinic specifically for orthopaedics, or in an emergency room. Six percent of respondents reported a delay in seeking orthopaedic care despite COVID-19 concerns that occurred between studies. Respondents reported their primary reason for delaying care was because of concerns for risk of COVID-19 exposure from other patients (83%). More than 75% of respondents stated they are "extremely" or "very" likely to get the COVID-19 vaccine when it becomes available to the public. Respondents had a generally negative outlook on pandemic efforts locally to globally.

Conclusions:

Despite dismal overall perceptions regarding the outlook of the pandemic; consumers are becoming increasingly comfortable obtaining orthopaedic care. The ability of healthcare providers

and practices to adherence to safety protocols will remain essential to maintaining consumer trust and confidence.

Level of Evidence:

Level IV.

Key Words

COVID-19 pandemic, second wave, patient perception, orthopaedic care, safety protocols

INTRODUCTION

Society recently surpassed the 1-year anniversary of the start of the Coronavirus 2019 pandemic (COVID-19). As the number of cases and deaths related to this virus rise daily, so too does understanding of the disease and its effects on way of life. COVID-19 altered the utilization of hospital facilities and resources and led to new protocols and initiatives for stratification of procedures.¹⁻⁴ Although the volume of cases, settings, and manner in which orthopaedic care is administrated have all been affected by COVID-19, patients continue to exhibit a desire to seek treatment for orthopaedic conditions.^{5,6} The number of elective surgeries have been reduced and in some cases halted completely because of institutional capacity to safely provide orthopaedic interventions and prevent the spread of COVID-19 infections.^{3,4} Strategies to prevent spread and curtail exposure have been universally implemented. Emphasis on hand hygiene, social distancing, and mandatory mask wearing as well as clinical changes, including increased availability of video appointments, surface cleaning, control of patient flow, preoperative COVID-19 testing, and symptomatic screening, have been applied.^{1,2,4,7} These measures have been implemented to contain the spread of the virus and minimize the effects of a widely anticipated "second wave," with the ultimate goal of a return to the way of life that was prior to COVID-19.

The administration of and consumption of healthcare has been affected across specialties. At the onset of the pandemic, there was concern for the level of comprehension patients possessed regarding safely obtaining medical care during the pandemic.⁸ In particular, the respondents' perception of

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seeking elective care for ailments and injuries was unknown. The reversal of the American College of Surgeons' initial decision to recommend a cessation of all elective procedures further necessitated the evaluation of respondents' perceptions regarding obtaining elective orthopaedic care.⁹ Prior to COVID-19, the focus of that concern centered on the risk of the procedure and postoperative course.¹⁰ Now in the midst of the COVID-19 pandemic, significant concern hinges on the perceived safety in obtaining care during the pandemic. Comadoll *et al.*⁵ collected survey responses from medical respondents within a large health system, analyzing their perception of receiving orthopaedic interventions during the pandemic. This study revealed that despite the overwhelming concern for contracting the COVID-19 virus, early in the pandemic respondents were still interested in and seeking orthopaedic care.⁵

Considering the findings in the study by Comadoll *et al.*⁵ were collected towards the onset of the pandemic,⁵ further assessment of respondent perception of obtaining orthopaedic care as the pandemic continues was deemed important. As the pandemic continues into the indeterminate future, it is of critical importance to analyze how feelings and perceptions of respondents have evolved. The aim of this study was to identify respondents' current feelings and concerns seeking and receiving orthopaedic care 9 mo into the global pandemic and analyze how these findings compare to the study by Comadoll *et al.*⁵ The authors hypothesized that with time respondents have become more acclimated to life during the COVID-19 pandemic and are more aware of safety protocols and thus more confident in seeking and obtaining orthopaedic related care.

MATERIALS AND METHODS

Ethical Review and Study Design

A survey was developed by a team of orthopaedic faculty, research staff, and a senior marketing insights director in the spring of 2020 to evaluate the attitudes and beliefs from healthcare respondents about receiving care during the COVID-19 pandemic.⁵ It was updated and revised to evaluate changes in perception of respondents 9 mo into the pandemic. All respondents gave consent prior to receiving this survey. Exemption was received from HealthPartners institutional review board in 2020 prior to survey development.

Participant Selection

After the survey was developed, the marketing insights team electronically distributed the survey to 1,200 panelists who were members of the health plan. Panelists were invited to participate in this study via email. A message was sent to random selected members with an invitation to complete our survey. Employees of the organization were not eligible to participate.

Data Collection

The updated survey consisted of 25 questions (Figure 1). Questions were a combination of yes/no, multiple choice, Likert scale, and one open ended question for comments. The responses to the December survey were compared with those reported on the earlier survey study conducted by Comadoll *et al.*⁵

Statistical Analysis

Only descriptive statistics were conducted for this study. A power analysis of sample size was not conducted for this study.

RESULTS

Of the 1200 respondents that received the survey, 197 completed it for a 16% response rate. The majority of respondents were women (78%, 153 respondents), over 45 yr of age (45 to 54 yr old: 19%, 55 to 64 yr old: 29%, 65+ years old: 22%), and had at least a college degree (77%).

Participant Concerns

Respondents reported a high level of comfort in the immediate or near term receiving care in an orthopaedic clinic (60% immediately, 18% 1 to 3 mo), urgent care clinic specifically for orthopaedics (74% immediately, 12% 1 to 3 mo), or in an emergency room (52% immediately, 13% 1 to 3 mo). Respondents continued to exhibit comfort seeking orthopaedic care at an orthopaedic urgent care facility (8% not comfortable) versus an emergency room (40% not comfortable).

Respondents expressed more comfort with attending clinic visits in the near term. When considering receiving care at an orthopaedic clinic, respondents remain concerned about the risk of contraction of infection from other patients (39% of respondents reported extremely or very concerned) and the utilization of medical supplies or equipment needed for COVID-19 (33% of respondents reported extremely or very concerned). The concern for the ability to maintain social distancing (33% reported extremely or very concerned) emerged as one of the top three concerns. Respondents expressed the same three concerns in the orthopaedic urgent care setting. Respondents were most concerned about the risks of getting sick from other patients (29% reported extremely or very concerned), followed by using medical supplies or equipment needed for COVID-19 (32% extremely or very concerned), and ability to maintain social distancing (33% extremely or very concerned). There was a change in the three most prevalent concerns with seeking care in the emergency room. Respondents continued to exhibit the most concern regarding care in the emergency room because of concern of being in the hospital (71% extremely or very concerned) and risk of contracting infection from other patients (72%). Respondents expressed an increased concern relating to the ability to maintain social distancing in the emergency room (50% extremely or very concerned).

Care Delay

Six percent of respondents reported a delay in seeking orthopaedic care secondary to COVID-19 concerns. Respondents reported their primary reason for delaying care was caused by concerns for risk of COVID-19 exposure from other patients (83%).

A dozen respondents (6%) reported experiencing orthopaedic concerns but elected not to seek care because of concerns related to COVID-19; most of these individuals reported

A

1. Given the current COVID-19 situation, how soon would you be comfortable receiving orthopaedic care at... (Please choose one response for each.)

- An orthopaedic clinic, An orthopaedic urgent care (urgent care that only treats patients with orthopaedic concerns), An emergency room
- Immediately, Within 1-3 months, Within 4-6 months, More than 6 months later

2. If you needed to go to an orthopaedic clinic today for care, how concerned would you be about... (Please choose one for each.)

- Risk of getting sick from other patients, Risk of getting sick from doctors and staff, Risk of getting sick from germs in the clinic (doorknobs, bathrooms, etc.), Using medical supplies or equipment that are needed for COVID-19, Ability to maintain social distancing, Ability to get an appointment promptly, Cost I would pay out-of-pocket
- Extremely concerned, Very concerned, Somewhat concerned, Not concerned

3. If you needed to go to an orthopaedic urgent care (urgent care that only treats patients with orthopaedic concerns) today, how concerned would you be about... (Please choose one for each.)

- Risk of getting sick from other patients, Risk of getting sick from doctors and staff, Risk of getting sick from germs in the clinic (doorknobs, bathrooms, etc.), Using medical supplies or equipment that are needed for COVID-19, Ability to maintain social distancing, Cost I would pay out-of-pocket
- Extremely concerned, Very concerned, Somewhat concerned, Not concerned

4. If you needed to go to an Emergency Room today for orthopaedic care, how concerned would you be about... (Please choose one for each.)

- Being in a hospital during this pandemic, Risk of getting sick from other patients, Risk of getting sick from doctors and staff, Risk of getting sick from germs in the hospital (doorknobs, bathrooms, etc.), Using medical supplies or equipment that are needed for COVID-19, Ability to maintain social distancing, Cost I would pay out-of-pocket
- Extremely concerned, Very concerned, Somewhat concerned, Not concerned

5. We hope this doesn't happen, but if you or an immediate family member had an orthopaedic concern that needed care now, how comfortable would you be getting care from... (Please choose one for each.)

- An emergency room, An orthopaedic urgent care (urgent care that only treats patients with orthopaedic concerns)
- Not comfortable, Somewhat comfortable, Very comfortable, Extremely comfortable

6. Do you have an orthopaedic concern but haven't received care for it because of COVID-19?

- Yes, No

7. If you answered yes to Question 6, how long have you had symptoms?

- Less than a week, 1-2 weeks, 3-4 weeks, 1-2 months, 3-5 months, 6 months or longer

8. If you answered yes to Question 6, which of the following best describes your orthopaedic concerns? (Please choose one)

- Hand or wrist pain/injury, Knee pain/injury, Hip pain/injury, Shoulder pain/injury, Back pain/injury, Other

9. If you answered yes to Question 6, have you received a diagnosis from a medical professional for your concern?

- Yes, No

10. What are the reasons you haven't received care for your orthopaedic concern? (Please check all that apply.)

- Risk of getting sick from other patients
- Risk of getting sick from doctors and staff
- Risk of getting sick from germs in the clinic (doorknobs, bathrooms, etc.)
- Ability to maintain social distancing

B

22. How likely are you to receive the COVID-19 vaccine when it is available to the general public? Please choose one.

- Not at all likely, Somewhat likely, Very likely, Extremely likely

23. The pandemic is affecting each of us in different ways. Thinking about the pandemic's impact on you, how are you currently feeling? (Please choose a point along the spectrum for each pair.)

- concerned, confident
- anxious, calm
- hopeless, hopeful

Didn't want to use medical supplies or equipment that are needed for COVID-19

Cost I would pay out-of-pocket

Didn't think doctors were available

Clinic rescheduled my appointment

Didn't think orthopaedic care was available (except in an emergency)

Other (please share)

11. Have you had to delay an orthopaedic surgery or procedure (at either a hospital or an outpatient surgery center) because of COVID-19?

Yes, the surgeon's office delayed or cancelled it

Yes, I chose to delay or cancel it

No delay, I've had an orthopaedic surgery or procedure since the onset of COVID-19

No, I haven't had the need for an orthopaedic surgery or procedure since the onset of COVID-19

12. If you answered yes to Question 11, Do you plan to go ahead with surgery or procedure when it's available again?

Yes, No

13. If you answered no to Question 12, Which best describes your reason for not going ahead with surgery or procedure? (Please choose one.)

I want to reconsider my treatment options, I went to see a different doctor, I want to wait until COVID-19 is no longer a concern, Other (please share)

14. Given the recent surge of COVID-19 cases and hospitalizations, if you had an orthopaedic concern requiring surgery, how soon do you think you would be comfortable having an orthopaedic surgery/procedure at a hospital?

- Immediately, Within 1-3 months, Within 4-6 months, More than 6 months later

15. How soon do you think you would be comfortable having an orthopaedic surgery/procedure at an outpatient surgery center?

- Immediately, Within 1-3 months, Within 4-6 months, More than 6 months later

16. What do you need to hear or know in order to feel confident about receiving orthopaedic care in person?

17. How confident would you feel about receiving orthopaedic care in person if each of these sources says it is safe? (Please choose one for each.) Please use a scale of 1-7 where 1=not at all interested and 7=very interested.

- Your doctor, The Centers for Disease Control (CDC), Your hospital, Your health insurance, The media, An email from your doctor's office, Your clinic's website, Friends and family Minnesota Department of Health, World Health Organization (WHO), National Institutes of Health (NIH), Minnesota Governor Tim Walz

18. Are you aware that you can have a video visit with an orthopaedic doctor?

- Yes, No

19. During the COVID-19 pandemic, have you or an immediate family member used a video visit for orthopaedic care?

- Yes, No

20. After this COVID-19 health crisis is over, how interested do you think you'll be in a video visit for orthopaedic care? Please use a scale of 1-7 where 1=not at all interested and 7=very interested.

- 1, 2, 3, 4, 5, 6, 7

21. How would you say the effort to contain the COVID-19 outbreak is going at each of these levels? (Please choose one for each.)

- In the Greater Minneapolis/St. Paul metro area, Statewide, Nationwide, Globally
- Very badly, Somewhat badly, Somewhat well, Very well

frightened, fearless

24. If you were looking into a crystal ball, how long do you think COVID-19 will impact your life?

- Less than one month, 1-2 months, 3-6 months, 7-9 months, 10-12 months, More than 12 months, Don't know

25. (Optional) Please add any other thoughts or comments you'd like to share.

FIGURE 1. Front (A) and back (B) pages of a survey about orthopaedic care during a pandemic.

suffering symptoms related to their orthopaedic concerns for 3 mo or longer. Knee issues were most often the care concern for this small group of respondents who delayed care.

Most respondents had not experienced a delay in an orthopaedic surgery or procedure caused by COVID-19. Five respondents reported a delayed procedure caused by the pandemic. Each of these respondents reported that they

intended to proceed forward with the planned procedure when next available.

Action Items

76% of respondents reported increased awareness and usage of video visits regarding orthopaedic care. Approximately

TABLE 1. Comparison of survey results between this study and those reported by Comadoll *et al.*⁵

Category	Current study	Comadoll <i>et al.</i> ⁵ survey results
Total surveys completed	197	366
% of respondents comfortable in seeking orthopaedic care by location immediately or within 1 to 3 mo:		
Orthopaedic clinic	78	84
Orthopaedic urgent care	86	87
Emergency room	65	70
Orthopaedic clinic: % of respondents reporting high concern by risk:		
Risk of getting sick from other patients	39	44
Risk of getting sick from doctors and staff	21	25
Risk of getting sick from germs in the clinic (doorknobs, bathrooms, etc.)	23	37
Using medical supplies or equipment that are needed for COVID-19	33	39
Ability to maintain social distancing	33	37
Ability to get an appointment promptly	29	26
Cost I would pay out of pocket	25	23
Orthopaedic urgent care: % of respondents reporting high concern by risk:		
Risk of getting sick from other patients	38	49
Risk of getting sick from doctors and staff	19	30
Risk of getting sick from germs in the clinic (doorknobs, bathrooms, etc.)	23	41
Using medical supplies or equipment that are needed for COVID-19	32	39
Ability to maintain social distancing	33	39
Cost I would pay out of pocket	26	25
Orthopaedic clinic: % of respondents reporting high concern by risk:		
Being in a hospital during this pandemic	71	70
Risk of getting sick from other patients	72	71
Risk of getting sick from doctors and staff	41	46
Risk of getting sick from germs in the clinic (doorknobs, bathrooms, etc.)	42	58
Using medical supplies or equipment that are needed for COVID-19	45	51
Ability to maintain social distancing	50	54
Cost I would pay out of pocket	37	37
% of respondents highly comfortable seeking immediate care by location:		
Emergency room	15	14
Orthopaedic urgent care	34	38
% of respondents reporting a current orthopaedic issue	6	17
Reasons cited for delaying care by %:		
Risk of getting sick from other patients	83	46
Risk of getting sick from doctors and staff	33	28
Risk of getting sick from germs in the clinic (doorknobs, bathrooms, etc.)	42	41
Ability to maintain social distancing	17	28
Didn't want to use medical supplies or equipment that are needed for COVID-19	25	25
Cost I would pay out-of-pocket	17	10
Didn't think doctors were available	25	49
Clinic rescheduled my appointment	0	15
Didn't think orthopaedic care was available (except in an emergency)	8	59
Other (please share)	33	25
% of respondents that delayed surgery or procedure	3	5
% of respondents that plan to proceed with surgery when available	100	94
% of respondents comfortable undergoing orthopaedic surgery by location immediately or within 1 to 3 mo:		
Hospital	46	64*
Outpatient facility	62	
% of respondents aware of and report using video visits	82 & 12	76 & 9
% of respondents reporting a negative perception of COVID management:		
Locally	66	24
Statewide	78	23
Nationally	92	79
Globally	70	65

*The survey conducted by Comadoll *et al.*⁵ queried respondents regarding comfort level undergoing surgery at a hospital and outpatient facility as one question. COVID-19, coronavirus 2019.

12% of respondents reported taking advantage of the video visit option in this study.

Most patients were eagerly anticipating the arrival and availability of a COVID-19 vaccine. More than 75% of respondents stated they were “extremely” or “very” likely to receive the COVID-19 vaccine when it became available to the public.

Participant Perspective

Approximately one-fourth of respondents stated their confidence in obtaining in-person orthopaedic care was contingent on knowing the precautionary measures in place promoting their safety. Trust in physicians, the Centers for Disease Control (CDC), and Minnesota Department of Health were the most cited entities instilling confidence reported by respondents. All

respondents reported the least confidence in the reporting of the media regarding COVID-19.

Currently, respondents have a generally negative outlook on pandemic efforts on all levels (within a large health system: 66% reported a negative perception of pandemic efforts; statewide: 78% reported a negative perception of pandemic efforts; nationwide: 91% reported a negative perception of pandemic efforts; globally: 70% reported a negative perception of pandemic efforts). Feelings of concern, anxiety, hopelessness, and fear permeated among respondents. Respondents were split on how long they thought the pandemic would continue to impact their way of life, with many predicting 7 to 12 more months of the effects of the virus on their lives.

DISCUSSION

Immense uncertainty permeated throughout society at the onset of the pandemic. The ability to maintain traditional standards of healthcare was unknown. Compounding this conundrum, there was not readily available information regarding patients' desires for orthopaedic care in the midst of the pandemic.^{5,6} The study conducted by Comadoll *et al.*⁵ identified that despite significant concerns regarding COVID-19 and associated risk, respondents remained interested in seeking care for orthopaedic conditions. The purpose of this study was to determine how perspectives and thoughts have adapted entering the "second" wave of the COVID-19 pandemic (Table 1). Utilizing a validated survey orientated to assess current patient perceptions, data was collected and compared to data reported in the literature towards the onset of the pandemic. Respondents continued to remain most concerned with virus exposure from other patients. Six percent of respondents reported a delay in seeking orthopaedic care secondary to COVID-19 concerns in this study, compared to 17% of respondents in a similar study.⁵ Respondents were becoming more comfortable with the idea of returning to traditional outpatient clinics for orthopaedic care. Also, respondents reported growing confidence in returning to the hospital and outpatient surgery centers for orthopaedic surgical interventions.

Eclipsing the 1-year mark of the beginning of the global pandemic, individuals continued to seek safe and efficient orthopaedic treatment.^{5,11} Respondents were adopting new behaviors and perceptions in an effort to resume activities of daily living. Emphasis on hand hygiene, social distancing, mandatory mask-wearing, and facility cleaning and sterilization protocols have all become standard practice in providing orthopaedic care.⁴ Multiple studies have supported the notion that despite persistent apprehension, if proper precautionary measures are in place, most individuals are eager to proceed forward with orthopaedic interventions.^{5,6} Comparing this survey's findings to the study conducted by Comadoll *et al.*,⁵ the confidence of respondents who received orthopaedic care continued to rise as they became acclimated to life in midst of COVID-19.⁵ It appears respondents were also becoming more comfortable utilizing telemedicine visits as time progressed. Respondents' awareness and usage of telemedicine alternatives rose from 76%⁵ to 82% and 9%⁵ to 12%, respectively. Manz *et al.*¹² also reported that most

patients were willing to employ telemedicine resources while seeking orthopaedic care.

As the pandemic continued, people have embraced safety measures and incorporate technology to facilitate obtaining orthopaedic care and as a result are maintaining a measure of confidence.^{13,14} This confidence was not without limits. Moverman *et al.*⁶ reported 56.6% of survey respondents' preferred to receive care in a hospital setting during the onset of the pandemic.⁶ At the time of this survey, in the midst of the "second" wave, 41% of respondents reported feeling comfortable undergoing orthopaedic surgery in a hospital, in the near term. This was a 17% increase from the findings reported by Comadoll *et al.*⁵ at the onset of the pandemic.⁵ Respondents were less apprehensive in obtaining care in a hospital setting. This heightened comfort was contingent on knowing the extent of precautionary measures in place to optimize safety. Individuals continued to perceive hospital settings as more hazardous environments with increased risk of infection contraction from other patients. This survey also found that 25% of respondents had growing concern about the ability to safely maintain social distancing in emergency department and hospital settings, likely a direct result of more individuals becoming increasingly confident venturing out for care.⁵ This finding was pragmatic given that although fewer individuals were reporting delaying treatment, compared to prior data, 83% of respondents were stating COVID-19-related concerns as their reason for delaying instead of concerns regarding treatment accessibility as reported by Comadoll *et al.*⁵

As society continues to adjust and acclimate to obtaining orthopaedic care in a COVID-19 world, evaluation and consideration of continued steps towards a "new normal" are necessary. Respondents generally reported a negative perception of pandemic efforts on all levels (local, statewide, nationally, and globally), but they continued to trust physicians and the CDC. Maintaining and developing this trust is paramount in continuing to promote a safe environment for patients seeking care. Although there was a growing acceptance among respondents for returning to hospital settings for care, utilization of ambulatory and urgent care facilities will continue to prompt safe alternatives. In addition, wide administration of safe and effective vaccines was eagerly anticipated by the majority of respondents. Efforts will need to be implemented to administer vaccines efficiently and provide care options as the number of individuals seeking care begins to return to pre-COVID-19 levels. Also, continued adoption of alternative pathways to health care will remain crucial. Browne *et al.*¹⁴ proposed increased utilization of telemedicine and changes in elective arthroplasty discharge protocols as methods to streamline care while also minimizing infection risk. Similar innovative approaches to providing treatment will continue to be critical to provide safe and successful orthopaedic care for the indeterminate future.

Limitations and Future Perspectives

Several strengths and weaknesses existed within this study. Strengths of this study included responses from members of a large health plan. This large health plan encompassed all

practice types and all orthopaedic specialties, which spoke to its applicability to orthopaedic patients as a whole. This survey was conducted during the “second wave” of the pandemic, which allowed the survey to be compared with prior collected data to capture changes in individuals’ perceptions over time. Weaknesses of the study include those inherent to all survey studies including a low response rate (16%). Email distribution was employed for delivery of the survey. Undoubtedly, a number of respondents either did not open, did not notice, or because of email filtering protocols, were unaware of the survey. Any of these potential eventualities likely contributed to the low response rate. Utilization of follow-up phone calls and text messaging alerts could be implemented in the future to encourage survey completion. Also, monetary compensation could incentivize increased respondent engagement. Additionally, the survey was conducted in one metropolitan area which may not have provided a true representation of perceptions on a national level. Future research should focus on evaluating how the perception of receiving orthopaedic care changes over the course of the pandemic in addition to examining how concerns vary across the country in relation to COVID-19 hotspots. Additional areas of investigation could examine how demographic variables affect perception of COVID-19 and interest in receiving orthopaedic care. Determining whether a correlation exists between ambulatory and hospital surgical case volume and COVID-19 infection and mortality rates will also provide vital information.

CONCLUSIONS

Society continues to adjust to life during the COVID-19 pandemic. Despite negative overall perceptions regarding the outlook of the pandemic as well as frustration with the management of the regional and national responses, respondents are becoming increasingly comfortable obtaining orthopaedic care. COVID-19 continues to be part of our everyday life and will be for the foreseeable future. Adherence to safety protocols by providers as well as the health systems that support patient care, will remain essential to maintaining the trust of our patients and encourage safe orthopaedic care in a time of great uncertainty.

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