

# Orthopedic Perspectives on OI during the COVID-19 Pandemic- captions

>> Hi, everyone. Thank you for joining. My name is Michael Stewart. I work with the OI Foundation.

We will talk about orthopedic perspective with the COVID-19 pandemic. If you are just joining us, thank you so much. We will get started for a few minutes. We want to wait for a few more people to filter in and thank you so much. And we just ask that please keep your microphones muted. Like in our previous sessions if you have any questions, feel free to write them into the chat feature below.

Hi, everyone.

For those of you that don't know me this is Tracy Hart.

I'm the CEO of the osteogenesis imperfecta foundation.

Welcome this afternoon to our session which is titled as Michael said, orthopedic perspectives on OI during the COVID-19 pandemic with OI expert.

This is a challenging time for all of us.

And we hope that by bringing you some of these sessions on various topics that it keeps us connected and that we can see what kind of questions people have so we can keep bringing you information as we all get through this really challenging time together.

From there I have the great pleasure of introducing our three speakers today.

Just as a reminder for everyone, this is not telemedicine.

This is an informational session which our experts are all orthopedic surgeons will give you information.

They are not COVID-19 experts but they are experts in their field.

So with that I would like to introduce our three speakers.

First is Dr. Jill Flanagan with children's health care of Atlanta.

And we have Dr. Jeanne Franzone in Wilmington, Delaware.

And Dr. Maegen Wallace from Children's Hospital and medical center in Omaha.

And with that, I would like to turn it over to Dr. Franzone who will tell us about herself and pass it on to her colleagues from there.

Thank you, everyone.

>> Thank you very much.

Thank you, Michael, thank you Tracy, and thank you really to everyone at OIF, the countless hours you are putting in to serve the OI community during this challenging time and always.

My name is Jeanne Franzone.

I'm part of the multi-disciplinary OI team at the hospital for children in Wilmington, Delaware.

Our clinic and team provide care on a multi-disciplinary level from the pre-natal period through delivery and up through the age of 35 years old.

I will start with a few basics of what our institution has done and is doing to address the challenging times and then turn it over to Jill and Maegen and then we will go from there.

You know, these are certainly uncertain times, challenging times, and the logistics of orthopedic care looks very different today than it usually does, but one important message is the principles of care have not changed nor has our availability and commitment to guiding all of our OI participants and families through this different time period.

Our institution like many has implemented really a multitude of changes in keeping with both national guidelines as well as local guidelines.

This ranges from screening patients prior to visits.

There is a screening process at the door entering the hospital.

There are some new restrictions on visitors to the hospital and who can accompany each patient to a visit.

There has been real push on our part to use more and more telemedicine as well as video conferences, just like this one, and our clinic spaces have changed with the goal of reducing exposure and our day to day work flow has changed as we have certain teams in the hospital at any given time.

So we women certainly touch on -- so we will certainly touch on many more of these details as we go on with this webinar as with fracture care and surgery and planning for a trip to the hospital.

But again, something we'll also discuss is our role as being available to all of our OI patients and really helping guide you through this different care pattern that is unchanged.

>> Thank you so much.

Dr. Wallace, would you like to go next?

>> Sure, I'll go next.

Sure, just like Dr. Franzone described we have done a lot of changes to our regular work flow and also to how patients are getting into our facility.

So screening calls are being done ahead of time so that patients that have symptoms are not brought in electively to the clinic to help protect other patients and us as health care workers as well.

And then we have been decreasing exponentially the number of patients that we typically see in clinic.

Just overall in our general orthopedic clinic, and for -- to help protect ourselves and to continue to be able to provide care to patients that need it, we've made teams of providers and nurses who are only

working together during clinic so that if one of us gets infected we are not infecting every single co-worker we are working with.

We are strategic in changing those typical work flows that we do.

And then in terms of surgeries and I know we will touch on this a little bit more as we go on, but we have gotten to a point where we are only doing surgeries that over the next few weeks that we feel like are really necessary just because we know here in Nebraska we don't have as many cases as other places on the coast but we know in the next few weeks that surge is going to happen and we are just trying to reserve our personal protective equipment supplies, ventilators, ICU beds, things we know we will be needing in the next few weeks just as we are preparing for what's coming.

>> Thank you.

And Dr. Flanagan.

>> So I'm Dr. Jill Flanagan.

I'm a pediatric orthopedic surgeon at children's health care of Atlanta.

We are a little bit different.

We are pretty spread out.

We have all of our clinics are on an out patient setting which is not in a hospital so I will touch base on what our changes are which are pretty drastic and then we have the in-patient setting.

So for outpatient clinics, we before had 13 separate locations essentially all across north Georgia and now have only opened five clinics and in those five clinics there is one provider a day to see anything on an emergency basis or our patients right after surgery.

We have four to five of those again open day and those are our busiest sites.

Each physician rotates every two weeks.

I haven't been in the office in a week so I'm a stay-at-home mom just like a lot of people are now.

We are in groups.

So there is a different group this week and then I'm in the group that works next week.

But just because I'm not in the office doesn't mean I'm working.

I'm available to answer questions and we will talk about that.

Our patients are screened at the door before they get into the office with questions, travel, and then temperatures are taken as well.

If a patient is sick, we still see them and we mask them, especially if needed on an urgent basis.

We allow one visitor with every child.

If there are two parents that come, we will only bring one parent back.

This is in effect until April 10 and not sure if it will be longer than that but I suspect it may.

For us, telehealth is coming soon.

We are certainly working on that and hopefully it will be up and running in another week or so on our in-patient side we canceled all elective surgeries and I know there are questions coming in and we will touch base on what we define as elective versus not.

And then I asked Dr. L. to be here as well because I figure there had are questions about infusions but as of right now in Atlanta we are trying to limit our infusions to us at the highest risk so are more moderate to severe OI patients and those with active bone chain.

That's it

>> Thank you so much.

Before I move on, so you guys all sort of have begun or pretty thoroughly answered my first question for all of you which is what is your institution doing in response to the coronavirus and how does that impact patients and families.

Before I move on to the next set of questions, is there anything else that either of you or any of you would want to add?

Cool!

So I will go on to a bunch of individual questions for each specific doctor and if you want to add on to your colleagues, feel free tomorrow the first question is for Dr. Franzone, we have been talking a lot about elective surgeries and how -- you have been hearing about in the news.

Elective surgeries are being canceled across the country.

Not just for patients with OI but everyone.

For people with OI, what is an example of an elective surgery and are those now being canceled or rescheduled for our community members?

>> Yeah, thank you, Michael.

That's a great question and one that we know is forefront in the thoughts of many of our OI patients and families.

Very important question.

The way I would think about that is the word "elective" is actually a difficult word and in some instances can even be a little bit misleading because we certainly don't elect for rods to bend and break and we don't elect for scoliosis to progress to the point that a surgery is needed or elect for becoming symptomatic.

Those are tough to think of in terms of a word like elective.

A different way to think about surgeries would be in terms of the level of urgency.

Will the outcome of the surgery be affected by waiting a certain period of time?

And you know there is certainly are urgent cases that despite these environments, must go on.

The rare instance of an open fracture or a certain severely displaced fracture or certainly other instances.

In each case we have to balance the risks, the risks of coming into a hospital environment during this time period and Maegen touched on it as well.

The hospital equipment and supplies protective equipment and ventilators.

So I think that really brings us to the point that these decisions are absolutely case by case, and the other thing to rest assured about is we certainly don't take these decisions lightly.

We know patients and families are oftentimes eager to have the surgeries done, and we are eager as orthopedic surgeons to do them as well.

So this is very case by case.

And also not decisions that are made in a bubble.

You know at our institution we have a big OI team and these are decisions that we discuss as a team.

For me with my partners Dr. Cruz, Dr. Shaw, the doctor leading our ortho genetics team, our physical therapist, and even beyond that with the respected leaders of our department, our hospital leaders who have an up to date pulse on this ever changing COVID-19 situation because the other thing to keep in mind is in the big picture the surgical procedure itself is only one small piece of the whole care picture for a patient.

There is other things to keep in mind when we are planning on these surgeries.

The access to postoperative care, the access to postoperative physical therapy which can be really important for maximizing outcome.

So these are tough decisions.

These are case by case and something that really we continue as a team to look at in the sense of the total care for each of our patients.

>> Great, thank you so much.

So next I want to go -- I have a question for Dr. Flanagan.

What are some ways you are making yourself available for your patients?

>> That's a good question.

First I would like to second what Dr. Franzone said, it was perfect.

For OI I don't think there is really any elective case it's a matter of timing and when we do it.

And so I just want to keep that in mind.

And I think you also asked if we were canceling surgeries.

I know I have on some of my OI patients but I know again it's the timing going to affect the long-term outcome and if the answer is no, then we wait.

So I reached out to each of these families, how is your child doing?

Are they in any immediate pain at this time?

That's really important to us and if the answers are no, then again, I don't want to risk the children coming into the hospital and getting exposed either.

So again, always about risks and benefits.

For families to get in touch with probably all of us that are here, as you can see we are readily accessible.

We are here to help serve the OI community.

Most of my patients have my personal e-mail address.

I guess my work e-mail address.

I have a surgical scheduler and patient care coordinator and most of them know her direct phone number and her e-mail address.

There are some patients that have my cell phone and we can certainly talk off-line but there are barriers I true toy keep with myself and my patients.

I'm not giving out my phone number to everybody.

Not that I don't like you, I certainly try to keep my distance in a professional manner

>> We understand

>> All three of the surgeons that are here we use Epic and there is my chart which is the portal way to get ahold of us.

I personally don't like it but it is a way to get ahold of us if you don't have an e-mail.

Again, as I alluded to, telemedicine is coming to us soon.

Imagine Dr. Franzone has it because their institution is one for telemedicine.

In the last case, if you can't get in touch with us that way, reach out to the OI Foundation.

They know all of us and know how to get ahold of us.

That would be my last recommendation

>> Thank you, and on that note I will be displaying our contact information later on.

If you have further questions for the doctors and want to reach out to them if you contact us, we can get in contact with them on your behalf.

Thank you so much, Dr. Flanagan.

Finally on to Dr. Wallace, ask you a question.

What should you do if you think you have a fracture now?

>> That's a great question.

You all living with OI and having children or loved ones with OI, you experience these fractures and so I think for a lot of our families and patients, it doesn't really change what you do or how you kind of manage the fractures.

A lot of our families and patients if they suspect a fracture are splinting at home.

I think this is a time where you want to try to keep your loved ones out of the hospital unless it's an emergency.

So obvious fractures where you're having a lot of pain and can't splint and use medications at home to keep your loved one comfortable, I think that's a time when you consider going into the hospital.

I know a lot of families will elect to splint and then call their doctor in the morning or that day.

And maybe even get creative in how you get an extra.

So maybe you don't go to the hospital to get the x-ray.

Maybe if you feel like you need an extra try to go to a local x-ray radiology center and get an x-ray and have it sent.

Trying to decrease -- to increase that social distancing and decrease the amount of people you come in contact with.

There are certain fractures, displaced femur fractures hurt a lot.

Those of you who have experienced them or have loved ones that have.

Those times are times where you don't have an option other than to go to the hospital.

I think having splint materials at home is really important for you and then if you have splinted in the past, you know how to do that.

If you don't, then just getting some more information.

I wouldn't recommend practicing splinting because you don't want to use your supplies if you don't need them.

Watching videos and learning how to do splinting at home is really important just to keep your loved ones -- your children comfortable.

There is a couple of videos that I think that OI staff will be able to post when they post this talk that show examples of how to do some upper extremity splinting and lower extremity splinting.

Obviously, if you have a rod in place, I think everyone who has rods know that your fractures tend to hurt a little less if you have a rod than when you don't.

So if the extremity isn't significantly deformed and you can be comfortable splinted and doing medication at home, then maybe you can delay when you need to go in.

Or even if you need to go in to get an x-ray in the next few weeks and try to get further down the road with this pandemic to try to decrease your exposure or risk.

>> Great, thank you so much.

Now we are done with our pre-selected questions and already I see many questions coming from our attendees.

We appreciate these.

So I'm going to start off with just going in order which we received them.

Again, I want to clarify that this is not telemedicine so unfortunately we cannot give very specific recommendations to individual people on their exact procedures but we can provide the best and most update information we can.

Here is a question: Rod revision procedure without a fracture be medically necessary or elective?

>> That's a loaded question.

It depends why it's being revise.

I think if a rod is in place and you know that in the next few months probably are going to be thinking about having the rod revise.

I would consider waiting until after the peak of this pandemic just to decrease your risk.

Right now at least in my hospital a case like that if I scheduled that, cases are getting booked that are new that weren't scheduled before are going to a committee to get approved to get scheduled.

So a case like that likely wouldn't get approved to get scheduled.

Obviously if there was a fracture and bent rod and pain was not controlled, that's a different scenario.

>> I would second that, very similar process, but again something really case by case to discuss with your surgeon and ideally discuss over the phone or in such a way that doesn't bring you into an exposed environment and really depends on so many factors.

>> Absolutely.

>> Great, thank you all so much.

Another question, so this is a slightly longer question.

So I'm going to read off sentence by sentence, if at some point you can jump in, go for it.

I have a question about options for intubation if that is necessary at some point.

I have OI and have had a cervical splint as result of a trouble intubation during a recent surgery.

This splint is significant and interferes with breathing et cetera at times.

What are other options OI patients can have instead of regular intubation with symptoms of COVID-19 require it?

>> I will talk to that one.

I think what's most important again is decide the timing of the surgery.

Trouble breathing obviously is a concern.

When we think about cervical disk herniation, the term we use is myo lip oip, it's when -- being pushed against and that can have devastating results if not addressed at an early basis.

As far as intubation, none of us are anesthesiologist, I don't think, but there are other ways to do safe intubations for patients just in general.

So there is fiber optic intubation using special tools to intubate so you aren't moving the neck or nasal intubation going through the nose.

Have seen some OI patients that we have called occipital cervical fusion so the head is fused to the neck and the head does not move.

I'm not suggesting this but there are some that may need trachostomies that may need it as well.

There are ways and it really depends upon the timing.

If it's something that can wait and the symptoms are mild, that's a discussion they should have with their neurosurgeon.

I'm assuming an orthopedic surgeon for their neck.

There are other ways to safely intubate.

>> Great, thank you so much.

So going to ask a question here that says, is there a way to reduce rib fractures with a cough?

>> If you discover one, share it with everyone, please.

>> I'm taking that as we don't know?

>> If you discover something that works, I think everyone would like to know.

>> I want to move on to our next question.

So what is the thought about having PTs coming into the house?

I'm at a six month mark with a very bad break with surgery and finally got weight wearing.

Fighting atrophy but is it too much of a risk?

>> That's a very timely question and one that gets back to the importance of the overall care.

And that may depend a little bit locally, but I think we would all agree with you on the importance of weight bearing and building the muscle strength to help the bone strengthen and help the overall recovery.

You know, whether it's safer to travel to a physical therapy place or have -- bring somebody who could have been exposed into the home, that's a little bit of a risk benefit analysis that must depend on a local level as well.

And a frank discussion of ways to really minimize exposure and keep that social distance.

If there are ways to do that and perhaps do it over a telemedicine, or work on exercises in such a way to really have that guidance but minimize exposure, I would say in general would be the principle to think about.

>> Great.

Thank you.

This next question, I'm not sure if I don't understand the term or maybe it's a typo.

We are all assuming here.

But I'm going to read it anyway and if you want further clarification, we will skip it temporarily and ask that questioner to clarify.

This person says: My daughter has had a surgery for a femur fracture.

She got ten and was ten days ago and the doctors not able to check on her because we are all in social isolation.

What happens if the three week -- if three weeks pass and there is no possibility of a checkup?

>> That's a great question.

I actually just addressed something very similar with one of my patients yesterday.

I think that if in my opinion if the surgical incisions are healing nicely and your pain is decreasing, it's not vital to get an extra right now.

Especially if you're in a high risk area.

I think -- I would lean more on the conservative side and wait until the peak of the pandemic in your area and then consider going in and getting an x-ray.

Obviously, as there are other concerns or pain isn't decreasing like you would anticipate or if there are concerns around the site of the incisions, then I think those are things you need to call and make contact with your surgeon about.

>> Yeah, I would echo that.

That's something we face on a daily basis now with our OI populations and folks who have had surgery over the past two weeks before this really surged.

Again, we are trying to be as flexible as possible to sometimes we can't do telemedicine.

Sometimes it's a phone call and pictures.

Sometimes it has to be a WebEx.

But different ways -- and we are trying to be as flexible as possible to really try to get some follow-up.

Like you said, waive the risks and benefits when an x-ray is needed and where that happened.

>> Luckily, people at OI don't have problems of healing.

They have problems breaking.

So especially for a femur, I don't remember a femur not healing.

So tibias are a little different.

But for a FEMA at three weeks, pretty consistently is healed and your child or your loved one will tell you when it feels better.

Again if we can't use an x-ray that's a guide that most of us would use.

Three week mark is when we definitely start taking splints off, test the leg a little bit and see testing things in a tub may be best if you can't get to a pool to see how it feels as well.

Three weeks again.

The question was, how do we know if it's healing.

It's healing by the pain.

They are less -- having pain in three weeks, reach out to your actual surgeon, but I would say three weeks is consistent for most patients in terms of healing.

>> Great.

Thank you so much.

So I'm going to move on to some more.

So this question is, I had an issue where a rod has migrated toward the left hip area.

When I was younger my rod migrated toward the knee and I had surgery.

Not worried about the pain of putting off the surgery on my rod in my left femur.

My concern is with my knee years ago is potential damage of the rod to the hip area not pain.

I have rods, pins in various areas.

Thank you.

>> The question is whether having a prominent rod up by the hip could cause additional damage, is that

--

>> Yes.

My concern is -- as with my knee years ago, about the potential damage of the rod to the hip area.

Will my rod damage my hip area?

>> It's hard to know exactly what implants you have in.

That's typical style of rod that we use, if it's backed out some, usually that doesn't cause -- it causes pain for sure, but usually it's just irritation as a muscle.

And usually it doesn't cause any issues at the hip joint itself other than just being painful.

Without knowing exactly what implants you have, that's a little hard to answer

>> Agree.

The knees are different because when the rod migrates it goes into the joint and can cause cartilage damage.

But the rods, if they migrate out especially the traditional rod, it very rarely, I never seen it go inside of the hip joint to cause permanent issues.

Certainly not ideal, but I don't anticipate that would cause permanent long-term issue to the hip joint itself.

>> Great.

Thank you.

So the next two questions I see are not explicitly about ortho questions, but I think larger questions that some of us are thinking about now.

So if you don't want to answer them, I think between Tracy and I, we can have an answer for this.

Are people with OI considered higher risk or immune compromised?

Are they at a higher risk of suffering complications interest COVID-19 than the general population?

>> I think this was actually really, really well covered in the session the other day with Dr. Glorieux and Dr. Sandhaus.

I learned a lot during the time.

We know that taking care of the OI population and especially with the long involvement with OI that there are special considerations and this is something that I know a lot of our patients are wondering as she are in and around various work forces.

So it's certainly something that we are working with our patients on to minimize the risk, but I do think it was really well covered the other day.

>> Yes, a quick plug again for the sessions that we did last week with Dr. Sandhaus and Dr. Glorieux covering specifically the complications around OI and having COVID-19 and how people with OI are at a higher risk for more severe symptoms.

>> Michael, maybe we can put the link up to that session?

>> Yeah, I will make that right now as we are talking.

We have another question here that again sort of following this that nose a specific ortho.

Explicitly an ortho concern but related to the things we are thinking about today is: Was the general consensus of traveling on -- out of state, out of country and when do we think that -- this should be consideration for us?

I know from what I'm hearing definitely if it's not essential, don't do it.

I'm sure you guys can elaborate on this.

>> Well, for us here in Omaha, most of our patients with OI actually traveled to come to see us.

So thinking about that, we have been pretty aggressive in canceling our clinics.

I think that staying home is kind of what the CDC is recommending.

So I think that as providers we need to follow those guidelines and I think all of us in terms of travel personally and for our patients I think looking at whatever the CDC is recommending is really what we should be going by at this point.

>> And especially in a higher risk group, I mean, none of us are traveling right now.

I would not recommend any kind of travel for high risk group until we are told otherwise.

>> And also at the risk of being stuck somewhere that isn't a comfortable place to be.

>> Absolutely.

I want to share -- I want to be sharing my screen for just a brief moment with everyone.

Just bear with me while I download this for all of us.

That's maybe not the right word, I know.

Okay, can you see my PowerPoint slide open?

Yeah, I see some nodding heads.

Very quick for those of us joining the call, I want to let you all know that the OI Foundation, we are gathering all of our COVID-19 resources on to one page.

If you go to OIF.org coronavirus 2019, all of our resources and our videos and related fact sheets for OI are posted there.

This is also on our home page, [www.OIF.org](http://www.OIF.org).

As well as the video that we did with Dr. Sandhaus and Dr. Glorieux about pulmonary concerns with COVID-19.

Also you want to reach out to the OIF directly, the best way to contact us is through the e-mail bone link @OIF.org.

We are all working remotely as you can see by my living room behind me.

So our phone lines are also open and you can leave us a message.

I think the best way to reach us right now is through e-mail, e-mail us at bone link @OIF.org.

We will direct you to the right person and also if you want to get in contact with one of the doctors speaking here today I'm sure they will be happy to answer more questions as well as they become available.

Do we have any other questions -- I'm going to stop my share now.

Do we have any other questions from the audience?

Before we move on, I want to bring it back to Dr. Flanagan, Wallace and Franzone.

Do you have any final words for audience here today that you would give to them now?

>> Michael, this is Tracy, can I ask a quick question?

Are your institutions still doing infusions?

Or no?

>> So that's a good question.

I don't know if Dr. Locker in is on-line so she does infusions for us in Atlanta and I have been communicating with her daily --

>> I'm here, Jill

>> You can answer that for us

>> So it's been tricky, obviously in terms of admissions in general have been made just like surgeries, elective admissions have been canceled.

It's been somewhat open ended in terms of what's considered elected as you are discussing in terms of surgeries.

I have been taking a very similar approach in the very young more severe OI where we know it will have a change in fracture rate and babies will be in pain and maybe not be able to tell us.

The infants are getting their infusions on time.

If I have older kids who actually have chronic pain and it does make a clear difference to have the infusion, they are with discussion are opting or opting to or not have infusions.

So typically we have 20 to 30 infusions a month.

We are probably having ten this month.

It is a significant decrease, but I'm trying to -- for the kids where the parents or kids are really asking for them and we are doing an outpatient setting with all of the distance kind of guidelines, limited provider contact, et cetera, to try to minimize risk during the infusion.

So you get your infusion and you go home.

You don't stay overnight.

>> That's a great question and I would echo that from our institution as well.

Our ortho geneticist and along with the team has been -- as you mentioned, guiding patients on a case by case basis.

Really taking on not an all or none, but how do we continue the medication that really affects quality of life and patient well being while also minimizing the risk for folks on something like -- if there was a dose fairly recently they may not need another one until the crisis is done.

For folks on another medication a little different and for our patients who might have been in for a three day infusion, the doctor is cutting that back to one day.

Certainly policies in place to really minimize exposure and risk while in the hospital.

Other patients receive their infusions at home and this gets back to the question we talked about earlier but that's a little bit less of a risk in terms of coming to the hospital.

Really again a case by case basis and not an all or none.

>> Yeah, we were similar right now.

If we have patients coming to the hospital for infusions they are getting them in the interim infusion center what we typically do.

So those are still going.

As of today that might change.

And then a lot of our patients have either hospital they go to locally or we have quite a few patients who do home infusions.

So I think it's definitely a case by case.

And a lot of our patients have been nervous because their prescription for their infusion expires after a year.

That patient shouldn't be nervous about that.

We regardless we know we are having to cancel clinics and patients aren't able to get in for their yearly appointments and we will be renewing those prescriptions like they were here for clinic and adjusting doses the next time they are able to come to clinic whenever it's safe to travel and come to the hospital again.

>> And I think that brings up another really good point with focused a lot on surgeries and fractures, but not forgetting all of the non-surgical principles that keep us all healthy.

Remembering amidst all of this craziness, the vitamin D intake is really important.

Appropriate calcium intake.

Mental health is critically important and there was a great session about that earlier in the day despite changing local facilities and environments, maintaining an exercise regimen to keep muscles strong and bones strong.

Amidst all of this craziness as much as we cannot lose sight of the fact that all of those things are just really vitally important as well.

>> Great.

Thank you so much.

So we have a few more questions now.

I jumped the gun before.

So now we have how safe are cervical fusion for OI patients?

>> I can talk about that one again since I talked about it before.

Again, I think it's a question that you need to ask your surgeon themselves.

I mean, if the surgery indicated for a good reason, then you always have to analyze what are the risks of surgery and what are the benefits of surgery whether you have OI or not.

If this person is myo Paptic where the disk is compressing on the spinal cord that's a bad problem so the risk of cervical fusion is minimal compared to the potential benefit.

Again, I think it goes back to talking to their specific doctor about that.

There are certainly some special considerations for OI and cervical fusions and I'm thinking more intubation process.

Anything else -- again, OI people heal their bones just fine.

I imagine the cervical fusion would fine they would heal like anybody else.

Whether that puts more stress on the head having a larger head and having ligament dislaxity, I can't answer that.

I don't know if either of you guys can do that.

I don't know if there has been any specific research that's been done

>> I think those are great points.

And also like you said a discussion with your surgeon is the benefits of the surgeon who sees more OI in terms of the special considerations and also the full care team in the OR because the anesthesiology, the positioning, there are so many pieces of surgery like that, you know, that OI plays a role at every step along the way.

And ensuring comfort level in that regard is important.

>> Great.

Thank you.

So now the last question we have here is, and this was sort of addressed before and this person I think I know the answer, but I heard that people with OI can have respiratory issues.

I believe more severe types of OI are at a greater risk.

What about people with type 1 with a barrel chest?

How might COVID-19 affect this?

Again, I think the answer is, please check out the video with Dr. Sandhaus unless any of you want to jump in as well.

>> There is a pulmonary experts and they addressed it very nicely

>> I see some of my colleagues have put in links into the chat feature as well which will get you to that information.

While you are here, we wanted to address as many of these questions as you can.

So does anyone have any other questions?

Now I think if the doctors who are so graciously lent us their time today, if you have any other final things that you would like to say to the people on the calls the people watching this, we would love to give you the floor.

>> I will go ahead and say ending on a realistic but also a positive note, you know these are unpredictable times.

These are challenging times.

This is a new environment for us as orthopedic surgeons as well, but I think now even more than ever is a time that we do need to rely on our communities.

We are extremely fortunate to have you as the OIF rng the anchor of our, the -- OIF, the anchor of our community here.

Rest assured the face of health care is different these days like we touched on, our availability remains the same, our commitment to the OI community and helping you navigate this daily changing process and that I would end by supporting each other is how we will get through these times.

>> Yeah, I agree.

And I think definitely reaching out if you have questions.

I think calling your surgeon or your OI provider before going to the hospital I think is important and then also being patient with us because every day things are changing and one day we are told we can do semi-urgent cases and the next day we are told we can only do emergencies.

It's every day is changing and every location around the country is different and so just being patient with us and just know that we are here and we want to continue to provide care for you.

It's frustrating for us as well when we can't provide the services that we know that you need.

So just supporting each other and eventually we will all be able to hopefully get back to business as usual, but for now this is our current reality.

>> And lastly I want to thank the OI Foundation.

What you have done in the last week of putting all of this together is incredible and shows your dedication to all of the people around the world that I'm seeing that are reaching in.

I think in some ways I'm more accessible than I used to be.

Please feel free to reach out and I will leave you with this and it's a message I teach my residents.

If you think you are supposed to call me, the answer is you are supposed to call me if you have doubts about something reach out to us and we are certainly here to help out

>> Thank you all so much.

I love that as an ending note.

So again if you want to contact the OIF, the best way to get in contact with us is through our e-mail, bonelink @OIF.org.

And we will try to get back to you as soon as we can.

And thank you all so much.

Stay healthy and we will try to get more of these resources out to you as well but as you all know this is an evolving situation so we will -- we basically let you know as soon as these things are organized and we will keep doing that.

Thank you all so much and have a great day.

>> Thank you, everyone.