

The Coronavirus pandemic continues to unfold. Numbers are rising inexorably around the country, although some areas that were hardest hit are now seeing their new cases leveling off.

National statistics are misleading. They are skewed by the huge numbers coming in from the Northeast. Although statistics from New York look more promising, there are many other cities around the country that are just in the beginning stages of moving toward their peak.

Trauma volumes are down consistently around the country. There is still a low background hum from injuries I attribute to "violent, non-productive interpersonal relationships." But motor vehicle crashes are much lower due to fewer drivers on the road in many states.

Unfortunately, traumatic injuries will never go away. Trauma centers will need to maintain their readiness regardless of any surge in COVID patients. This will be challenging, because many trauma professionals will be busy helping take care of these patients, too.

This newsletter contains more information on the impact of the Coronavirus on trauma system and trauma center operations. Some centers have already adopted many of these strategies. But others may not have considered these changes yet. This newsletter will provide some of these process details in order to save you from reinventing the wheel. Feel free to review, modify, and adopt as needed. And please provide feedback or your own tips to share!

INSIDE THIS ISSUE

- 1 **The New ACS COVID Site Visit Schedule**
- 2 **COVID-19 And Your State Trauma System**
- 3 **COVID-19 And Your PI Meetings**
- 3 **Protecting Personnel During Intubation**
- 4 **COVID-19 And Chest Tube Insertion**

BONUS MATERIAL!

HOW CAN YOU DEAL WITH THE IMPACT OF COVID-19 ON YOUR TRAUMA PROGRAM PERSONNEL? HOW MIGHT YOUR CLINICAL CAPABILITIES CHANGE? WHAT MIGHT HAPPEN TO YOUR TRAUMA ADMINISTRATIVE INFRASTRUCTURE? WHAT ABOUT YOUR NEXT SITE VISIT?

CHECK OUT MY NEW TRAUMA PI WEBSITE! BELOW IS THE LINK TO A BLOG POST THAT ANSWERS THESE QUESTIONS. AND CHECK OUT THE OTHER POSTS, VIDEOS, AND DOWNLOADS WHILE YOU'RE THERE!

<https://bit.ly/TRAUMACOV>

The New ACS COVID Site Visit Schedule

Last month, the American College of Surgeons (ACS) Committee on trauma issued a huge revamp of the schedule for trauma center site visits for 2020-2023. Essentially, every verified trauma center gets a one-year extension of their expiration date. This will result in a one-time four-year verification cycle for all centers.

As you may imagine, there are a number of nuances to consider when a change impacts so many centers. Let's start breaking it down.

Trauma centers with a confirmed site visit. All centers that have a visit already on the books from March through June will have it rescheduled for the same dates in 2021. All of the hard work that you have already done must essentially be frozen in time. The pre-review questionnaire (PRQ) must be finalized and closed within 30 days of your original site visit date. The reporting period remains the same, and the charts to be reviewed need to be squirreled away until next year. If you are a verified center scheduled for a reverification visit, your certificate's

expiration date will be extended by one year. If you are waiting for a consultation or initial verification visit, no dice. You will have to wait a year for your visit to receive verification.

Trauma centers with a pending site visit. These are visits on the books for July through December. They, too, will be automatically rescheduled for next year. But now there are some choices. You can either keep your original reporting since you're already in the middle of it. Or you can restart it in the usual time frame ahead of your rescheduled visit dates. **How to choose?** The idea is to select the period that minimizes the impact of the Coronavirus on your numbers. If you have certain volume targets to hit (Level I centers), then look at your existing numbers and see if you will fall below your thresholds. If it appears that you will, consider restarting your reporting period for the next year.

Trauma centers with expiration dates in 2021-2023. At this point, you are most likely in the planning stages. The good news is that you are also receiving a one-year expiration extension. For the most part, just proceed as you normally would if you had originally been assigned that date.

COVID-19 And Your State Trauma System

The pandemic affects trauma care delivery at all levels. Much of what I have focused on is at the hospital level. But the state trauma systems that oversee them are feeling the effects as well.

The prehospital segment of the trauma system is under stress. These providers have first-line contact with potential COVID patients in situations that are less controlled than other trauma professionals. There is always a sense of urgency to 911 type calls. Yet the medics are entering uncontrolled environments and may not feel they have time to suit up properly in PPEs. For this reason, they also feel the impact of PPE shortages first.

In rural states like Minnesota, many small and critical access hospitals are not well equipped for taking care of sick Coronavirus patients. Frequently, they need to transfer to more urban hospitals which are quite some distance away. And unfortunately, this takes their scarce EMS providers and equipment out of service for many hours. And it leaves their communities relatively uncovered if significant trauma occurs while they are away.

Trauma centers are being hit as well. They are faced

with increasing numbers of COVID patients consuming not only equipment and hospital beds, but personnel as well. In some hospitals, trauma support staff (trauma program manager, trauma nurses and APPs, etc) are being re-tasked to care for Coronavirus patients. Obviously, this degrades the trauma program and may temporarily violate state or national trauma program rules and requirements.

State systems are trying to be flexible and adapt to these changes and pressures. Most trauma professionals have certain educational and training requirements that periodically expire. State systems are either extending existing qualifications or providing a grace period so that expired credentials remain valid. This includes EMS provider certifications, ATLS credentials, and a number of nursing certificates. The good news is that no one needs to worry about recertifying. For a while, at least.

Similar to the American College of Surgeons, state systems are modifying their designation visits. Most are postponing them by a year. Some are working on virtual visits, especially for centers that only need to undergo a limited visit to remedy previous weakness or deficiencies.

Bottom line: Most states are taking the COVID pandemic very seriously when it comes to its impact on the trauma system. They are doing what they can to mitigate unusual demands on the system.

However, there will be issues that arise that just cannot be foreseen. Work with your state trauma system personnel and share your observations, ideas, and suggestions.

Site visits will resume at some point. And undoubtedly some of the furloughs, layoffs, and re-assignments will result in what would normally be considered a deficiency. Site visit personnel will be very aware of the reasons and rationale, and the verifying and designating authorities will certainly have to allow some variances.

What can you do? Document, document, document. The most important thing to do is use your performance improvement program to demonstrate that no patient harms occurred during the pandemic. And be able to demonstrate that your normal systems and personnel are being restored as the crisis wanes.

COVID-19 And Your PI Meetings

Even though the world outside of trauma has changed dramatically, performance improvement never ends. Think of Coronavirus and trauma as two potential crises that must co-exist.

Social distancing has become the norm, and it certainly applies to performance improvement meetings. The good news is that there is an array of tools and techniques available to enable us to carry on PI activities and meetings despite not being able to get together in the same room.

Overall, the PI process consists of data collection, various levels of review (processing), loop closure, and documentation. Data collection goes on during the pandemic. The personnel may change slightly due to reassignments or furloughs, but it's always there in some form.

The same goes for loop closure and documentation. They are the most important parts of the process and generally won't change at all during COVID.

However, the review processes must change. Primary review, which typically involves the trauma program manager and/or PI coordinator, stays basically the same.

But secondary review, which pulls in the trauma medical director, could see an impact. It is certainly possible to conduct this small, regular meeting in a conference room with the necessary personnel, spaced comfortably apart and wearing masks. Teleconferencing is allowed by the American College of surgeons, and should be encouraged.

Tertiary review by the Multidisciplinary Trauma PI Committee is another matter, though. This is a much larger meeting and there aren't conference rooms large enough to safely seat this many people. Teleconferencing becomes a must. Here are some tips to do it sensibly:

- Use a **secure teleconferencing platform** approved by your hospital to ensure protected health information protection is safe.
- **Test the system thoroughly 15 minutes before each meeting.** Make sure that screen sharing works, that the audio is connected, and all corners of the room are covered.
- **Mind your PI materials.** This is important to preserve confidentiality and shielding from legal

discovery.

- **Assign someone to collect accurate attendance records.** Be sure to identify any anonymous phone callers.
- **Prompt for input from remote attendees.** They may be accidentally left out of the discussion otherwise.
- **Allow extra time for each meeting.** They will definitely take longer than you expect!

COVID-19 Thinking Cap: Protecting Personnel During Intubation

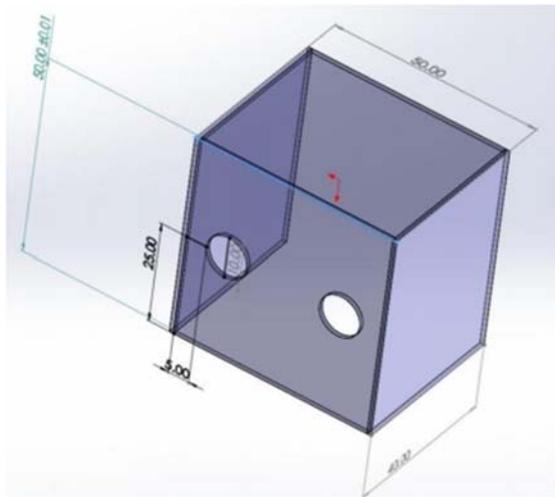
There is a fascinating letter in the New England Journal of Medicine submitted by authors from the Boston Medical Center and Brigham and Women's Hospital. Like all trauma professionals, they were concerned with droplet contamination produced during the intubation process. Most hospitals have modified their intubation procedures to try to protect personnel as much as possible.

The authors designed a Plexiglas box with two holes for the arms of the intubator that is placed over the patient's head. This should serve to shield them, and other personnel in the room if the patient unexpectedly coughs during the process. They tested this concept using an intubation mannequin. First, they placed a balloon filled with fluorescent dye in its mouth and slowly inflated until it burst. Here was the result when viewed under ultraviolet light. Sputum everywhere!



Next, they placed the intubation shield over the patient. A drawing of its dimensions is shown on the next page. The device is open on the bottom and on the side away from the intubator. The arm holes are 10cm in diameter. The authors then repeated the balloon experiment with the shield in place and the intubator's arms inserted

through the holes. The resulting contamination was limited to their hands and forearms, and the inside of the shield.



Bottom line: This is a very interesting yet simple and cheap device that can be built by just about anyone and should protect personnel from droplet contamination. It will not have much effect on aerosols escaping into the room, but that's what our other PPE are for! It's a great example of how creativity is key in keeping us all safer during this pandemic.

You can view the video on the NEJM website by clicking this link in the pdf newsletter, or type it in exactly in any browser:

<https://www.nejm.org/doi/full/10.1056/NEJMc2007589>

Reference: *Barrier Enclosure during Endotracheal Intubation.* NEJM DOI: 10.1056/NEJMc2007589, April 4 2020.

COVID-19 And Chest Tube Insertion

Endotracheal intubation is considered an aerosol-producing procedure. In this new age of SARS-CoV-2 and COVID-19, most hospitals are stepping up the level of personal protective equipment (PPE) used when performing this procedure. This has also resulted in modifications in the location where intubation is performed and the choice of drugs used.

But what about needle and chest thoracostomy?

These are different than intubation in that the respiratory tract is usually not directly accessed. However,

there is the opportunity for exposure to pleural fluid. In the case of needle thoracostomy, it is possible that air under pressure in the chest can force tiny droplets or even an aerosol out and into the air. There is less likelihood of aerosolization during tube thoracostomy, where liquid and droplet exposure can be anticipated.

What do we know about pleural fluid and the novel coronavirus? Basically nothing. And there is very little literature out there regarding other respiratory viruses in pleural fluid either. The only paper I could find (reference below) was published five years ago by a Spanish group. They compared the presence of bacteria and viruses in the pleural fluid of patients with community acquired pneumonia against an uninfected control group. They found only one incidence of virus in the pleural fluid in one patient, a human metapneumovirus. Is this comforting? Probably not.

Trauma patients with chest trauma are likely very different. Those with a hemo- or pneumothorax, by definition, had some violation of the surface of the lung. to cause the leak. This injury is likely to breach alveoli which are laden with coronavirus, thus contaminating the pleural fluid. Once that occurs, it is possible that the entire thorax surrounding the lung is contaminated. **Note:** this is one of those “common sense” assumptions with absolutely no data currently to back it up.

Bottom Line: This is yet another of the many questions about SARS-CoV-2 that we just don't have an objective answer to. However, since we are already limiting exposure during or forgoing laparoscopic procedures altogether to avoid vaporizing viral particles in smoke, it makes sense to protect ourselves during procedures that involve pleural fluid in trauma patients.

Until we have more data, needle and tube thoracostomy procedures should be considered at least a droplet-prone procedure, if not an aerosol-producing one. This means that trauma professionals should don appropriate personal protective equipment as dictated by their local policies and procedures before performing these procedures.

Reference: *Detection of bacteria and viruses in the pleural effusion of children and adults with community-acquired pneumonia.* *Future Microbiology* 10(6):909-916, 2015.



www.TheTraumaPro.com



@regionstrauma



www.Linkedin.com/in/MichaelMcGonigal



Michael.D.McGonigal