COVID-19 Clinical Rounds:
EMS: Patient Care & Operations

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My full contact info

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• Conflicts:
  – None

• Disclosure:
  – NAEMSP BOD
  – KS Board of EMS Physician Advisory Council
Perspective
States Reporting Cases of COVID-19 to CDC*

Reported Cases
(last updated April 17, 2020)
- None
- 1 to 100
- 101 to 1000
- 1001 to 5000
- 5001 to 10,000
- 10,001 or more

Territories: AS GU MH FM MP PW PR VI
Lab Testing Rates by County
(Rate per 1,000 Population)

Sedgwick County’s COVID-19 numbers include confirmed cases that have not yet been finalized in the Kansas Department of Health and Environment's (KDHE) reporting system and may not match KDHE’s reported numbers.
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Coronavirus tests per 100,000 people

As of April 3

*On April 6, Oklahoma released dramatically bigger test numbers.

SOURCE: The COVID Tracking Project; GRAPHIC Karina Zaiets/USA TODAY
KS Coronavirus Disease 2019 (COVID-19) Case Summary

<table>
<thead>
<tr>
<th>Cases*</th>
<th>Hospitalizations</th>
<th>Statewide Deaths</th>
<th>Negative Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,056</td>
<td>474</td>
<td>117</td>
<td>22,143</td>
</tr>
</tbody>
</table>

*A case is defined as a person who tested positive for the novel coronavirus (SARS-CoV-2), which causes Coronavirus Disease 2019 (COVID-19).

\[3,056 + 22,143 = 25,199 \text{ total test results}\]

\[3,056 / 25,199 = 12.1\% \text{ of tests are positive}\]
I’ve been asked several times…

“What the biggest challenge that your EMS system is facing?”
Pre-covid, my system call types looked like this:
and now:
CLINICAL EDITOR’S CORNER: KERN

Cath and COVID-19: What Should We Do?

Volume 28 - Issue 4 - April 2020

Morton J. Kern, with contributions from:
Drs. Herb Avronow, Brown University, Providence, Rhode Island;
Arnold Seto, Long Beach VA Medical Center, Long Beach, California;
Prashant Kaul, Piedmont Heart Institute, Atlanta, Georgia;
Kirk Garrett, ChristianaCare, Wilmington, Delaware;
Steve Bailey, LSU Shreveport School of Medicine, Shreveport, Louisiana;
Ajay Kirtane, Columbia University, New York City, New York;
James Blankenship, Geisinger Cardiovascular Center for Clinical Research, Harrisburg, Pennsylvania;
Bonnie Weiner, University of Massachusetts, Worcester, Massachusetts;
James McCabe, University of Washington, Seattle, Washington;

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CURRENT ISSUE
Volume 28 - Issue 4 - April 2020
ACLS Cardiac Arrest Algorithm for Suspected or Confirmed COVID-19 Patients
Updated April 2020

Don PPE
- Limit personnel
- Consider resuscitation appropriateness

Start CPR
- Give oxygen (limit aerosolization)
- Attach monitor/defibrillator
- Prepare to intubate

Rhythm shockable?

VF/pVT
3
Shock

Asystole/PEA
9

Prioritize Intubation / Resume CPR
- Pause chest compressions for intubation
- If intubation delayed, consider supraglottic airway or bag-mask device with filter and tight seal
- Connect to ventilator with filter when possible

CPR 2 min
IV/IO access

CPR 2 min
- IV/IO access
- Epinephrine every 3-5 min
- Consider mechanical compression device

Rhythm shockable?

CPR Quality
- Push hard (at least 2 inches [5 cm]) and fast (100-120/min) and allow complete chest recoil.
- Minimize interruptions in compressions.
- Avoid excessive ventilation.
- Change compressor every 2 minutes, or sooner if fatigued.
- If no advanced airway, 30:2 compression-ventilation ratio.
- Quantitative waveform capnography
  - If PETCO₂ < 10 mm Hg, attempt to improve CPR quality.
- Intra-arterial pressure
  - If relaxation phase (diastolic) pressure < 20 mm Hg, attempt to improve CPR quality.

Shock Energy for Defibrillation
- Biphasic: Manufacturer recommendation (e.g., initial dose of 120-200 J); if unknown, use maximum available. Second and subsequent doses should be equivalent, and higher doses may be considered.
- Monophasic: 360 J

Advanced Airway
- Minimize closed-circuit disconnection
- Use intubator with highest likelihood of first pass success
- Consider video laryngoscopy
- Endotracheal intubation or supraglottic advanced airway
- Waveform capnography or capnometry to confirm and monitor ET tube placement
- Once advanced airway in place, give 1 breath every 6 seconds (10 breaths/min) with continuous chest compressions
Doctors: Don’t avoid the emergency room if you need it. ER visits drop 60 percent.

By FREDERICK MELO | fmelo@pioneerpress.com | Pioneer Press
PUBLISHED: April 3, 2020 at 2:55 p.m. | UPDATED: April 4, 2020 at 4:01 p.m.

A diabetic woman with an infection in her leg steered clear of urgent care until she needed hospitalization. Another woman who had been vomiting for more than a week straight eventually sought medical help, but by then her electrolytes had dropped to potentially life-threatening levels.
And now for something completely different...

Thank you for your diligence and focus on COVID! It has been greatly appreciated by command staff and the community. However, this bit is about everything that ISN’T coronavirus.

Please remember that the vast majority of our calls (even a large percentage of those that have fever or respiratory symptoms) are NOT COVID. The current number of cases in Sedgwick County are 229 out of a total population of over half a million. That makes the prevalence 44 cases for every 100,000 people or 0.04% of the population here. That’s super low and means that our efforts with regards to social distancing and staying at home are working to flatten the curve here! I’ll be the first to admit that this number is higher in reality since not everyone seeks or gets testing, but COVID does not protect our population from other disease processes and their effects. For example, the residents of Sedgwick County are still just as likely to have a myocardial infarction as they were 2 months ago. In fact, they are probably even more likely as folks find themselves with increasingly limited access to primary care and their usual medications as a result of unemployment and dwindling income. What’s changed since COVID is: 1) The public is less likely to call for help due to a variety of reasons, and 2) we are less likely to take them to the hospital. That combination is dangerous.

While we have little control over the first factor, the good news is that we have a lot of control over the second. This isn’t to imply that every call must be transported to the hospital, but remember to keep your differential diagnosis broad. As you know, frequently many of the things on your differential will require further evaluation in the emergency department through lab testing or imaging to determine definitively. Going back to the MI example, the patient with chest pain can’t be reassured that they aren’t having a cardiac event until labs are done in the hospital, as has always been the case. When folks do call EMS, it is all the more important that we be thorough and diligent in the information we provide about the necessity of hospital evaluation. Through your knowledge, we can make sure the people of Sedgwick County continue to get the best care possible.
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One final point...
Crisis Standards of Care

Crisis standards of care (CSC) is when health care systems are so overwhelmed by a pervasive or catastrophic public health event it is impossible for them to provide the normal, or standard, level of care to patients.

Most of us are not at this point...and must continue to deliver care that meets the normal standard of care. Be very careful with process and policy changes.
National EMS Scope of Practice:

An individual may perform only those procedures for which they are educated, certified, licensed, and credentialed.
Region “D” represents skills or roles the State has authorized (licensed) but are not addressed by initial education programs or certification processes. These skills require local entities to assure the education and competency verification, in addition to local credentialing. For example, rapid sequence induction for intubation (RSI) in some States is legally permitted, but usually not taught as part of the initial education, nor is it part of the certification process. Some individuals (for example, flight paramedics) may be authorized to perform RSI; however, this is only permissible if the local entity assumes the responsibility for satisfying the requirements of education and certification of competency. Credentialing remains mandatory, and additional process may be needed to satisfy local physician medical direction that skills in this region are safe and appropriate. Nonetheless, all four domains must be accomplished before any skill or role can be authorized.
Take home points…

(aka – “Stuff I didn’t expect to learn in early 2020”)
Stuff I didn’t expect to learn in early 2020…

• There doesn’t seem to be a clear answer about how many COVID tests to perform in a community…Very smart people feel extremely passionate about both sides of the argument.

• Most of our focus has been on COVID issues, but only a tiny fraction of our patients have it. Taking steps to mitigate the pandemic is critical, but it must be done in a way that doesn’t hurt the rest of our patients.

• Even though COVID occupies 100% of the spotlight right now, my community doesn’t qualify for crisis standard of care and I must continue to meet the normal standard.
Questions?

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