Dr. Rix's EMS Pearls

CONCORD HOSPITAL
Emergency Medical Services

3/24/2020 – Provider Safety and PPE

I want to talk briefly about transmission of COVID-19 to healthcare workers and EMS. As we all know, we are learning on the fly here but we can take experiences in other facilities and in Asia and learn from them. At Concord Hospital, we've been seeing EMS units wearing full PPE (N95, gown, mask) in very low risk patients. This is not to chastise or say that practice is faulty, and I obviously want you to stick to the State protocols. It is hard to fault anyone for wanting to be excessively careful, but I have concerns that we will run out of "the good stuff" PPE for when we really need it if we use it for every call. After all, it's the rare patient who hasn't had a "tickle" in their throat over the last week.

There is a very fine balance in our use of PPE between excessive use/being overly cautious and underuse/too little caution. This pandemic will likely last well into May or June and we need to preserve our PPE resources and apply them appropriately. If we use full PPE (N95+ face shield + gown) for the patient who called with knee pain after a fall but had a runny nose 2 days ago, we will not have enough full PPE for when this thing really picks up steam in the next 2-5 weeks. One way to think of it, would you rather use your full PPE resources now with that knee pain patient without a cough who has a very small chance of transmitting a mild asymptomatic COVID-19 infection, or would you rather save it for that patient in May who is pouring out secretions and definitely has a COVID-19 infection? It sure would be great to have enough PPE for both patient presentations, but the reality is, we probably don't. We certainly don't at the hospital.

In Hong Kong and Singapore they rapidly controlled the spread to healthcare workers with an extremely low risk of health care worker transmission. This was done by doing the basic stuff we all should be doing: Simple surgical masks and hand hygiene for every patient interaction and to disinfect all surfaces between patients. Social distancing is practiced within hospitals: waiting-room chairs are placed six feet apart; direct interactions among staff members are conducted at a distance; doctors and patients stay six feet apart except during exams.

What they didn't do was use an N95 for every single interaction. In the areas with successful healthcare worker protection, N95s are only reserved for procedures where respiratory secretions are aerosolized (Nebs, CPAP/BiPAP, intubation, etc.). Social and professional distancing is practiced and aggressive hand hygiene with basic masks are worn with all patient and professional interactions.

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We are learning that transmission seems to occur primarily through sustained exposure in the absence of basic protection or through the lack of hand hygiene after contact with secretions. This is an extremely important concept. There was a recent case study (https://annals.org/aim/fullarticle/2763329/covid-19-risk-health-care-workers-case-report) published where a patient was admitted for pneumonia, decompensated, was intubated and resuscitated. He was intubated for 3 days, then transitioned to BiPAP. They day he was extubated, a COVID-19 swab was sent. It was positive. On the basis of tracing, 41 health care workers had exposure to aerosol generating procedures including nebs, BiPAP and intubation for at least 10 minutes. None of the health care workers developed COVID-19 as 85% used basic surgical masks and all used proper hand hygiene.

Another example is this report out of California (https://twitter.com/UCDavisHealth/status/1235726483483582464). This was the first COVID-19 community transmission case in that State so precautions were not taken at the time of initial patient contact and 85 health care workers were exposed to the virus. All 85 workers were put on self-quarantine. None became infected.

These examples are not to say that you don't need to be careful and take precautions as obviously this virus is not screwing around when it comes to morbidity and mortality. It's just to say that exposure and transmission is MUCH more likely to occur in the absence of BASIC precautions or lack of hand hygiene or cleaning of surfaces and not because you happen to be sitting next to someone with no cough who may have an asymptomatic or mildly symptomatic COVID-19 infection.

I wanted to put this out there because the risk of running out of PPE is real and we must use our heads when deciding when to don appropriate PPE. Follow your State protocol and use good judgement when deciding who is a COVID-19 infection. Using a basic mask and aggressive hand hygiene for all patient encounters is reasonable, upping the ante when the patient screens positive. Save your N95s and full PPE for patients at significant risk for carrying the disease, and not the "well, they called for an elbow injury but they had a runny nose on Monday so they may have COVID-19 too."

Questions welcome as always,
Rob

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