

Efficient Acquisition of Corona Virus Imaging Baseline

With recent advancements in Imaging Technologies, we should be able to acquire images for COVID-19 patients with the efficiency of drive through testing. The best defense for this challenge seems to be massive, efficient testing and early treatment.

Early detection is always a logical approach to preventive medicine. For instance, with breast cancer mammography early detection is the best way to provide the highest survivability and efficient care. The earlier we detect cancer, the easier it is to treat. Hence the presumption that the same philosophy applies to Corona Virus.

This suggestion is derived from the cases discussed in treatment forums. Almost every case uses a Computed Tomography (CT) image. If a Chest CT is ordered by a physician, it is almost always after a chest x-ray. The chest X-Ray provides the data necessary to request the next study.

The coronavirus data is it sometimes grows tumors in a person's lungs. When this happens, it takes intensive care to defeat the disease. The intensive care capability of our healthcare system is limited and cannot expand quickly. The potential demand looming is a risk because of this lack of elasticity. Exacerbating the challenge is that the best care is primarily in large cities. If a person tests positive for the coronavirus, it would be advantageous to keep them away from dense populations.

The preliminary information needed about the coronavirus is whether a tumor is present. If a patient exhibits this, naturally they are most at risk. The most efficient way to determine the presence of a tumor would be a chest radiograph. If a tumor is detected that patient could be treated aggressively and hopefully avoid the need for critical care.

Mobile imaging systems can be deployed in areas that support social distancing, and the radiographs could be prescribed for patients that test positive. Priority would be given to those experiencing respiratory distress. This eliminates the need for the positive patients to travel to a conventional imaging center thus reducing the risk of the coronavirus spread. If early detection protocols are established, the need for critical care will be reduced.

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If a tumor is detected on a radiograph, that person would immediately be referred for more aggressive care relieving the demand on our tertiary hospitals. This will help flatten the curve from the impact of the expected exponential rise in the diagnosis.

I propose we direct some of the dollars allocated to fight this challenge to these mobile imaging stations. We have the capability to set up imaging areas strictly for chest imaging and the ability to distribute the images for interpretation. The imaging areas could be set up in a matter of days, not months or years.

If a person is found to have a tumor growing in their system, they would be directed for follow up care. As more is learned, the chest x-rays will be required an essential test for detection and monitoring.

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