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Drafting

Toolbox Requirements for working on Ventilator Maintenance

Story from the Field 3/31/2020 - "

Brian Mayrsohn

Hey everyone, I'm an anesthesiology resident at Mount Sinai in NYC. We are running out of the heat and moister exchange filters. They need to be changed every 12 hours on a breathing circuit to keep..

As demand requires many more ventilators into hospitals and field units, what are the secondary and tertiary effects and consequences that can be predicted?   Most easily, is

that the units will break and need repairs. Are we sure that all items in the repair and maintenance routines are available?

- Frequent decontamination of the equipment will be required. The fastest way of achieving this at present is to train the workforce to handle decontamination.
- Some patients (non-infected) but who are already on support systems may have to be moved to houses and their homes will have to be prepared for at least a few weeks and family members or caretakers will have to be trained in this.
- Maintenance issues will also rise.

Procedures on should be performed by trained and authorized personnel only. Maintenance should only be undertaken by competent individuals who have a general knowledge of and experience with devices of this nature. No repairs should ever be undertaken or attempted by anyone not having such qualifications.

User Manuals:

(Please Review for Tool or Parts Requirements)

https://www.ifixit.com/Device/Ventilator   100 manuals! (please add manuals there)

https://docs.google.com/spreadsheets/d/1Fz8ljtGv0XK0BkNtrO94xYYQmcuUPLjP-gl5kZMwuNE/edit?pli=1#gid=2050999751

Toolbox Items

Items required by user manuals and expected based on work with ventilators *(details are important for developing countries and in places that might be new working with ventilators or volunteers showing up to help)*

- ❏ Flat Skinny Screwdriver
- ❏ Pliers
- ❏ Circuit caps
- ❏ Endotracheal tubes/ Patient connector
- ❏ Cleaning
- ❏ Clean circuit tubes to connect ports
- ❏ Circuit checker
- ❏ Gloves
- ❏ Heat and moister exchange filters

Sources:

https://www.youtube.com/watch?time_continue=110&v=jDmOZ7QTixY&feature=emb_logo

News Stories and Coverage on the Issue:

- https://www.theverge.com/2020/3/20/21187981/ifixit-medical-device-repair-database-guides-ventilators-coronavirus-covid-19
- https://www.ifixit.com/News/36354/help-us-crowdsource-repair-information-for-hospital-equipment
- https://www.thomasnet.com/articles/top-suppliers/medical-ventilators-manufacturers-companies/ - This resource hub has been designed to help you and your business by providing you with mission-critical, real-time data and information to assist in managing the effects of the COVID-19 coronavirus pandemic

Update Log:

- 3/31/2020 - an added story of crashing maintenance needs.
- 29-03-2020 Added links and resources.
- Started 27-03-2020

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