

Appendix 1

Quality Improvement/Research Project

Aim: To investigate the incidence of pressure related injuries (PIs) as a result of Personal Protective Equipment (PPE) amongst healthcare workers amidst a pandemic outbreak

Methodology

- During these difficult times of a pandemic outbreak, many healthcare workers are required to don PPE during their work on the frontline.
- We wish to conduct a survey amongst frontline healthcare workers (HCWs) within Yishun Health healthcare institutions in Singapore to investigate the incidence of pressure related injuries as a result of PPE.
- We hope to identify HCWs who have developed PIs from PPE, and provide management/prevention tips.

Inclusion Criteria

- 1) Staff of
 - Khoo Teck Puat Hospital, Singapore
 - Yishun Community Hospital, Singapore
- 2) Currently working at the frontline caring for patients
 - COVID-19
 - Non-COVID-19
 - Pneumonia surveillance

Section 1: Background info

1) Demographics

Gender

- M
- F

Age

- 18-25
- 26-30
- 31-35
- 36-40
- >40

2) Profession

- Nurse
- Allied Health Staff [physiotherapist, occupational therapist, speech therapist, dietitian, podiatrist]
- Ancillary Staff (patient service associate, healthcare assistant)
- Doctor

3) Work Setting

- Inpatient (General Ward business-as-usual/ Pneumonia surveillance step-down)
- Isolation ward (B46, COVID-19 positive ward)
- ICU (Pandemic)
- ICU (Non-Pandemic)
- Outpatient
- A&E
- Others [free text]

4) Air-conditioned work environment

- Yes
- No

5) Known allergies (e.g. allergy to medication, plastic, latex, adhesive)

- Yes (If yes, please specify _____)
- No

Section 2: PPE usage at work

1) Do you wear N95 in your area of work?

- Yes
- No

If yes, please select the models that you wear: [You may select more than 1]

- 3M 8210
- 3M 1860
- 3M 1860S
- 3M 8110S
- 3M 1870+

a. In your area of work, how many hours do you wear the N95 mask on an average workday?

- 0 min
- <30 mins
- >30 mins – 4hrs
- >4 hrs – 8 hrs
- >8 hrs

b. How many hours do you have to wear N95 mask for before taking a break and removing your mask to allow pressure relief?

- <1 hr
- 1-2 hrs
- 2-4 hrs
- 4-6 hrs
- >6 hrs

2) Do you wear goggles regularly as part of your work?

- Yes
- No

a. As part of your work, how many hours do you wear the goggles on an average workday?

- 0 min
- <30 mins
- >30 mins – 4hrs
- >4 hrs - 8 hrs
- >8 hrs

b. How many hours do you have to wear goggles for before taking a break and removing your mask to allow pressure relief?

- <1 hr
- 1-2 hrs
- 2-4 hrs
- 4-6 hrs
- >6 hrs

3) Prior to pandemic: Do you also require a similar level of PPE during your daily work?

- Yes
- No

- a. If yes, please tell us how many hours do you don the PPE on an average workday?
- <30 mins
 - >30 mins – 4hrs
 - >4 hrs – 8 hrs
 - >8 hrs

Section 3: Pressure Injury

- 1) Have you experienced any pressure related injury as a result of your PPE? (e.g. fixed redness of the skin, skin breakage, sores/ulcers, blisters)
- Yes
 - No
- a. Please select the location of your pressure injury. [You may select more than 1 where appropriate]
- Nose bridge
 - Cheeks
 - Ears
 - Forehead
- b. Which of your PPE is the most likely the cause of the pressure injury? (You may select more than 1 where appropriate)
- 3M 8210
 - 3M 1860
 - 3M 1860S
 - 3M 8110S
 - 3M 1870+
 - Goggles
 - Others (_____)
- c. How many days did you suffer from this pressure injury?
- 0-3 days
 - 3-7 days
 - 1-4weeks
 - >4weeks

d. Have you tried any form of treatment or management for your pressure injury?

- Yes
- No,

If yes, what treatment have you tried?

- Moisturizing cream
- Foam dressing
- Hydrocolloid/Duoderm thin dressing
- Gauze
- Others (_____)

e. Does the treatment help?

- Yes
- No

f. Do you have any unique facial feature(s) that may contribute/worsen your PI? (e.g. High nose bridge)

- Yes, please specify (_____)
- No

g. Does the humidity/temperature of your workplace contribute to your PPE-related pressure injury?

- Yes
- No

h. Please provide details of any other contributing factors that may worsen/aggravate/contribute to your PPE-related pressure injury

Please specify (_____)

Section 5: Others

1) Have you experienced any other skin conditions related to your PPE? (e.g. acne outbreak, rashes, skin irritation, allergic reaction)

- Yes, please specify (_____)
- No

2) Are you afraid that you may get infected with COVID-19 and thus, secure your PPE tighter than usual?

- Agree
- Disagree

3) Are there any improvements that you could suggest with regards to PPE usage?

Please specify (_____)

4) Do you feel that there are any other factors, outside of work, that may contribute to your pressure injury? (e.g. existing skin condition)

- Yes, please specify (_____)
- No

5) Do you wish to be contacted for advice on the management of your pressure injury? By providing your contact/email address, you are consenting to be contacted for further information.

- Yes, please leave us your contact number/email (_____)
- No

Thank you for your time in completing this survey. If you would like to contact us for any information or advice, please email us.