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Novel Barrier Device for Flexible Endoscopic Examination during COVID Pandemic

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Flexible endoscopy is commonly performed by ENT doctors to examine the nasal cavity, pharynx and larynx. However, it is regarded as an aerosol-generating procedure as it potentially triggers sneezing or coughing. During the COVID-19 outbreak, apart from wearing Personal Protective Equipment (PPE), two novel barrier devices were developed in our department to minimise the risk of spreading infection while performing this examination.

The first device is a pre-cut surgical mask, which is a surgical mask with a 2 cm slit made along its first inner fold. While patient wearing this mask, a flexible endoscope can be passed into the patient's nostril through the slit. Using a mannequin and fluorescent dye to simulate aerosol generation, we successfully demonstrated that the pre-cut mask could greatly reduce the contamination of surroundings by fluorescent droplets (Figure 1 and 2).

In This Issue:

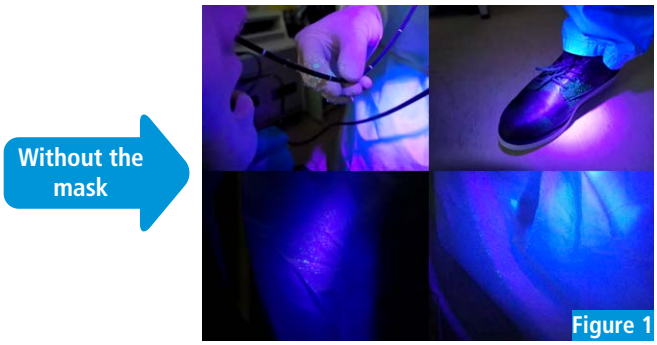

Figure 1

Figure 2

In specific settings such as during sleep surgery, swallowing and voice evaluation, ENT doctors need to perform flexible endoscopy for prolonged durations. This further increases the risk of COVID transmission. The second device, which was tailor-made to tackle each of these situations, is a transparent barrier box (Figure 3). With the patient shields behind the box, special openings allow the doctor to insert their hands into the box to perform endoscopy, while being protected from any aerosols in the process (Figure 4).

Figure 3: Barrier box

Figure 4: Performing endoscopy in a barrier box

These two novel barrier devices have offered valuable protection to our frontline staff during the COVID pandemic, allowing the continued provision of a high standard of care to our patients.

Editorial Comments

Flexible endoscopy is regarded as a high risk procedure under the COVID pandemic. The pre-cut surgical mask and the barrier box have been proven to have efficacy and usability for reducing the environmental exposure to aerosols and droplets. These innovative ideas have perfectly demonstrated the creativity of our healthcare professionals.

Ms Karen MAK, Senior Manager (Allied Health), HAHO

A Holistic Pharmaceutical Care in AICU – from Critical Care to Transitional Care of a Critically-ill Patient

By ***Ms Agnes LAU[1], Dr W M CHAN[2], Mr Raymond MAK[1], Prof. William CHUI[1]***
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The drug use in the area of Adult Intensive Care Unit (AICU) is known to be complicated due to the clinical complexity, fast-paced clinical changes and usage of many high alert medications. Adverse drug events, according to a lot of research, are found to be approximately twice as likely in ICU compared to non-ICU settings.

AICU Discharge Notes from Clinical Pharmacist **Queen Mary Hospital**

Patient Full Name | HKID | HN Number
Dr In Charge | Diagnosis (Dr's Manual Input)
Age: | Allergy (Yes/No)
Allergy/ADR/Alert Details | Data from CMS
Allergy

☐ Antimicrobial management	Tentative End Date

☐ Medications to be discontinued when course completed/ clinically appropriate	Tentative End Date

☐ Chronic medications to be resumed when ***clinically appropriate*** (on top of current IPMOE list)	
☐ Cardiac medications	
☐ Diabetic Medications	
☐ Anticoagulant/Antiplatelet	
☐ Other medications	

☐ Chronic medications that are discontinued at AICU

☐ Newly started medications at AICU for continuation

☐ Therapeutic Monitoring/ For further action:

*For any enquiry please contact Clinical Pharmacist on ext. 1187/ 5764 (Mon-Fri 9am-5pm) or 5787 (Out of hours).

AICU Pharmacist: _____ Date: _____

Prepared by Pharmacy Department – QMH
Version 1: Jun 2022

Figure 1: Clinical Pharmacist Discharge Note

Figure 2: Adult ICU Clinical Team with Doctors, Pharmacists and Nurses

At Queen Mary Hospital (QMH), a AICU Pharmacist has an important mission to help fulfill the scope of services needed. The AICU Pharmacist not only needs to ensure drug safety of patients, he/she also needs to enhance transitional care.

Transitional care refers to the set of actions aimed at the quality and continuity of pharmaceutical care in the transfer of patients between AICU and high dependency or general wards within the hospital. This is a highly complicated process because it involves lots of multifaceted communication between different specialties, prudent medication reviews, discharge planning, etc. The work entailed includes the following clinical recommendations made by the AICU Pharmacist at the general ward for AICU patients stepping down to a general ward. This is by no means an exhaustive list of clinical inputs by the AICU Pharmacist.

1. The tentative duration of certain medication treatment, such as antimicrobials, steroids, Intravenous Immunoglobulin (IVIG)
2. When to discontinue the stress-induced ulcer medications (e.g. proton-pump inhibitors)
3. The resumption of chronic oral medications when clinically deemed fit
4. The advice on discontinuation of certain medications due to clinical inappropriateness
5. The reminders on dosage adjustment of certain medications due to the improvement of the organ functions

To enhance the quality of patient care and the clinical interventions provided by the AICU Pharmacist, a form depicting discharge notes regarding various drug therapies has been designed (Figure 1). The form helps document the afore-mentioned clinical recommendations in a systematic manner for doctors to make final decision. This pioneer clinical service of AICU Pharmacist for our Orthopedic and Trauma Specialty and AICU has been implemented at QMH since August 2022. In going forward, we hope this patient-centered service can be expanded to other clusters very soon.

Editorial Comments

Critically ill patients often require complex medication regimens. Clinical pharmacists have become an integral part of the multidisciplinary critical care team and are involved in various areas of patient management such as antibiotic stewardship, medication reconciliation and discharge / transfer drug management as illustrated in this quality improvement project. Better communication of medication changes to their ongoing care providers is crucial in the discharge planning to reduce the medication errors.

Dr L P CHEUNG, Deputy Service Director (Quality & Safety), NTEC

CLUSTER SHARING

New Territories East Cluster

Using AI Technology to Improve Nursing Quality Care in SH M&G Wards

By **Ms Angela Kwok Mei Ling[1], Ms Cheung Shuk Yee[2], Ms Savina Sze Yee Man[2], Mr Yeung Ka Cheung[2], Ms Peggy Ip Pui Wing[2]**

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[2] *Department of Medicine & Geriatrics (M&G), SH*

During the COVID-19 pandemic, visiting policy in hospitals were greatly limited under the Emergency Response Level. Artificial Intelligence (AI) technology, robot, was first piloted in two M&G wards in November 2020, which aimed to promote "FRIEND" module in SH M&G wards. The programme was further extended to BBH, SCH and SH in 2022. By promoting the "FRIEND" module in SH, geriatric patients' distress towards unfamiliar hospital environment was significantly reduced, especially for patients with dementia.

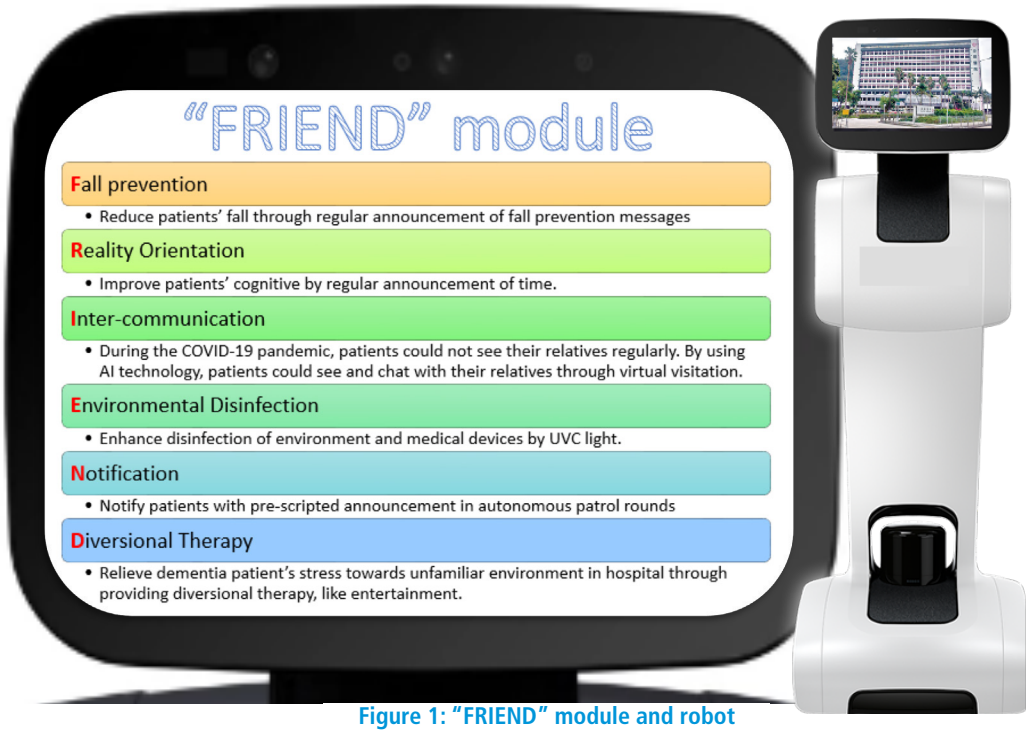


Figure 1: "FRIEND" module and robot

Figure 2: Movie watching

Figure 3: Virtual visit

During the days of no visiting in the 5th wave of COVID-19, Mr Wong, a dementia gentleman, was admitted to SH, and he had frequent violent behaviour since admission. Our ward staff tried to attract him with different topics by using the robot, and eventually found that he was Stephen Chow Sing Chi's fan and liked his movies very much. Afterwards, we kept playing Stephen Chow's movies to him everyday to divert his attention, especially during sunset period to relieve his sundown syndrome.

At the same time, as it is compounded by the restrictions to hospital visitation, virtual visit through real-time video-conference calls was provided by the robot to enhance and facilitate communications between Mr Wong and his family. As a result, Mr Wong became cooperative and developed rapport with ward staff.

Regarding several inspiring cases, a decreasing trend in behavioural and psychological symptoms of dementia (BPSD) and carer stress among in-patients with dementia was observed through diversional therapy and cognitive training offered by the AI technology. Although AI technology aided in relieving patients' BPSD as well as staff's pressure towards caring patients with dementia especially during the COVID-19 pandemic, technology can never replace nursing staff's love and care towards patients.

Editorial Comments

Despite the vast amount of challenges COVID-19 created, it also brought about new technology in health care aiming to provide better patient care. The pandemic changed the way people access and receive health care in a clinical setting. It created a huge demand on advanced robotics and artificial intelligence-based applications. How can we retain the substantial, potentially transformational innovations that emerged during the pandemic would be the upcoming challenges.

Dr Joanna PANG, Chief Manager (Health Informatics), HAHO

Telecare of Geriatric Patients during COVID-19

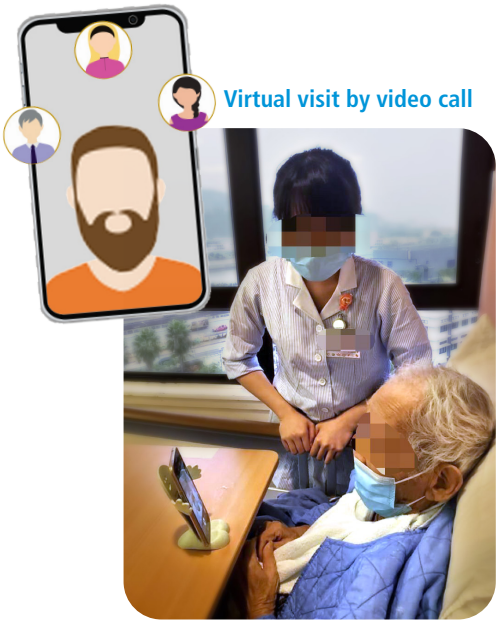
By ***Ms Angela KWOK, Ms Savina SZE, Ms Molly KWOK, Ms Sabrina HO***
Specialty Advisory Group (SAG), Gerontology & Continence

During the COVID-19 outbreak, telehealth services have been strengthened in Hospital Authority (HA) hospitals to support patients. Without doubt, family visit can reduce patients' anxiety and stress, and facilitate the recovery. While visiting arrangement was suspended during the pandemic, staff endeavoured to explore alternatives to take care of patients' emotional needs, and deployed virtual visits to restore the connection between patients and their families.

Mr Chan, an elderly with Alzheimer's Disease, experienced unstable mood and poor drug compliance due to the lack of family support during his hospital stay. To bridge the gap, virtual visit was arranged with his grandson at the time of drug administration. This provided the patient with more encouragement and motivation, and improved his drug compliance subsequently.

Virtual visit can speed up patient's recovery. Ms Yuen, a cancer survivor, was admitted to the Geriatric ward due to urinary tract infection. She lost motivation in her daily activities and slept throughout the day. We arranged a video group call with her husband, who was admitted to another hospital and her daughter in England. After implementation, the patient became more cheerful and actively participated in daily activities.

Virtual visit has become a common practice in Geriatric wards, it offers an alternative to restore family engagement, and render emotional support in patients' recovery journey.



Virtual visit by video call

Virtual visit by robot

Editorial Comments

The quoted two examples showed the actual benefit of virtual visits for patients who needs emotional support during hospitalisation. With the readiness of the telemedicine technology available in ward, virtual visits could extend to other clinical units and become part of the nursing care plan to promote patient's mental health and enhance clinical outcome when physical visiting by family is restrictive.

Ms Bonnie WONG, Cluster Manager (Quality & Safety), NTWC