

NEWSLETTER

**Hong Kong Association of Critical
Care Nurses Limited (HKACCN Ltd)**

Message from the President

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LEUNG Fung Yee
President
HKACCN

The outbreak of COVID-19 has affected livelihoods in all walks of life. Whilst everything else has fallen into hibernation with people social distancing and shops closing, on the other hand, the ICU is full of patients. Nurses' work life is hectic and unusual ECMO has become a prevalent therapy.

Following the government's advice for social distance, our HKACCN office has been closed for several months and we thank our clerks for working from home, handling enquiries and making arrangements for cancelled courses. In February, all training programmes had been suspended but, understanding the need of our nurses to maintain nursing quality, e-teaching via Zoom was started in May. We have received good responses from applicants attending the ECG course, Elementary Critical Care Course, and other courses using such form of didactic teaching only. Fortunately, in October, we resumed some classroom-based teaching where participants could attain maximum benefits from discussion in person and skills practice. The certainty of safety is still maintained, we have limited the number of participants and implemented stringent infection control measures during class. In addition to online teaching, we have also co-organised webinars and virtual conferences in conjunction with various organisations on topics related to critical care nursing and COVID-19 infection. We have adopted these new normal modes of learning and inspiration in our work.

In order to sustain the success of our Association's service in supporting nurses to make their optimal contribution through continuous learning, the commitment and hard work of all our Council Members count. Although we have been experiencing challenging times, we are connecting ever closer via the Internet, WhatsApp, and Zoom in order to make swift decisions in response to the changing outbreak situation and member's needs. Here, we should give a big round of applause to the Administration Committee for bringing all the advanced IT technology to enhance our communication and work efficiency. As a result, we have managed to fulfill the number of council meetings required for this year.

In a meeting, we have made a hard decision to cancel the annual dinner this year in view of the persistent threat of the coronavirus. This does not



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mean we ignore the hard work and contributions of our critical care nurses. We serve because patients and their families need us during their vulnerable time. I appeal to everyone to celebrate and recognize critical care nurses for working so courageously during this unprecedented time. The Hong Kong Association of Critical Care Nurses (HKACCN) will carry on embracing the vast possibilities of supporting our members. Please stay connected with HKACCN, stay safe, and stay happy!



Awake Prone Positioning for Patients with COVID-19 Hypoxemic Respiratory Failure: A Case Report and Review of Updated Management Strategies from Queen Mary Hospital Adult Intensive Care Unit

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Introduction

The Coronavirus Disease 19 (COVID-19) pandemic has challenged the global healthcare systems. A large proportion of COVID-19 patients was found to suffer from hypoxemic respiratory failure (Grasselli et al., 2020; Zhu et al., 2020). Worse still, most patients manifest acute respiratory distress syndrome (ARDS), which require a large amount of resources like mechanical ventilators and intensive care beds to support them (Bastola, et al., 2020; Chan, et al., 2020; Chen, et al., 2020; Huang, et al., 2020; Zhu, et al., 2020). A recent study showed that COVID-19 patients had poor outcomes with mechanical ventilation (Richardson et al., 2020). Therefore, strategies should be implemented to meet the growing demand of intensive care and to prevent patients from mechanical ventilation. Prone position (PP) is proven to enhance oxygenation and reduce mortality for those intubated patients and those with severe ARDS (Guérin, et al., 2013). Recent studies demonstrated that PP is also beneficial to awake, non-intubated patient (Coppo et al., 2020; Ding et al., 2020; Scaravilli et al., 2015). Awake prone positioning (APP) can enhance oxygenation, lower the risk of self-inflicted lung injury (SILI) and need of intubation (Bronchard, Slutsky & Pesenti, 2017). Therefore, APP may reduce intubation rate and

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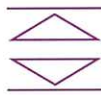
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ease the pressure of intensive care resources. In this case report, management strategies of an awake, non-intubated, critically-ill COVID-19 patient in PP is reviewed and discussed.

Case Report

Mr. Kwong was a 62-year-old man with history of hypertension, hyperlipidaemia, gout, and bilateral hearing impairment due to otosclerosis. He was diagnosed with COVID-19 and hospitalised in Queen Mary Hospital (QMH) isolation ward on 29th March, 2020. His early symptoms included shortness of breath and running nose. As his condition deteriorated, he developed severe type 1 respiratory failure on 5th of April. He was then transferred to Adult Intensive Care Unit (AICU) for further management. On arrival to AICU, he required 6L/min oxygen to maintain his oxygen saturation to around 87-89%, with respiratory rate around 20-25 breaths per minutes at rest. When patient tried to mobilise in bed, his oxygen saturation dropped to around 83-85%. Yet, his respiratory rate was only increased to 25-30 breaths per minutes which is a sign of silent hypoxia. Awake prone positioning was then initiated from 6th to 8th of April. Patient was encouraged to self-prone as long as he felt comfortable. His oxygen saturation was up to 93% and respiratory rate maintained around 20-25 per minutes during awake prone positioning. However, once he turned to supine position, his saturation dropped to around 87-89%. On 8th of April, his oxygen saturation decreased to 79% when he had returned back to supine position. Worse still, he complained of upper arm numbness after APP. High flow oxygen therapy (HFOT) was then applied and awake prone position was no longer to be implemented due to his upper arm numbness. Eventually, he failed HFOT and was intubated on 15th of April.

Discussion

Significance of Awake Prone Position

Anecdotal evidence and social media interest in the use of APP have emerged in pandemic. As Ding et al (2020) firstly found that adding prone position to COVID-19 patients with HFOT or non-invasive mechanical ventilation (NIV) could improve their PaO₂/FI₂ (PF) ratio and avoided 11 out of 20 patients from intubation, numerous studies and case reports have been published promptly to look for the feasibility and efficacy of APP on hypoxic COVID-19 patients. Nonetheless, most studies were conducted in single centre with small sample size and the results were inconsistent among studies.

Several studies revealed that APP not only improved oxygenation but also reduced the rate of intubation. Caputo, Strayer & Levitan (2020) found that APP applied to 50 COVID-19 patients with supplementary oxygen via nasal cannula and non-rebreathing mask in emergency department demonstrated significant oxygenation improvement and a low intubation rate of 24%. Best results were reported by Ng, Chiao & Ho (2020) that daily application of APP to 10 COVID-19 patients in general wards resulted in only one patient intubated. Similar results were found by Sartini et

patients with NIV support, which prevented 9 out of 10 patients from intubation.

In contrast with the above results, several studies showed that APP did not lower the intubation rate significantly. Thompson et al. (2020) found that 12 out of 25 patients proceeded to intubation even APP was implemented. Xu et al. (2020) also showed similar results with 5 out of 10 patients, who were managed with HFOT plus APP 16 hours per day. Although a large prospective cohort study with a sample size of 56 patients showed that APP is feasible, oxygenation was not improved once patients returned to supine position that no differences were found for the need of intubation between responders and non-responders of APP (Coppo et al., 2020). In addition, the majority of patients in the study of Elharrar et al. (2020) deteriorated again after turning from prone to supine position. Even in a multicentre, adjusted cohort study by Ferrando et al. (2020) in which 199 patients were recruited, the use of APP as an adjunct to HFOT did not lower the risk of intubation and not affect 28-day mortality.

Nearly all studies revealed that APP could improve oxygenation simultaneously, as observed from this reported case. Mr. Kwong's oxygenation was initially improved after APP was implemented. Coppo et al. (2020) explained that lungs in early phase of ARDS compared with later phase had higher proportion for recruitment. Early APP could improve Mr. Kwong's ventilation-perfusion (V/Q) matching. He also showed improvement in his breathing effort and respiratory rate. This could be explained by the homogeneous distribution of ventilation established during APP, which would possibly prevent vigorous breathing effort and respiratory rate (Telias, Katira & Brochard, 2020). As a result, risk of self-inflicted lung injury (SILI) could be reduced. Although Mr. Kwong responded to APP at the beginning, he eventually proceeded to HFOT and mechanical ventilation due to deterioration of condition. Ferrando et al. (2020) explained that improved oxygenation by awake prone position could mask the potential worsening prognosis. Thus, an extreme delay in intubation could occur.

In order to advance the knowledge in dealing with the pandemic pressure, an abundance of studies related to APP has been published. However, approaches to treatment of patients have been inconsistent which leads to inability to compare and synthesized evidence-based results across studies. For example, different oxygen adjuncts were applied during APP and different duration of APP were applied among studies. Furthermore, the studies were at risk of bias due to small sample sizes, and were conducted in single center. The current findings were clearly not conclusive enough to put APP into standardized care. Yet, features of APP are still noteworthy as another option prior to intubation, which in turn may alleviate the overwhelming shortage of ventilation beds in ICU in a shorter term.

Standardized Awake Prone Position Protocol

in QMH AICU. In order to facilitate healthcare professionals in managing conscious, non-intubated COVID-19 patients with ARDS, the PP protocol for intubated patients with ARDS were extracted and modified.

For the PP procedure, it was implemented on intubated ARDS patients with PF ratio ≤ 100 mmHg. Patients should be sedated and paralyzed during the intervention (Guérin et al., 2013). On the contrary, the APP procedure requires patients to be mentally intact and be able to mobilize by himself/herself with minimal to no assistance. Patient's oxygen saturation, respiratory rate and breathing effort instead of PF ratio were considered as indication of APP.

In this reported case, Mr. Kwong was fully conscious and was able to self-prone with minimal assistance. As he breathed vigorously and his saturation was marginal even with 6L/min oxygen via nasal cannula during supine position, AICU doctors suggested him to self-prone so as to resolve his silent hypoxia and prevent SILI. Meanwhile, both indications and contraindications (Table 1) were evaluated. A consensus was reached after discussion with Mr. Kwong and APP was then initiated.

Absolute Contraindications:

- Pregnancy (Second or Third Trimester)
- Face, ophthalmic and neck trauma or surgery
- Spinal or/and pelvic instability
- Intracranial hypertension > 30mmHg
- Abdominal compartment syndrome
- Cardiac or cardiac-thoracic surgery during previous 15 days
- Severe burn

Relative Contraindications:

- Hemodynamic instability
- Pregnancy (First Trimester)
- Known intubation difficulties
- Extreme obesity

Table 1. Contraindications of awake prone position

Before the APP procedure, equipment was prepared by the case nurse (Table 2). The case nurse was then gowned up with full personal protective equipment (PPE) and carried out the whole procedure on his/her own. This is to limit the number of personnel inside the airborne infection isolation room (AIIR) according to infection control issue (WHO, 2020). Before assisting Mr. Kwong to prone, all ECG leads were removed from the anterior chest wall and new leads were placed on his back (Figure 1). This could prevent anterior chest wall from medical device related pressure injury (MDRPI) due to prolonged APP (NPIAP, 2020). Hydrocolloid dressing was applied on Mr. Kwong's cheeks so as to prevent nasal cannula induced pressure injury (Figure 2). After the MDRPI preventive measures were taken, Mr. Kwong proned himself with the minimal assistance of his case nurse. Pillows were put under his chest, pelvic and shin in order to relieve pressure over bony prominences and abdomen (NPIAP, 2020). However, the pelvic pillow was removed as requested

by Mr. Kwong due to discomfort (Figure 3). In contrast to conventional PP, Mr. Kwong could freely change from prone to lateral decubitus position once he felt tired. Swimmer position was also suggested to him during prone position so as to avoid brachial plexus stretching (Goettler, Pryor & Reilly, 2002; NPIAP, 2020) (Figure 4). Yet, Mr. Kwong seldom performed swimmer position due to discomfort. Throughout the procedure, his case nurse should document Mr. Kwong's response to APP.

Equipment:

● Pillows	x 3
● ECG leads	x 5
● Hydrocolloid dressing	x 1

Table 2. Equipment of awake prone position



Figure 1. ECG leads on back



Figure 2. Hydrocolloid dressing on cheeks



Figure 3. Pillows below chest and shin during APP



Figure 4. Swimmer position (on the side that patient is facing, shoulder should be abducted laterally and slowly to less than 90°, the elbow should be flexed to about 90°)

Conventionally, severe ARDS patients should be prone for around 16 hours per day (Guérin et al., 2013). Unlike PP, Mr. Kwong was suggested to prone as long as he could tolerate. Furthermore, he could terminate the procedure at anytime for toileting or during meal time. For healthcare workers, there is no definite termination criteria to follow during APP. Patient's oxygen saturation, respiratory rate and breathing effort were assessed to determine if APP was carried out with positive response. In Mr. Kwong's case, his saturation decreased on day 3 of APP when he changed from prone to supine position, which were comparable to the findings in Coppo et al. (2020) and Elharrar et al. (2020). This implied that Mr. Kwong did not resp-

ond to APP with 6L/min oxygen via nasal cannula anymore. Besides, he complained upper limbs numbness after APP. As a result, APP was terminated and oxygen adjunct was escalated.

Based on the concepts of QMH AICU PP protocol, APP should be a safe procedure to be carried out by patient under assistance of doctors and nurses. Meanwhile, protocols specifically for APP have been written by different clinicians worldwide despite the lack of coherent evidence. In order to cope with the overwhelming hypoxemic COVID-19 patients, Intensive Care Society (Bamford et al., 2020) has published the APP guidance for worldwide clinicians. At the same time, other institutions, such as St. George's University Hospital in the United Kingdom (Bower & He, 2020), American Association of Critical-Care Nurses in the United States (Dickinson, Vollman & Seckel, 2020), and Tan Tock Seng Hospital in Singapore (Ng, Tay & Ho, 2020), etc., have also established APP protocols for local services. Nonetheless, there is no consensus on indication, contraindication, oxygen adjuncts, and termination criteria among APP protocols. Furthermore, most APP protocols in studies showed non-significant results. As a result, local physicians and nurses should rely on clinical judgement to apply departmental APP protocol on COVID-19 patients for the time being.

Although there is a lot of differences between APP and PP protocols, preventive measures on pressure injuries remains the same. Nurses should provide pressure relieving measures, such as pillows and hydrocolloid dressing, to patients while in prone position (NPIAP, 2020). Apart from pressure injury prevention, the swimmer position on patient should be reinforced to avoid peripheral nerve injuries from prolonged prone position (Malik et al., 2020). In this case report, Mr. Kwong seldom performed swimmer position and upper limbs numbness was noted after several sessions of prone position. Since COVID-19 patients are fully conscious, nurses could suggest them to change to the swimmer position with head turning or turn to lateral decubitus position if they cannot tolerate the prone position. Complete and comprehensive documentation should be recorded by the case nurse throughout the APP duration.

Conclusion

As the COVID-19 pandemic has put severe stress and strain on the capacity of hospital, especially limited intensive care resources, APP has been evaluated to avoid the need of intubation and mechanical ventilation for patients. Thanks to a confluence of anecdotes amplified by social media, abundant of studies related to APP have been published. However, current data were not conclusive to put APP into standardised care. Moreover, a recent relatively high-quality multicentre, adjusted cohort study showed that APP did not reduce the need for intubation or affect mortality. In this case report, APP could improve patient's oxygenation but did not sustain the effect while patient returned to supine position. Not responding to APP anymore, the patient was eventually intubated. Worse still, APP might induce peripher-

al nerve damage as patient complained upper limbs numbness after prone.

Despite non-significant results, APP is still feasible as another option prior to intubation, which in turn may alleviate the overwhelming shortage of ventilation beds in ICU in the short term. Although many APP protocols have been established, there is no consistency found. High quality studies are needed to assess the degree to which APP may be beneficial. Without significant evidence, doctors and nurses should presently exercise on clinical judgement and concepts of conventional PP protocol to formulate a local APP protocol and provide safe APP to COVID-19 patients.

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Sharing about the COVID-19 Pandemic from ICU, Queen Elizabeth Hospital

Clares LUK
ICU experience 23 years

Severe Acute Respiratory Syndrome (SARS) is an acronym that sounds familiar to me. It is a key word of memory from 17 years ago. I can remember the last day in March 2003 before Hong Kong was declared of infection free, when I was aflutter



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to take my chest X-ray to make sure that I was free from any chest infection. I never thought that I have the second chance over the past year to meet this viral family again. Ironically, after the bird flu and swine flu pandemic, 'SARS' has visited us again in an 'updated' version, with its impact fiercer than before.

Facing the incoming of patients with COVID-19, this time was different. Through my experience and my role, there must be something that I can share with our team to facing this new challenge. Indeed, it is hard to recall everything from 17 years ago. However, I can share with my colleagues the ways to prepare for this battle, and telling them that it's crucial for a 'soldier' to brace up before running into the battlefield.

As many of my colleagues were still in their primary or secondary classes in 2003, this is their first time to fight against an pandemic as a medical professional. Even though we have gears and evidenced-base guides to inform our care in the ICU, the mental preparation is crucial as well, especially for the designated team before we put on our PPE. I am not only the sentinel in our team, but also an advocator and a supervisor for our colleagues. We share our feelings, voice the concerns and seek for ward administrators' support, and the advice from doctors and infection control colleagues. We are proud to have our team working safely in this pandemic.

王嘉莉

深切治療部工作經驗 三年

自疫情由一月爆發開始直至今日，眨眼間加入了「Dirty Team」已大半年。當大家完全沒有想過這次疫情嚴重性時，疫情已經在社區爆發。當社會大眾在搶口罩防疫用品嘅時候，作為醫護人員已經要親身上陣，照顧大量疑似或確診病患者。在突如其來嘅疫情下，要保持每時每刻專注於防護措施去保護自己保護他人的心態，一開始的心理壓力真是難以以筆墨形容。

每當深切治療部收到消息要接收一個個危殆的確診病人，內心還是會有恐懼。最印象深刻的是突然需要協助確診病人插喉，焦急和緊張令到作為負責護士的我掌心冒汗和心跳加速。雖然隔着房間的玻璃，但病房內外隊友之間嘅溝通和幫助成為了重要的契機，令到我更加有信心處理當下的情況和令整個程序處理得更加安全。

因在「Dirty team」工作，生活上的自我隔離亦都是一段難忘嘅經歷。每每一個電話的問候和短暫嘅相見變得更加珍貴。

在整整的半年間，幸好有家人的理解，同事之間緊密合作和溝通，成就了這一段時間支持我努力下去的力量。當所照顧的確診病人能順利脫離呼吸機嘅幫助，可以「搵喉」（拔去呼吸喉管）而自主地說話和呼吸，最後順利離開深切治療部，那一種成就感是難以形容的。看到逐漸恢復嘅

確診患者所露出的微笑，在困難的日子中亦為大家帶來窩心嘅勉勵。

感染個案雖然似乎已經慢慢回落，但大家並不能鬆懈。希望大家繼續努力，互相支持。困難的日子總會過，共勉之。

莫曉彤

深切治療部工作經驗 三年半

記得在 SARS 的年代，我還是一個小學生，不太懂事，只知道病毒很可怕，奪去了 299 條寶貴生命。十七年後的今天，我是照顧確診者的專業護士。對於 COVID-19 的未知之數，由年頭到現在，心情百感交集。如何在年三十晚，告訴家人要入 designated team 一事，是第一個挑戰。惶恐？不安？天職還是辭職？那議論紛紛的晚上，我感受到的是愛。

在這大半年裏，很感恩有前輩的帶領和指導，分享過往的經驗。大家一起集思廣益，尋找不同的方式去幫助患者，完善現行的流程，從而減低同事們受感染的風險。這段時間，不但增加了我照顧患者的信心，亦覺得自己非常幸運，能夠擁有一班猶如家人的同事。並肩作戰的日子總教人難忘。我們也會 WFH (work for home)，希望安全地渡過疫症後回家。COVID-19 帶來的新常態，不僅僅是戴口罩和勤洗手，而是一種提醒，須珍惜當下。

Critical illness Enteral Nutrition Support Program

HUI, C. M., LAW, K. I., LEE, K. L., LAM, S. Y., LIONG, T., KWOK, K. M., WONG, H. W., LAM, P. Y., CHUNG, W. Y., CHAN, W. Y., TANG, S. L., CHU, S. M., SHANG, S. T., & HUEN, S. O.

Department of Intensive Care Unit
United Christian Hospital

Introduction

Intensive Care Unit (ICU) in United Christian Hospital (UCH) has reviewed and updated the Enteral Nutrition (EN) management for critically illness. The literature suggests that early EN with a standardized feeding protocol is essential in the management of critically ill patients. It is also reported that gastric residual volume (GRV) monitoring did not affect the mortality and incidence of pneumonia in ICU patients. Hence, unnecessary monitoring of GRV should be minimized to reduce workload of nurses and costs of patient care.

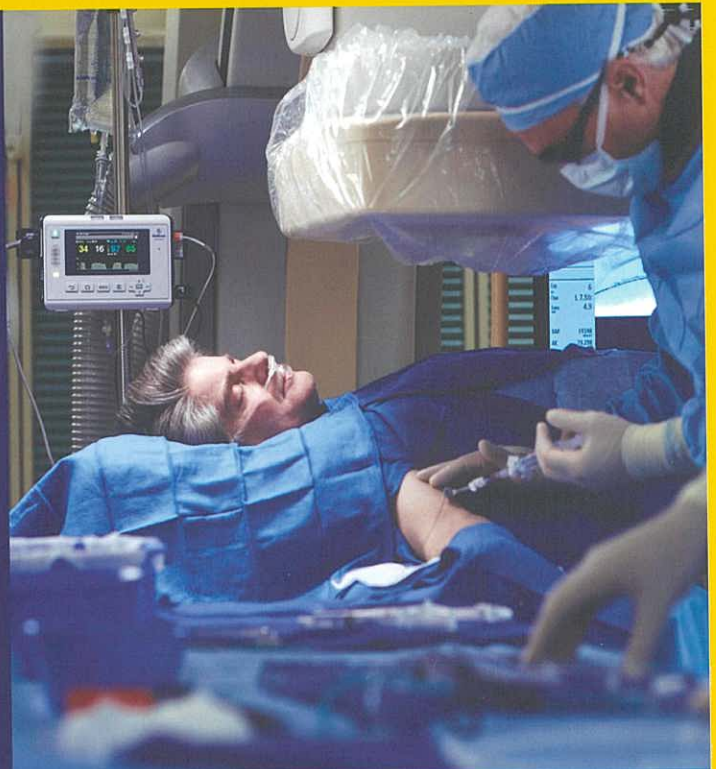
Aim

This project aims to revise EN management of patients in ICU of UCH, with the objectives,

1. to update nurses' practices on EN management by the provision and use of an Enteral Feeding Protocol,
2. to provide early EN to critically ill patients by

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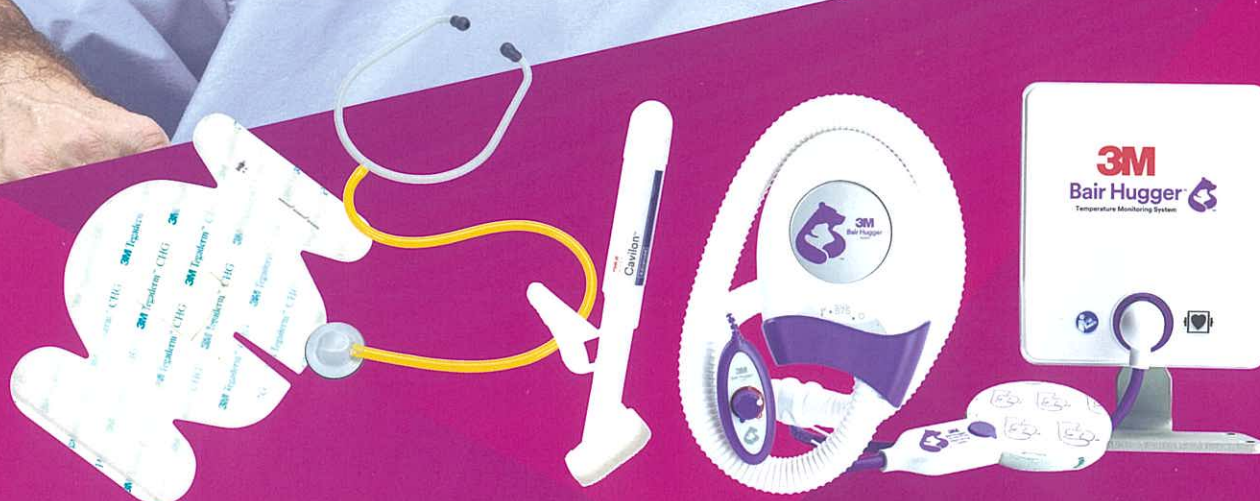
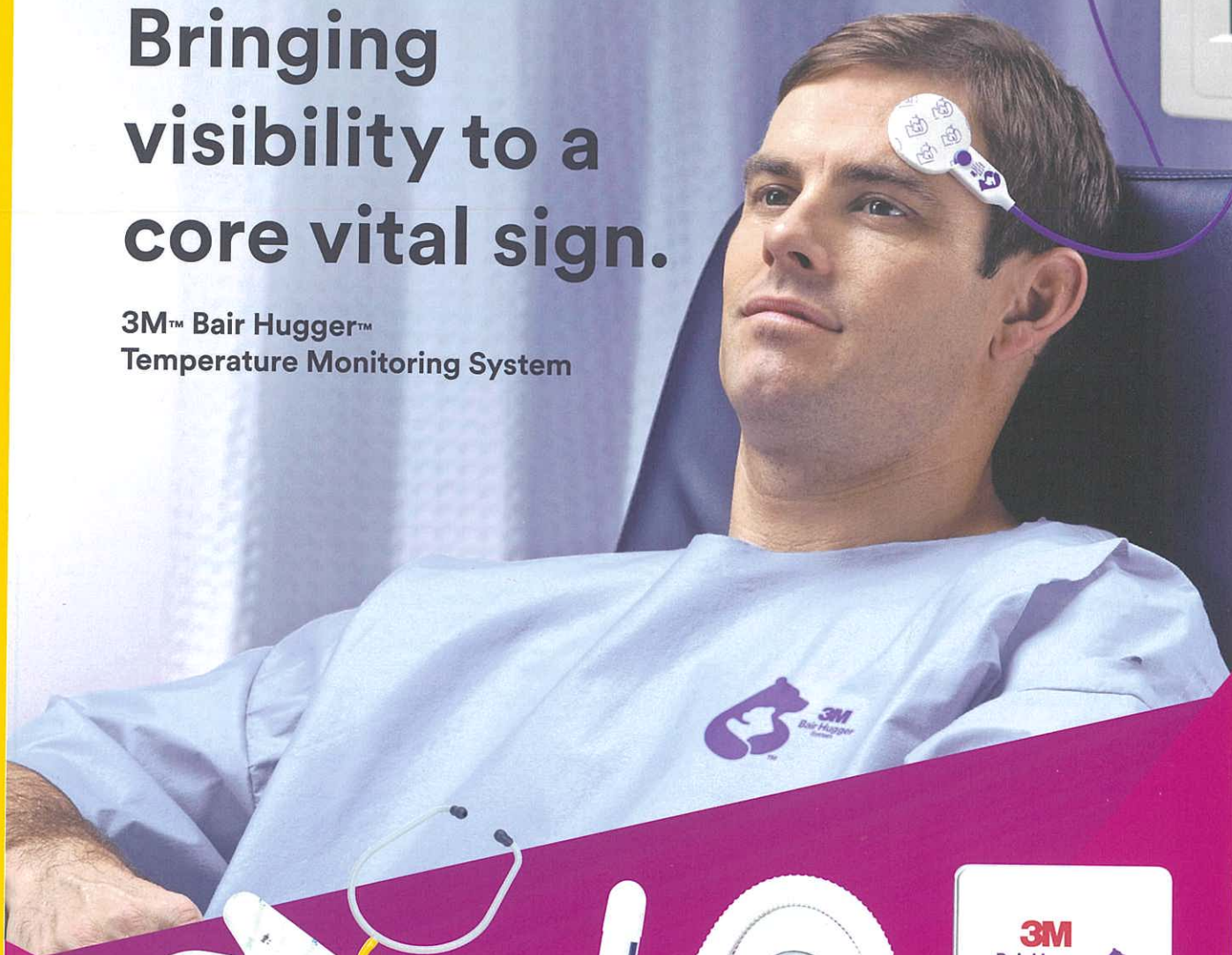
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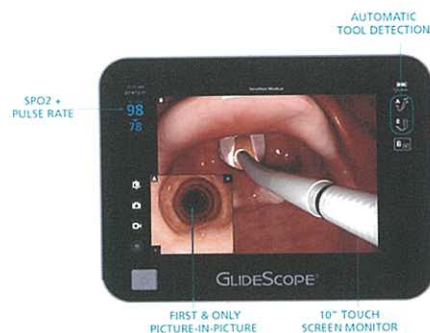
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and

3. to develop an electronic platform in Clinical Information System (CIS) for patient's nutritional data collection with nutrition risk assessment.

Methods

A multidisciplinary (critical care physicians, nurses, and dietitians) working group were formed for the implementation of an UCH ICU Enteral Feeding Protocol in 2018. The working group has,

1. revised EN management with latest international recommendations,
2. developed the platform of an electronic nutrition risk assessment tool in CIS – in terms of the:
 - Nutrition Risk in Critically ill (NUTRIC) score to perform risk assessment,
 - identification of patient's weight-based target energy requirement and high nutritional risk patient through the inputs of patient's body height and weight within eight hours after ICU admission. Patient's body mass index (BMI) would be automatically calculated by CIS,
 - assessment of patient's nutritional status by ICU physicians within 24 hours of ICU admission, and commencing EN if not contraindicated, and
 - referral of high risk patients to dietitian for early nutritional therapy,
3. conducted a prospective survey from November 2018 to January 2019 to assess and evaluate current practices (e.g. GRV monitoring) of UCH ICU nutrition management,
4. conducted briefing sessions to nurses to enhance their knowledge about the latest recommendations of EN (e.g. not necessary for GRV monitoring), and on how to use the electronic nutrition risk assessment tool and the feeding algorithm, and
5. began the new Enteral Feeding Protocol in April 2019.

Results

The Enteral Feeding Protocol enables nurses to monitor the signs of feeding intolerance, and to modify the EN administration according to the feeding algorithm, including the,

- feeding rate at 21ml per hour after assessment by ICU physicians,
- feeding rate increase by 7ml for every 4 hours until reaching patient energy requirement, and
- use of the protocol that drives prokinetics agent, withholds feeding for 4 hours, and then re-starts feeding at 21ml per hour if signs of feeding intolerance are present.

Conclusions

The goals of early EN management with the new Enteral Feeding Protocol have been achieved, and it appears that the interruption of EN was minimized. Monitoring of GRV is no longer required to streamline workload of nurses and hence decreases the cost of patient care (e.g. usage of syringes for GRV aspiration). The Enteral Feeding Protocol has been successfully implemented in UCH ICU to enhance critically ill patient's nutritional

status. Patient's nutritional data are also well recorded, which can be traced in the CIS for quality assurance and future study.

Development of a Central Access Device Removal Label to Standardize Care in Intensive Care Unit

CHU Ngar Wan, APN
KWOK Wing Yee, APN
Intensive Care Unit
Prince of Wales Hospital

Introduction

For the monitoring of physiological status and treatment responsiveness, many adult critical ill patients are connected with invasive central access devices (CAD) that include central venous catheter (CVC), continuous renal replacement therapy (CRRT) catheter, or femoral arterial line during their acute phase of illness in the intensive care unit (ICU). Bleeding is a common complication to occur after removal of the CAD when direct pressure to the puncture site is not adequately applied to achieve haemostasis. This complication can be fatal especially when larger size (such as 13FR) CRRT catheters are used. Therefore, the Continuous Quality Improvement team has developed a central access devices removal label that aims to provide a quick clinical guide for ICU nurses at the bedside for the removal of CAD.

Objectives

1. To deliver safe and standardized care to ICU patients during the removal of CAD
2. To prevent bleeding after removal of CAD

Methods

Staff consultations were made widely about various methods that could be used to remind nurses about the important steps to remove CAD. Finally, a central access device removal label has been developed. The label reinforces the following critical actions for the removal of CAD:

1. application of direct pressure to the CAD exit site for at least 10 minutes after the line has been removed;
2. re-checking the removal site 5 minutes later after direct pressure has been stopped for any further bleeding / haematoma;
3. removal of all central venous & arterial lines as early as possible while the patient is waiting to transfer out to general ward;
4. checking the integrity of removed lines to avoid any retention of line material in the patient body; and
5. enhancement of nursing clinical handover through standardization of nursing documentation.

Promotion of the project:

- Staff education during daily afternoon staff briefing

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Results

Intensive Care Unit of the Prince of Wales Hospital has around 1,800 admissions every year, of which 450 CVC lines and CRRT catheters are removed. The project was implemented in May 2016. Regular spot check on the compliance to the label for removal of CAD was 100% compliance. There was no incidence of immediate bleeding in 2016. There were two reported cases of delay bleeding after removal of CRRT catheters due to the patient's underlying illness in 2018. Second checks of 15 to 30 minutes after direct pressure to the puncture site ceased was therefore introduced in order to recognize any further or delay bleeding for immediate action (see Appendix for the CAD removal label). As of December 2019, there were no immediate or delay bleeding cases reported.

To evaluate applicability of the new label, a staff survey was conducted with questionnaires distributed to 80 ICU nurses. A total of 65 nurses (81%) completed the questionnaires with the result analysed as followed.

the label "can provide a quick clinical guide", remind nurses "to prevent bleeding complication after removal of CAD", and "can facilitate their documentation and clinical handover". The results suggest that the use of CAD removal label can provide a quick clinical guide to nurses to prevent bleeding complication after removal of CAD.

Appendix: The CAD removal label

Prince of Wales Hospital, Intensive Care Unit
 Removal of ***CVC line, CRRT line or Femoral A-line** record:

- Date and time: _____
- Site of the line(s):
 2.1 _____
 2.2 _____
- Apply direct pressure to the site after line removed for at least 10 minutes:
***Yes or No**
- Re-check the site for any bleeding/haematoma 5 mins later: ***Yes or No**
- 2nd Re-check the site for any bleeding/haematoma 15-30 mins later: ***Yes or No**
- Any bleeding/haematoma developed. ***Yes or No**. If 'Yes', inform ICU Doctor (***please circle the appropriate answer.**)
- Check the integrity of catheter tip by 2 nurses
- Remove the sterile dressing on the site (24 hours after removal):
 Date & time: _____
 Nurse 331 code: _____ Name of nurse: _____

Conclusion

Development and the use of a central access devices removal label has demonstrated its applicability and promising results in preventing post removal bleeding complication in ICU. Nurses

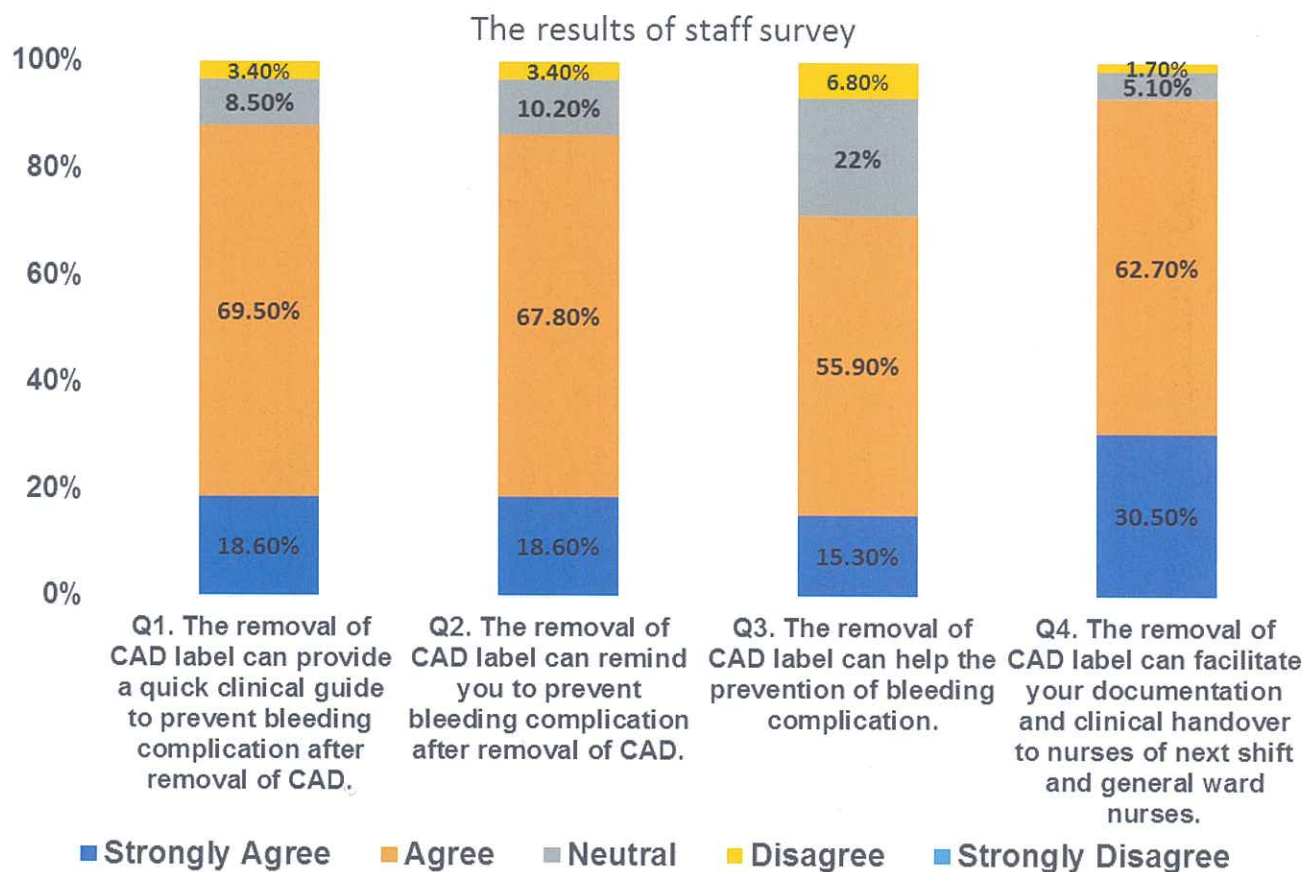


Table 1. Results of the staff survey

The results show that there are positive responses about the use of label from the staff. Although there is 71.2% of the staff who agree and strongly agree on the label that it "can help the prevention of bleeding complication", over 80% of the staff (88.1%, 86.4% and 93.2% respectively) agree that

have provided feedback that the label can enhance clinical documentation and handover about patient safety regarding the removal of CAD.

Reference & Acknowledgment

Hospital Authority Head Office (2017). *Advanced nursing standards for patient care short term non-tunneled central venous access device removal*. Hong Kong: Hospital Authority. Document No. HAHO-COC-NS-NUR-100-11-V01

Special thanks to all in the nursing team of Intensive Care Unit, Prince of Wales Hospital, Sha Tin, Hong Kong

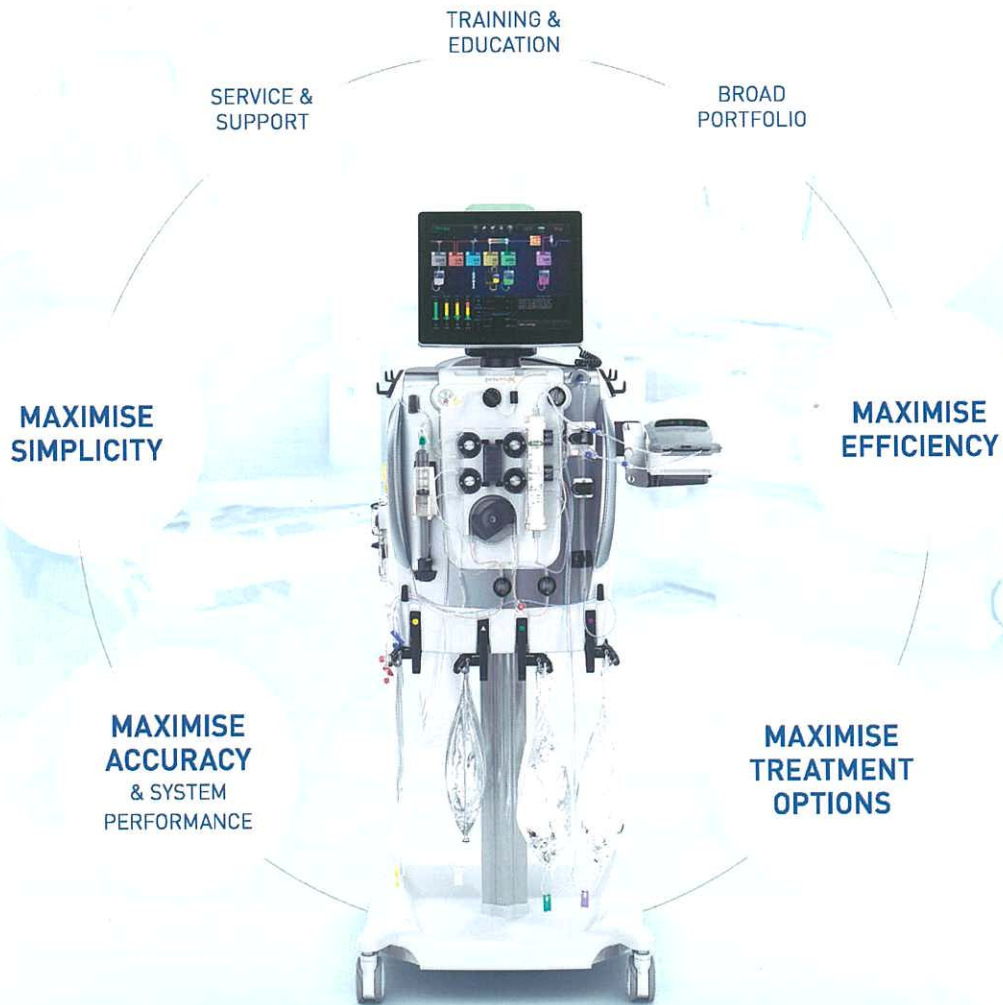
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HKACCN 2021 Programme Calendar

Elementary Critical Care Nursing Course (CNE: 15)

Basic concepts in the monitoring and management of critically ill patients in Critical Care settings.

Module 1: Respiratory System ; Module 2: Cardiovascular System

Fee: HK\$ 2,300 (Member) HK\$ 2,800 (Non-member)

Early Bird Fee: HK\$ 2,100

(For members who enroll 1 month before course starts)

Each Module: 8 Sessions

Time: 18:30 – 20:30

Dates: **^ECCN M1A & M2A will be conducted via ZOOM (Time: 18:30-20:45). Class capacity: 100**

^Module 1A: Respiratory Nursing (every Monday)

1/3, 8/3, 15/3, 22/3, 29/3, 12/4, 19/4, 26/4

Module 1B: Respiratory Nursing (every Monday)

7/6, 21/6, 28/6, 5/7, 12/7, 19/7, 26/7, 2/8

^Module 2A: Cardiovascular Nursing (every Tuesday)

4/5, 11/5, 18/5, 25/5, 1/6, 8/6, 15/6, 22/6

Module 2B: Cardiovascular Nursing (every Tuesday)

3/8, 10/8, 17/8, 24/8, 31/8, 7/9, 14/9, 21/9



Advanced Critical Care Nursing Course (CNE: 15)

Introduction of advance technology and latest trends in Critical Care settings.

Fee: HK\$ 2,300 (Member) HK\$ 2,800 (Non-member)

Early Bird Fee: HK\$ 2,100

(For members who enroll 1 month before course starts)

Each Module: 8 Sessions

Time: 18:30 – 20:30, Every Thursday

Dates: 30/9, 7/10, 21/10, 28/10, 4/11, 11/11, 18/11, 25/11

ECG Course for Beginners (CNE: 11)

Electrocardiophysiology; Basic ECG concept; Arrhythmias and heart block; Miscellaneous ECG disorders

Fee: HK\$ 1,800 (Member) HK\$ 2,300 (Non-member)

Each Module: 6 Sessions

Time: 18:30 – 20:30, Every Wednesday

Dates: ***ECG 1-3 will be conducted via ZOOM on every Thursday (Time: 18:30-20:45). Class capacity 100**

*ECG – 1: 21/1, 28/1, 4/2, 11/2, 18/2

ECG – 4: 21/7, 28/7, 4/8, 11/8, 18/8, 25/8

*ECG – 2: 11/3, 18/3, 25/3, 1/4, 8/4

ECG – 5: 29/9, 6/10, 13/10, 20/10, 27/10, 3/11

*ECG – 3: 6/5, 13/5, 20/5, 27/5, 3/6

ECG – 6: 17/11, 24/11, 1/12, 8/12, 15/12, 22/12



Basic Life Support (BLS) Provider Course (CNE: 4)

CPR skills for victims of all ages, taught according to AHA 2020 CPR guideline

(Starting from 1 Feb 2021, AHA 2021 guidelines will be taught)

Fee: HK\$ 300 (Member) HK\$ 500 (Non-member)

Time: 08:30 – 13:00 (Fri/ Sat am classes)

Dates:

Friday classes (am)

22/1, 26/3, 7/5, 21/5

18/6, 23/7, 3/9, 5/11, 3/12



Saturday classes (am)

2/1, 6/2, 6/3, 10/4, 24/4, 5/6

3/7, 14/8, 18/9, 2/10, 23/10,

20/11, 11/12

Advanced Cardiac Life Support (ACLS) Provider Course (CNE: 11)

Based on AHA 2020 guidelines, teach the management of 10 core cases related resuscitation including: Pulseless VT/VF, Asystole, PEA, Bradycardia (heart block), Unstable Tachycardia, Stable Tachycardia, Respiratory Arrest, Acute Coronary Syndrome and Acute Stroke (AHA 2020 guidelines will be taught, starting on 1 Feb 2021)

Fee: HK\$ 1,950 (Member) HK\$ 2,150 (Non-member)

Time: 08:30 – 16:30 (Day 1); 08:30 – 13:00 (Day 2)

Dates:

Thu & Fri classes

14-15/1, 25-26/2, 29-30/4, 10-11/6,

15-16/7, 9-10/9

*Fri & Sat class 17-18/12



Sat & Sun classes

30-31/1, 13-14/3, 27-28/3, 17-18/4, 15-16/5, 29-30/5,

26-27/6, 31/7-1/8, 21-22/8, 25-26/9, 9-10/10,

30-31/10, 13-14/11, 27-28/11

CONFERENCES / EVENTS

World Congress of Intensive & Critical Care 2021 (15th WFSICCM Congress)

11 - 15 Sept 2021

Vancouver, Canada

<https://www.worldcriticalcarecongress21.com/>

9th EfCCNa Congress

22 - 25 Sept 2019

Utrecht, The Netherlands

<https://www.efccna.org/congress-2021-in-utrecht>

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Theme: Nurses: A voice to lead - Health for all

<https://www.icnvoicetolead.com/#>

International Nurses Day 2020

Theme: Nurses: A voice to lead - Nursing the World to Health

<https://www.icnvoicetolead.com/#>

Australian College of Critical Care Nurses (ACCCN)

<http://www.acccn.com.au/>

Australian and New Zealand Intensive Care Society (ANZICS)

<https://www.anzics.com.au/>

British Association of Critical Care Nurses (BACCN)

<https://baccn.org/>

Canadian Association of Critical Care Nurses (CACCN)

<https://www.caccn.ca/>

European federation of Critical Care Nursing association (EfCCNa)

<http://www.efccna.org/>

Hong Kong Academy of Nursing (HKAN)

<http://www.hkan.hk>

Hong Kong Society of Critical Care Medicine (HKSCCM)

<http://www.hkscm.org/>

Schools of Nursing

HKU: <http://www.nursing.hku.hk/>

CUHK: <http://www.nur.cuhk.edu.hk/>

PolyU: <https://sn.polyu.edu.hk/en/home/>

Taiwan Association of Critical Care Nurses (TACCN)

<http://www.taccn.org.tw/>

World Federation of Critical Care Nurses (WFCCN) www.wfccn.org

Critical Care Nursing Journals

AACN Advanced Critical Care

<http://acc.aacnjournals.org/>

American Journal of Critical Care

<http://ajcc.aacnjournals.org/>

Heart and Lung

<http://www.heartandlung.org/>

Intensive and Critical Care Nursing

<https://www.journals.elsevier.com/intensive-and-critical-care-nursing>



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