



Malaysian Society of Anaesthesiologists



College of Anaesthesiologists, AMM

27<sup>th</sup> July 2021, Kuala Lumpur

## **Critical Care Triage during the COVID 19 Pandemic**

### **Preamble**

The current COVID-19 wave in Malaysia has led to an overwhelming number of the critically ill Category 4 and 5 cases. The current available critical care resources are not adequate to cater for this surge. This document is meant as a guide for critical care providers to perform ethical triage in this pandemic or any other disaster situations.

### **Definition**

Critical care triage is the process of allocating the scarce critical care resources in disaster situations to ensure the best possible outcome for most patients.

### **Recommendations for Critical Care Triage**

Triage is to bring the greatest benefit for the most number of patients, while maintaining the function of the critical care services.

All patients who require critical care are considered by the same triage criteria without any preference.

When feasible, the goals of critical care are to be discussed with the patients and their family member(s). The acceptability of critical care interventions by the patient should be ascertained whenever possible. Advanced care plans or directives should be made known to the triaging physicians.

Triage is performed by critical care providers in discussion with the Infectious Disease (ID) specialist. Senior critical care provider(s) may be consulted, and hospital management may need to be involved.

Triage decision-making can be done based on a combined consideration of:

- a) Short term survival which can be predicted using survival prognostic score i.e., Sequential Organ Failure Assessment (SOFA) score (Appendix A).
- b) Long term survival which can be predicted by assessing functional status, using Clinical Frailty Score (APPENDIX B) and the presence of comorbidities, using Charlson comorbidity index (APPENDIX C).

Triage should not be based on:

- a) Sequence of presentation i.e., first-come first-served, unless in the case of comparable eligibility.
- b) Chronological age. However, age limit may need to be determined when faced with comparable eligibility.
- c) Specific patient populations with irrelevant and discriminatory considerations.

The triage decisions are to be communicated sensitively and transparently to the patients and/or family member(s).

Patients who are eligible for critical care unit admission but are not admitted due to limited resources are provided with the best supportive care possible with the resources available.

Patients who initially receive best supportive care in a non-critical care area are re-evaluated, regularly, for consideration of resource allocation when resources become available.

Terminating treatment may be considered when there is a failure to improve or worsening of condition after a reasonable period of critical care therapy. It is appropriate to withhold or withdraw therapy when it is deemed futile. For more details, please refer to the consensus statement made by the Malaysian Society of Intensive Care (MSIC): A Clinical Guide to Decision-making for Critically Ill COVID-19 Patients ICU Admission and Withholding/Withdrawing Life-sustaining Treatments.

Psychological support should be provided to the triaging critical care providers. Accountability for triaging extends beyond the individual critical care provider to include the hospital management.

### **Conclusion**

Critical care triage can be ethically performed using the above recommendations. Critical care providers may use the recommendations to develop standard operating procedures specific for their institutions.

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## APPENDIX A

System	Score					Scored
	0	1	2	3	4	
Respiration PaO <sub>2</sub> /FIO <sub>2</sub> , mm Hg	≥400	<400	<300	<200 with respiratory support	<100 with respiratory support	
Coagulation Platelets, ×10 <sup>3</sup> /μL	≥150	<150	<100	<50	<20	
Liver Bilirubin, μmol/L	<20	20-32	33-101	102-204	>204	
Cardiovascular	MAP ≥70 mmHg	MAP <70 mmHg	Dopamine <5 or Dobutamine (any dose)	Dopamine 5.1-15 or adrenaline ≤0.1 or noradrenaline ≤0.1	Dopamine > 15 or adrenaline > 0.1 or noradrenaline > 0.1	
			<b>Catecholamine doses are given as μg/kg/min for at least 1 hour</b>			
Central Nervous System Glasgow Coma Scale score	15	13-14	10-12	6-9	<6	
Renal Creatinine, μmol/L or Urine output, mL/day	<110	110-170	171-299	300-440 or <500 ml/day	>440 or <200 ml/day	
<b>Total score (sum of all above scored)</b>						
Adapted from: Vincent JL, Moreno R, Takala J & <i>et al.</i> Working Group on Sepsis-Related Problems of the European Society of Intensive Care Medicine. The SOFA (Sepsis-related Organ Failure Assessment) score to describe organ dysfunction/failure. Intensive Care Med 1996; 22(7): 707-710.						

**Score interpretation:**

Scores of more than 11 corresponds to mortality of more than 80%.










An increase in SOFA score during the first 48 hours predicts a mortality rate of at least 50%.

**Reminder:**

The SOFA score was designed for patients with sepsis.

In COVID-19 infection, only 3 of the 6 equally weighted organ system sub-scores (respiratory, renal, and hepatobiliary) are associated with mortality.

## APPENDIX B

Clinical Frailty Scale	
 <p><b>1 Very Fit</b> – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.</p>	 <p><b>7 Severely Frail</b> – Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).</p>
 <p><b>2 Well</b> – People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g. seasonally.</p>	 <p><b>8 Very Severely Frail</b> – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.</p>
 <p><b>3 Managing Well</b> – People whose medical problems are well controlled, but are not regularly active beyond routine walking.</p>	 <p><b>9 Terminally Ill</b> – Approaching the end of life. This category applies to people with a life expectancy &lt;6 months, who are not otherwise evidently frail.</p>
 <p><b>4 Vulnerable</b> – While not dependent on others for daily help, often symptoms limit activities. A common complaint is being “slowed up”, and/or being tired during the day.</p>	<p><b>Scoring frailty in people with dementia</b></p> <p>The degree of frailty corresponds to the degree of dementia. Common <b>symptoms in mild dementia</b> include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.</p> <p>In <b>moderate dementia</b>, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.</p> <p>In <b>severe dementia</b>, they cannot do personal care without help.</p>
 <p><b>5 Mildly Frail</b> – These people often have more evident slowing, and need help in high order IADLs (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.</p>	
 <p><b>6 Moderately Frail</b> – People need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.</p>	

Adapted from: 1. Canadian study on health and aging revised 2008 and 2. K. Rockwood et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005; 173:489-495

## APPENDIX C

Comorbidity	Score
Prior myocardial infarction	1
Congestive heart failure	1
Peripheral vascular disease	1
Cerebrovascular disease	1
Dementia	1
Chronic pulmonary disease	1
Rheumatologic disease	1
Peptic ulcer disease	1
Mild liver disease	1
Diabetes	1
Cerebrovascular (hemiplegia) event	2
Moderate-to-severe renal disease	2
Diabetes with chronic complications	2
Cancer without metastases	2
Leukemia	2
Lymphoma	2
Moderate or severe liver disease	3
Metastatic solid tumor	6
Acquired immuno-deficiency syndrome (AIDS)	6

doi:10.1371/journal.pone.0154627.t003

Adapted from: Charlson ME, Pompei P, Ales KL, MacKenzie CR. A new method of classifying prognostic comorbidity in longitudinal studies: development and validation. *J Chronic Dis.* 1987; 40:373-383

### Score interpretation:

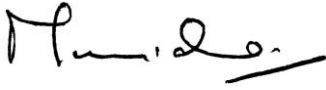
Each comorbidity category has an associated weight (from 1 to 6).

Based on the adjusted risk of mortality or resource use, and the sum of all the weights results in a single comorbidity score for a patient.

A score of zero indicates that no comorbidities were found.

The higher the score, the more likely the predicted outcome will result in mortality or higher resource use.

Yours faithfully



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