

CLINICAL PATHWAY FOR ASSESSMENT OF RESUSCITATION STATUS AND LIMITATION OF THERAPY FOR HOSPITALISED MEDICAL PATIENTS

Name of patient:

IC:

Main diagnosis:

Secondary diagnoses:

Baseline functions (ADLs)	Independent								
	Dependent (State Reason)								
Baseline co-morbidities									
	On admission Date:			Next review Date:			Next review Date:		
SOFA score (Refer SOFA table)	<6	6-9	>9	<6	6-9	>9	<6	6-9	>9
SCORE (Please circle)	1	2	3	1	2	3	1	2	3
Advanced comorbidities									
	Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
Advanced respiratory illness (COPD Gold D or equivalent)									
Advanced / end-stage heart failure (NYHA 4 or EF <40%)									
Advanced liver disease (Child-Pugh C and above)									
End-stage renal with no/ refuse RRT									
Advanced / metastatic / refractory cancer (ECOG 4 and above)									
Severe irreversible brain pathology (Significant neurological deficit)									
Advanced dementia (ADL dependent)									
Poor social circumstances/ family support									
SCORE Any Yes = 3 All no = 0									
Clinical Frailty Scale (Refer CFS table)	1-4	5-6	7-9	1-4	5-6	7-9	1-4	5-6	7-9
SCORE (Please circle)	1	2	3	1	2	3	1	2	3



Priority for ICU admission									
SOFA (Please circle)	1	2	3	1	2	3	1	2	3
Advanced comorbidities (Please circle)	1	2	3	1	2	3	1	2	3
Clinical Frailty Scale (Please circle)	1	2	3	1	2	3	1	2	3
TOTAL SCORE (Please circle)	<4	4-5	>5	<4	4-5	>5	<4	4-5	>5
PRIORITY LEVEL	1	2	3	1	2	3	1	2	3

Limitation of therapy									
	Yes	No	Unsure	Yes	No	Unsure	Yes	No	Unsure
Airway management									
Inotropic support									
Hydration/ nutrition									
Medications (including antibiotics)									
Investigations (including blood taking, radiology)									
Procedures (including surgical procedures)									

Direction of Care (select only 1)			
Priority 1 with active resuscitation			
Priority 2 with active resuscitation			
Priority 3 with limitation of therapy			
Priority 3 with best supportive care and palliation			
Priority 3 for withdrawal of therapy			
Withdrawal of therapy			
Direction of care, DIL and/ or limitation of therapy explained to families			
Name of next of kin			
Name of doctor			
Name of specialist			

Clinical pathway **for assessment of resuscitation status and limitation of therapy for hospitalised patients** is a tool used to translate clinical practice guideline recommendations/consensus into standardised clinical processes of care. It should be used as a guide and should be followed with repeated assessment when there is a change in patient clinical status.



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Introduction

The purpose of this consensus is to provide guidance for the triage and resource allocation of critically ill patients in the event that the COVID-19 Pandemic in Klang Valley creates demand for critical care resources (e.g. ventilators, critical care beds) that outstrips the supply. These triage recommendations will be enacted only if:

1. Critical care capacity is, or will shortly be, overwhelmed despite taking all appropriate steps to increase the surge capacity to care for critically ill patients; and,
2. Majlis Keselamatan Negara (MKN) has declared a national emergency / 'darurat'.

This consensus is grounded in ethical obligations that include the duty of care, the duty to steward resources to optimise population health, distributive and procedural justice, and transparency. It is consistent with existing recommendations in other countries for how to allocate scarce critical care resources during a public health emergency. This consensus describes:

1. Stratification of patients for resource allocation
2. Allocation criteria for initial allocation of critical care resources
3. Limitation of therapy.



Assessment for resuscitation status

All patients admitted to the hospital should have a planned goal of care/advanced care plan and established resuscitation status. These are made in anticipation of a future event and concern withholding, rather than giving, a treatment. Decisions made are primarily to protect patients from invasive treatments that are likely to have little to no chance of success. Several factors to consider in assessing resuscitation status are:

1. Likelihood of benefit.
2. The prognosis (based on the severity of illness, existing co-morbidities, and physical and cognitive status).
3. Life expectancy due to underlying disease.
4. Expected outcome post-resuscitation/discharge.
5. Patient wishes.

This consensus was established taking the above factors into consideration, using available and validated scoring systems such as SOFA and Clinical Frailty Score (CFS).



SOFA Score Table

(ref 6)

System	Score				
	0	1	2	3	4
Respiration					
Pao ₂ /Fio ₂ , mm Hg (kPa)	≥400 (53.3)	<400 (53.3)	<300 (40)	<200 (26.7) with respiratory support	<100 (13.3) with respiratory support
Coagulation					
Platelets, ×10 ³ /μL	≥150	<150	<100	<50	<20
Liver					
Bilirubin, mg/dL (μmol/L)	<1.2 (20)	1.2-1.9 (20-32)	2.0-5.9 (33-101)	6.0-11.9 (102-204)	>12.0 (204)
Cardiovascular	MAP ≥70 mm Hg	MAP <70 mm Hg	Dopamine <5 or dobutamine (any dose) ^b	Dopamine 5.1-15 or epinephrine ≤0.1 or norepinephrine ≤0.1 ^b	Dopamine >15 or epinephrine >0.1 or norepinephrine >0.1 ^b
Central nervous system					
Glasgow Coma Scale score ^c	15	13-14	10-12	6-9	<6
Renal					
Creatinine, mg/dL (μmol/L)	<1.2 (110)	1.2-1.9 (110-170)	2.0-3.4 (171-299)	3.5-4.9 (300-440)	>5.0 (440)
Urine output, mL/d				<500	<200

Abbreviations: Fio₂, fraction of inspired oxygen; MAP, mean arterial pressure; Pao₂, partial pressure of oxygen.

^b Catecholamine doses are given as μg/kg/min for at least 1 hour.

^c Glasgow Coma Scale scores range from 3-15; higher score indicates better neurological function.



Clinical Frailty Scale Table

(ref 7)

1	Very fit	People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age
2	Well	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
3	Managing well	People whose medical problems are well controlled, but are not regularly active beyond routine walking
4	Vulnerable	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
5	Mildly frail	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
6	Moderately frail	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
7	Severely frail	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)
8	Very severely frail	Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness
9	Terminally ill	Approaching the end of life. This category applies to people with a life expectancy

- ❖ Clinical frailty score 1-4 can be triaged as level of priority 1 for physical fitness assessment in ICU priority level.
- ❖ Clinical frailty score 5-6 can be triaged as level of priority 2 for physical fitness assessment in ICU priority level.
- ❖ Clinical frailty score 7-9 can be triaged as level of priority 3 for physical fitness assessment in ICU priority level.



Direction of Care

Priority level 1

- ❖ Critically ill, unstable patients
- ❖ Require life support for organ failure and intensive monitoring. This includes high flow nasal cannula (HFNC), non-invasive (NIV) or invasive ventilation, renal replacement therapy, invasive haemodynamic monitoring and other interventions
- ❖ Do not have limitations of treatment
- ❖ High likelihood of benefit

Priority level 2

- ❖ Acutely ill but relatively stable
- ❖ Require intensive monitoring and/or therapies, who can be managed in a ward with close monitoring or intermediate care facility, e.g. high dependency unit
- ❖ Admit to ICU if early management fails to prevent deterioration, or there is no intermediate care facility in the hospital.

Priority level 3

- ❖ Have advanced co-morbidities
 - ❖ Acutely ill with high risk for further deterioration
 - ❖ Require some intensive monitoring and/or therapies. They may be managed at a ward level or intermediate care facility, e.g. high dependency unit.
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- ❖ All cases with priority level 1 should be actively resuscitated regardless of the status of ventilator or ICU bed availability.
 - ❖ In the event of ventilator and ICU beds constraint, patient in priority level 2 should be properly assessed and repeatedly discuss the outcome with ward consultant/specialist and family/relatives.
 - ❖ For a patient with priority level 3, it would not be in the best interest of these patients to receive non-beneficial intervention that is invasive and prolonged if further deterioration occurs. Such patients need to be identified early for limitations of treatment. A discussion on this needs to be followed through by the primary team with families (and patients where possible). This is important to address expectations, elicit preferences and clarify resuscitation status. These patients may be treated with the best ward care alongside palliative care principles.



Withdrawal of therapy

Factors to consider in decision making on withdrawing or withholding therapy are:

1. Imminent death / terminally ill.
2. Poor response to treatment or development of severe complications.
3. Expected poor neurological outcome resulting in severe cognitive and physical disability.
4. Presence of advanced co-morbidities / severe systemic disease.
5. Age.



Symptom Management at the End of Life

A. Breathlessness

Treat underlying cause

Non pharmacological management

- O2 supplementation if indicated
- positioning
- loose clothing

Pharmacological management

- Subcutaneous route is the preferred route especially if IV access is difficult
- If eGFR>30:
 - o Continuous SC infusion (CSCI) of morphine 0.5mg/H
 - o Titrated according to patient symptoms or if still tachypnoeic
 - o Can be increased by 0.5mg/H every 6 hours until patient is comfortable
 - o To discuss with palliative care team if infusion rate reaches 2.5mg/H
- If eGFR<30:
 - o CSCI of fentanyl 5mcg/H
 - o Can be increased by 5mcg/h every 6 hours until patient is comfortable
 - o To discuss with palliative care team if infusion rate reaches 25mcg/H

B. Anxiety or Panic attacks

- Sublingual lorazepam 0.5mg PRN up to 1mg TDS

C. Terminal Restlessness or Agitation

Pharmacological management

- SC midazolam 2.5mg PRN
- 1 hour interval between doses
- Maximum of 6 doses per day

If patient is continuously agitated OR has required >4 doses per day, to consider CSCI midazolam

- Start at 0.5mg/H
- Can be increased by 0.5mg/H every 6 hours until a max of 3mg/H

D. Terminal secretions

- This is due to secretions collecting in airways which are no longer being coughed or cleared as normal.
- Suctioning is often not recommended as deep suctioning will not improve secretions and may cause further distress to the patient.
- SC buscopan (hyoscine butylbromide) 20mg TDS
- Can also be given as CSCI of 60-240mg over 24 hours



References

1. *A clinical guide to decision-making for critically ill Covid-19 Patients; ICU Admission and withholding/withdrawing Life-sustaining treatments, Malaysian Society of Intensive Care.*
2. *Clinical Frailty scale.*
3. White DB, Lo B. A framework for rationing ventilators and critical care beds during the COVID-19 pandemic. *Jama.* 2020 May 12;323(18):1773-4.
4. White DB, Lo B. A framework for rationing ventilators and critical care beds during the COVID-19 pandemic. *JAMA.* doi:10.1001/jama.2020.5046. eAppendix. Allocation of Scarce Critical Care Resources During a Public Health Emergency.
5. *Handbook of Palliative Medicine in Malaysia.* 2015.
6. Vincent JL. Use of the SOFA score to assess the incidence of organ dysfunction/failure in intensive care units: results of a multicenter, prospective study. Working group on "sepsis-related problems" of the European Society of Intensive Care Medicine. *Crit Care Med.* 1998;26(11):1793-800
7. Rockwood K, Song X, MacKnight C, Bergman H, Hogan DB, McDowell I, Mitnitski A. A global clinical measure of fitness and frailty in elderly people. *CMAJ.* 2005 Aug 30;173(5):489-95



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