1. INTRODUCTION

Intensive Care Services is an ever-growing specialty, with the advancement in Biomedical engineering and development of the new sophisticated equipment and technologies to support and sustain life artificially. The use of these advanced resources in critically ill patients is not always justified. Inappropriate use of these life support equipment will prolong the patient's agony rather than prolonging his/her life. Famously, the Hippocratic Oath includes a promise not to treat patients who were "overmastered by their disease". Continue to treat such patient will not benefit and would occupy vital resources at times. It would be inhumane to the patient to prolong his misery and death.

2. PURPOSE

It is to identify those patients who are admitted to Intensive Care Services (ICS) but are not responding to full critical care support and when mortality is inevitable to let the patient die with comfort as much as possible, respect and dignity.

3. APPLICABILITY

All staff of the Department of ICS

4. POLICY

4.1. Two ICS consultants or 1 consultant and 1 Senior Registrar (SR) will decide about the Failure of Resuscitation (FOR) status and the Level of Care which can be either No Further Resuscitation (NFR), No Escalation of Therapy (NET) or Withdrawal of Critical Care Support (WCCS) in liaison with the Primary Team.

4.2. ICS Consultant will write in the RABET (CERNER Electronic Patient Chart) or Doctors Order about the level of care.

4.3. Patient Family will not be a part of the decision-making; as such, decision does not fall within their area of expertise (Appendix 8.1. Fatwa Resolution No. 12086).

4.4. ICS Consultant along with the Primary Team informs the family about their patient's condition and prognosis in detail and the appropriate level of care provided to the patient.

5. DEFINITION OF TERMS

5.1. Failure of Resuscitation (FOR) - is the patient who was admitted to intensive care, received full supportive measures, and fails to respond to it.

5.2. No Further Resuscitation (NFR) - Patient will not receive CPR in case of cardiac arrest.

5.3. No Escalation of Therapy (NET) - Patient will not have any augmentation of current therapy such as the level of mechanical ventilation support, hemodynamic support either mechanically (ECMO & IABP) or drugs (Inotropes) and the start of the new support modality such as renal or liver dialysis. However, the basic care of the patient should continue to ensure the comfort and the relief of pain. Once the level of support is weaned, it should not go back to the initial stage. Patient will not receive CPR in case of cardiac arrest.

5.4. Withdrawal of Critical Care Support or Withdrawal of Life Support/Sustaining Therapy (WCCS) - All the artificial life support of the patient will be removed in timely manner.

6. PROCEDURES

6.1 The FOR can be applicable to all patients whose recovery is deemed by current scientific evidence to be impossible. The following situations may be used as examples:

6.1.1 Advanced late stage cancer

6.1.2 Irreversible multi organ failure

6.1.3 Advanced chronic liver disease

6.1.4 Advanced congestive heart failure

6.1.5 Advanced pulmonary disease

6.1.6 Advanced dementia

6.1.7 Severe brain damage

6.1.8 Inoperable malformations that is incompatible with life irreversible or untreatable fatal neuromuscular disease

6.1.9 Diagnosed Brain Stem Death following the Saudi Centre for Organ Transplant (SCOT) guidelines dated 18/6/1414 (Appendix 8.2).

6.1.10 Severe multiple trauma.

6.1.11 Conditions which have been associated with an extremely low chance of survival for example:

6.1.11.1 Inoperable congenital heart disease

6.1.11.2 Fatal Chromosomal anomalies

6.1.11.3 Fatal neuromuscular disease

6.2 Futility of their treatment lies in one or more of the following groups:

6.2.1 **Physiological futility** – treatment that cannot achieve its physiological aim.

6.2.2 **Quantitative futility** – Treatment that has <1% chance of succeeding.

6.2.3 **Qualitative futility** – treatment that cannot achieve an acceptable quality of life; treatment that merely preserves unconsciousness or fails to relieve total dependence on intensive medical care.

6.2.4 **Imminent demise futility** – an intervention that will not change the fact that the patient will die in the near future.

6.2.5 **Lethal condition futility** – The patient has an underlying condition that will not be affected by the intervention and which will lead to death within weeks to months.

6.3 The poor quality of life if the patient undergoes CPR.

6.4 The unavailability of therapy that can improve the patient's survival with improved quality of life.

6.5 The patient is not responding to the maximum support of either individually or in combination of the following:

6.5.1 Hemodynamic support.

6.5.2 Ventilatory support.

6.5.3 Cardiac support.

6.5.4 Haematological support.

6.5.5 Renal support.

6.5.6 Hepatological support.

6.5.7 Neurological support.

6.5.8 Anti-microbial support.

6.5.9 Anti-cancer support.

6.6 The treating ICS Consultant along with another ICS Consultant or SR in liaison with the Primary Team labels the patient as Failure of Resuscitation (FOR) and decide about the level of care for the patient, which is either NFR, WCCS or NET.

6.7 **Withdrawal of Critical Care Support (WCCS)** will be done in the following manner:

6.7.1 Mechanical ventilation setting will be set at minimal support, i.e. SIMV 4, PS of 0 to 5, PEEP 0, FIO2 21%.

6.7.2 All hemodynamic support drugs will be tapered off in 30 minutes.

6.7.3 Discontinuation of all renal or liver dialysis if the patient is already on.

6.7.4 No more radiological examination or blood work.

6.8 **Withdrawal of Critical Care Support for patient on ECMO** will be done in the following manner:

6.8.1 Sweep gas will be dropped down to 1 l/min.

6.8.2 FdO_2 will be decrease down to 21%.

6.8.3 All hemodynamic support drugs will be tapered off in 30 minutes.

6.8.4 Discontinuation of all renal or liver dialysis of patient is already on.

6.8.5 No more radiological examination or blood work.

6.9 Documentation will be reflected in the RABET or the Doctor's Order of the patient's file.

6.10 Every aspect of therapeutic regimen is determined by the criteria of overall welfare and comfort of the patient.

6.11 Certain procedures (diagnostic or therapeutic) may not be justifiable and thus be contraindicated.

6.12 It is important that the consultant in-charge specify for nursing and junior physicians what modalities of treatment will be excluded.

6.13 The relative should not be involved in the decision-making process for the Failure of Resuscitation (FOR) as their expertise does not fall in it.

6.14 Approach Patient's Family.

6.14.1 The treating physician (Consultant Intensivist in-charge) must discuss in depth of how and why Failure of Resuscitation (FOR) has reached with either the patient who has decision-making capacity or with most appropriate responsible family member, if the patient is lacking decision-making capacity. He/she should clearly indicate in simple language, all the reasons for reaching this decision and emphasize that further medical and or surgical intervention would not alter the inevitable outcome.

6.14.2 The treating physician (Consultant Intensivist in-charge) should to approach the discussion with honesty, sensitivity and compassion in order minimize situations in which the patient and/or relative insists, in the face of all evidence to the contrary, that a full code be undertaken.

7. REFERENCES

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7.5 Presidency of the Administration of Islamic Research and Ifta, Riyadh, KSA, Fatwa No. 12086 issued on 30.6.1409(Hijra) [1988 (AD)].

7.6 Diagnosis of Death by Brain Function Criteria, Saudi Centre for Organ Transplantation, Saudi Health Council, Saudi Arabia.

7.7 Palliative Withdrawal of ECMO: A Clinical Case Series. Am J Respir Crit Care Med 193; 2016: A7028.

8. APPENDICES

8.1 Diagnosis of Death by Brain Function Criteria – SCOT Guideline (attached)

8.2 Fatwa Resolution No. 12086 - "If three knowledgeable and trustworthy physicians agreed that the patient condition is hopeless; the life-supporting machines can be withheld or withdrawn. The family members' opinion is not included in decision making as they are unqualified to make such decisions".

9. CONTRIBUTING DEPARTMENT/S

Intensive Care Services

Compiled by: **Dr. Muhammad Kashif Malik** **Head, CQI&PS Division, Intensive Care Services**	**Signature:**	**Date:** 3/Oct/2023
Reviewed by: **Brig. Gen. Dr. Abdulelah Mohammed Hummadi** **Director, Continuous Quality Improvement and Patient Safety (CQI & PS)**	**Signature:**	**Date:** 9/10/2023
Authorized by: **Brig. Gen. Dr. Adnan Al Ghamdi** **Director, Intensive Care Services**	**Signature:**	**Date:** 4/Oct/2023
Authorized by: **Brig. Gen. Dr. Abdulrahman Al Robayyan** **Director of Medical Administration**	**Signature:**	**Date:** 15/10/2023
Authorized by: **Brig. Gen. Dr. Rashed Al Otaibi** **Executive Director for Health Affairs** **Chairman, Senior Medical Management Team (SMMT)**	**Signature:**	**Date:** 15/10/2023
Approved by: **Maj. Gen. Khalid Abdullah Al Hudaithi** **General Executive Director of Prince Sultan Military Medical City**	**Signature:**	**Date:** 17/10/2023