ANKARA BILKENT CITY HOSPITAL

ADULT INTENSIVE CARE UNIT OPERATIONAL GUIDELINE

Document basis	YB.PR.001 Adult Intensive Care Units Operating Procedure, Revision 04
Guideline version	Institutional operational guideline, Version 1.1
Source revision date	10 April 2026
Evidence alignment date	6 August 2026
Status	Revised institutional guideline for Ankara Bilkent City Hospital
Recommended review	Within 3 years, or earlier after major evidence or regulatory change

Educational and operational guidance. Local approval is required before implementation.

This document does not replace national law, licensing requirements, hospital policy, or patient-specific clinical judgement.

How to Use This Guideline

PURPOSE OF THIS VERSION

This document converts Ankara Bilkent City Hospital procedure YB.PR.001 into an institution-specific operational guideline for the adult intensive care units of Ankara Bilkent City Hospital. It retains the source procedure as the governing institutional basis, preserves its operational thresholds and priority classifications, and links implementation to approved hospital systems and documents.

The guideline is designed for the adult medical, surgical, cardiac, neurologic, transplant, obstetric, and mixed intensive care units of Ankara Bilkent City Hospital. Each adult ICU should complete Appendix D as its unit-specific implementation record before institutional approval.

Meaning of Requirement Terms

Term	Operational meaning
MUST	Minimum safety or governance requirement expected across the adult intensive care units of Ankara Bilkent City Hospital. If it cannot be met, the gap must be documented, mitigated, and entered into the institutional risk-management process.
SHOULD	Recommended practice expected in most settings, unless patient factors, local law, or resource limitations justify an alternative.
MAY	Context-dependent option that can be implemented according to patient need, local capability, or referral arrangements.

IMPORTANT

MUST, SHOULD, and MAY express operational priority. They are not formal GRADE ratings and should not be interpreted as evidence-certainty classifications.

Contents

1. Purpose and Scope

The purpose of this guideline is to standardize the organization, delivery, monitoring, and evaluation of adult intensive care services so that critically ill patients receive timely, safe, coordinated, person-centered, and measurable care.

It applies to adult general ICUs and specialty ICUs, including cardiology, cardiovascular surgery, gastrointestinal and general surgery, transplantation, respiratory medicine, neurosurgery, neurology, obstetrics, and other high-acuity units that provide ICU-level monitoring or organ support.

The guideline covers admission, triage, stabilization, multidisciplinary care, organ support, patient safety, family engagement, transfer, discharge, end-of-life care, equipment, workforce competence, and quality improvement. Disease-specific treatment protocols remain outside its scope and should be linked locally.

2. Guideline Basis and Adaptation Principles

The institutional basis is Ankara Bilkent City Hospital document YB.PR.001, Adult Intensive Care Units Operating Procedure, Revision 04, dated 10 April 2026. The source document includes detailed clinical and administrative workflows, local document codes, electronic-record processes, patient transfer pathways, and monitoring requirements.

For use within Ankara Bilkent City Hospital, the content has been reorganized around the patient journey and minimum operational standards. Hospital-specific processes and document codes are retained in Appendix E as the institutional implementation map.

STANDARD 01 MUST	Each adult ICU within Ankara Bilkent City Hospital MUST maintain an approved local annex identifying responsible leaders, staffing arrangements, available organ support, escalation and transfer pathways, emergency contacts, documentation systems, legal requirements, and the hospital forms used to implement this guideline.

STANDARD 02 MUST	Where a recommended service or technology is unavailable within the hospital or unit, the ICU MUST define a safe alternative, an escalation trigger, and a timely consultation or transfer pathway through approved institutional and national systems.

LOCAL ADAPTATION PRINCIPLE

The same safety objective may require different workflows among general and specialty adult ICUs. Unit-level adaptation may address staffing titles, forms, electronic systems, specialty consultation, escalation routes, and national legal requirements, but it must remain under Ankara Bilkent City Hospital governance.

3. Governance and Model of Care

STANDARD 03 MUST	**Each ICU MUST operate under named medical and nursing leadership with documented authority for admission, discharge, staffing, safety, equipment, quality review, incident response, and escalation of unresolved risks.**

STANDARD 04 MUST	**Care MUST be delivered through an interprofessional model with clear role allocation, daily goals, structured handover, and timely access to pharmacy, physiotherapy or rehabilitation, nutrition, infection expertise, social work, palliative care, and specialty consultation according to patient need.**

STANDARD 05 SHOULD	The ICU SHOULD maintain written policies for admission, discharge, surge capacity, major incident response, equipment failure, information-system downtime, medication safety, infection prevention, patient transfer,

	and end-of-life care.

- The leadership team should review unit activity, mortality, readmissions, adverse events, infections, pressure injuries, medication incidents, transfer events, complaints, equipment failures, and staffing risks at defined intervals.
- Clinical policies should be reviewed at least every three years, or earlier after major evidence, legal, regulatory, or system changes.
- Safety concerns should be reportable without retaliation and should be linked to a documented improvement process.
- Surge plans should define how staffing, space, equipment, isolation, and referral capacity will be expanded without abandoning minimum safety controls.

4. Admission and Triage

STANDARD 06 MUST	ICU admission decisions MUST consider the need for ICU-specific monitoring or organ support, urgency of deterioration, the institutional admission-priority classification, anticipated benefit, reversibility, patient goals and preferences, available alternatives, and the capability of the proposed ICU.

STANDARD 07 MUST	The four-level institutional priority classification below MUST support admission and triage decisions. It does not replace individualized senior assessment. Priority assignment and any decision that ICU admission is generally unsuitable must be clinically justified, documented, and reviewed when the patient condition changes.

STANDARD 08 MUST	**When demand exceeds capacity, triage MUST use a transparent and consistently applied process with senior clinical oversight, defined reassessment intervals, and a second-review or appeal mechanism whenever feasible.**

4.1 Institutional Admission Priority Classification

The source procedure classifies patients into four admission-priority groups. The classification should be used together with diagnosis-based and objective admission criteria, current bed capacity, treatment goals, and senior clinical judgment.

Priority	Institutional description and examples
Priority 1	Critically ill and unstable patients requiring treatment or monitoring that can only be provided in an ICU, including ventilator support, continuous vasoactive or antiarrhythmic infusion, intensive fluid replacement, cerebral edema control, invasive monitoring, or emergency intervention. Examples include cardiac tamponade, acute respiratory failure or airway obstruction, severe trauma, acute kidney injury requiring mechanical ventilation, liver resection, cardiac surgery, transplantation, pneumonectomy, sepsis, and major fluid-replacement requirements.
Priority 2	Patients with a moderate level of intensive-care need who are likely to require intensive observation and rapid intervention after a procedure or during an acute illness. Examples include airway and hemodynamic observation, intensive chest physiotherapy, extensive wound care, major head and neck surgery, pulmonary surgery without ventilator support, postoperative patients with limited physiological reserve, necrotizing fasciitis, acute critical illness in metastatic cancer with a treatment option, head injury or acute neurologic conditions, and high-risk neuromuscular disease.
Priority 3	Unstable patients with a low probability of recovery because of the underlying disease and the nature of the acute illness, despite a need for intensive monitoring or treatment. The source procedure lists irreversible brain injury, post-cardiopulmonary-resuscitation follow-up, complications such as cardiac tamponade or airway obstruction, end-stage cardiac, respiratory, or hepatic disease

Priority	Institutional description and examples
	without a transplant option, and metastatic cancer unresponsive to chemotherapy or radiotherapy.
Priority 4	Patients generally considered unsuitable for ICU admission because little or no benefit is expected or death is considered imminent and unavoidable. The source procedure lists peripheral vascular surgery, hemodynamically stable diabetic ketoacidosis, mild congestive heart failure, terminal irreversible disease, severe irreversible brain injury, multiple organ failure or metastatic cancer unresponsive to treatment and outside a specific protocol, competent refusal of ICU treatment or invasive monitoring, brain death without organ-donor candidacy, persistent vegetative state, permanent unconsciousness, and stable pneumonia requiring only low-flow conventional oxygen.

APPLICATION NOTE

The examples above reproduce the source procedure and must be interpreted in the full clinical, ethical, legal, and organizational context. When expected benefit is uncertain but reversibility remains possible, a documented time-limited ICU trial and scheduled reassessment may be used.

4.2 Common indications for ICU-level care

Clinical domain	Examples requiring ICU assessment
Respiratory	Threatened airway; acute respiratory failure requiring invasive ventilation or escalating noninvasive support; severe work of breathing; massive hemoptysis; upper airway obstruction; severe chest trauma.
Cardiovascular	Cardiac arrest or post-resuscitation care; shock; life-threatening arrhythmia or heart block; severe acute heart failure; hypertensive emergency with organ injury; acute vascular catastrophe; need for continuous invasive hemodynamic support.
Neurologic	Coma or rapidly changing consciousness; severe traumatic brain injury; intracranial hemorrhage or acute stroke requiring intensive monitoring; status epilepticus; neuromuscular weakness threatening ventilation; central nervous system infection with organ dysfunction.
Metabolic and endocrine	Severe diabetic ketoacidosis or hyperosmolar state with instability; severe electrolyte disturbance with neurologic or cardiac effects; adrenal crisis; thyroid storm; severe acid-base disorder requiring continuous intervention.
Gastrointestinal, hepatic, and hematologic	Life-threatening gastrointestinal bleeding; acute liver failure with encephalopathy or instability; severe pancreatitis; abdominal sepsis; severe coagulopathy, anemia, or hematologic disease with organ dysfunction.
Perioperative and obstetric	High-risk major surgery requiring advanced monitoring or organ support; major hemorrhage; airway surgery; severe pre-eclampsia or eclampsia; HELLP syndrome; obstetric hemorrhage; amniotic fluid embolism; other critical maternal illness.
Renal, toxicologic, and multisystem	Unstable patient requiring acute renal replacement therapy; severe rhabdomyolysis or crush syndrome; toxic ingestion requiring organ support; sepsis or septic shock; multiple organ dysfunction; major trauma; severe burns; environmental injury.

4.3 Urgent review triggers

The following findings should prompt urgent senior assessment for ICU admission or escalation. They are not automatic admission thresholds and must be interpreted in context:

- Actual or threatened airway obstruction, apnea, severe respiratory distress, refractory hypoxemia, or rapidly worsening ventilatory failure.
- Persistent hypotension, shock, rising lactate, severe arrhythmia, ongoing ischemia, uncontrolled hemorrhage, or rapidly deteriorating perfusion.
- New coma, marked reduction in consciousness, status epilepticus, acute focal neurologic deterioration, or inability to protect the airway.
- Severe acid-base, electrolyte, glucose, temperature, toxicologic, or metabolic disturbance with neurologic, respiratory, or cardiovascular effects.
- Need for invasive monitoring, vasopressors, mechanical ventilation, emergency renal replacement therapy, or another intervention unavailable in the current care area.
- Clinical concern that the patient may deteriorate faster than the current location can safely recognize or treat.

TIME-LIMITED ICU TRIAL
When benefit is uncertain but the illness may be reversible, the team may offer a time-limited trial of ICU care. The indication, goals, duration, expected response, review date, and possible next decisions should be documented and communicated.

5. Initial Assessment and Stabilization

STANDARD 09 MUST	**The referring and receiving teams MUST communicate the indication for ICU care, current physiology, interventions, infection risks, treatment limitations, anticipated equipment, and urgency before transfer whenever the clinical situation permits.**

STANDARD 10 MUST	**On arrival, the ICU team MUST use a structured primary assessment and initiate stabilization without delaying time-critical treatment for administrative completion.**

Admission element	Minimum content
Identity and safety	Confirm identity, allergies, infection precautions, medication history, valuables, consent status, and appropriate family or surrogate contact.
Airway and breathing	Assess airway protection, oxygenation, ventilation, work of breathing, device position, secretion burden, and need for escalation.
Circulation	Assess perfusion, rhythm, blood pressure, vascular access, bleeding, fluid status, vasoactive support, and urine output.
Neurologic and comfort	Document consciousness, pupils, focal findings, pain, sedation, delirium risk, seizure status, and communication needs.
Exposure and devices	Perform focused examination; inspect wounds and pressure areas; verify lines, drains, catheters, tubes, temperature, and isolation requirements.
Diagnostics and care plan	Order clinically indicated tests; establish immediate goals; review treatment limitations; document contingency plans; communicate with the patient and family where possible.

- Prepare the bed space and required equipment before arrival whenever possible.
- Confirm that all vascular access, airway devices, drains, infusions, and monitoring systems are functional and correctly labelled.
- Complete medication reconciliation and secure any patient-brought medicines, controlled medicines, and valuables according to local policy.

- Assess falls risk, pressure-injury risk, nutritional risk, infection risk, and need for communication or language support.
- Document the initial diagnosis, organ-support plan, immediate treatment priorities, escalation limits, and responsible clinician.

6. Daily Multidisciplinary Care, Documentation, and Handover

STANDARD 11 MUST	**A structured interprofessional review MUST occur at least daily, with a documented plan and measurable goals for the next 24 hours.**

STANDARD 12 MUST	**Shift-to-shift and interprofessional handovers MUST use a standardized format that includes current risks, treatment limitations, pending results, device status, medication infusions, contingency plans, and required follow-up.**

STANDARD 13 MUST	**Monitoring intensity MUST be individualized to acuity and treatment. Alarm limits, observation frequency, and invasive monitoring should be reviewed as the patient condition changes.**

6.1 Minimum daily review domains

Domain	Daily review questions
Airway and breathing	What is the oxygen target? Is the airway secure? Is the respiratory-support strategy appropriate? Is the patient ready for sedation reduction, spontaneous breathing assessment, or extubation planning?
Brain, pain, and sleep	Is pain controlled? What is the sedation target? Is delirium present? Are communication, hearing, vision, sleep, and restraint needs addressed?
Circulation and fluids	Is perfusion adequate? Can vasoactive support be reduced? What is the cumulative fluid balance? Are bleeding, vascular access, and thrombosis risks addressed?
Drugs and infection	Are medicines reconciled and correctly dosed? Are antimicrobials indicated, appropriately sampled, reviewed, narrowed, stopped, or converted? Are prophylaxis and adverse effects addressed?
Eating and elimination	Is nutrition appropriate and tolerated? Are glucose, electrolytes, bowel function, urine output, and renal support reviewed?
Function and family	What is today's mobility goal? Are skin and pressure risks managed? Has the family been updated? Are goals of care, social needs, and discharge barriers reviewed?

6.2 Documentation requirements

- Clinical assessments, orders, medication administration, device settings, fluid balance, procedures, adverse events, communication, and transitions of care must be recorded in the approved health record.
- Documentation frequency should match patient acuity and local regulation rather than follow a universal hourly rule.
- The hospital must maintain downtime procedures that preserve medication, observation, and handover records during information-system failure.
- Patient privacy and confidentiality must be protected during bedside care, electronic communication, family updates, and transfer.

7. Respiratory Support and Ventilator Liberation

STANDARD 14 MUST	Respiratory support MUST be escalated according to clinical trajectory, gas exchange, work of breathing, airway protection, hemodynamics, response to less invasive support, and the institutional invasive-ventilation indications below. The listed thresholds are source-procedure indications and must be interpreted with the overall clinical condition.

The source procedure identifies the following general pathophysiologic and common clinical indications for invasive ventilation:

Indication	Source-procedure criterion
Respiratory arrest	Immediate indication.
Acute ventilatory failure	PaCO2 >50 mmHg together with pH <7.30.
Impending acute ventilatory failure	A rising PaCO2 and falling pH despite treatment.
Severe refractory hypoxemia	PaO2 ≤60 mmHg or SaO2 <90% while FiO2 ≥60%.
Severe clinical respiratory failure	Loss of consciousness, labored breathing, rapid shallow breathing, or paradoxical respiration.
Common clinical conditions	ARDS; bronchial-wall thickening with increased mucus production; COPD exacerbation; chest trauma; drug overdose; severe neurologic or neuromuscular dysfunction; head trauma; severe pneumonia; and sepsis.

STANDARD 15 MUST	**Invasive ventilation MUST use lung-protective principles, patient-appropriate oxygen targets, prevention of avoidable ventilator-associated harm, and regular reassessment of sedation and patient-ventilator interaction.**

STANDARD 16 SHOULD	Readiness for liberation SHOULD be assessed at least daily. The primary disease and systemic abnormalities should be controlled; cardiovascular status and tissue oxygenation should be adequate; pulmonary pathology should be controlled; inspired oxygen concentration should be below 50%; consciousness, cough, swallowing, and airway protection should be adequate; and the source-procedure respiratory criteria below should be reviewed.

Domain	Operational guidance
Airway and device safety	Confirm tube or tracheostomy position and fixation; check cuff management according to local policy; provide humidification and suction only when indicated; keep emergency airway and manual ventilation equipment immediately available.
Ventilation strategy	Use predicted-body-weight-based tidal volume when applicable; limit injurious pressures; individualize PEEP and oxygen; consider prone positioning and other ARDS strategies according to current guidance and local capability.
Positioning and oral care	Elevate the head of bed, commonly 30-45 degrees, unless contraindicated; individualize for hemodynamic, neurologic, procedural, and pressure-injury considerations; provide oral care according to local policy.
Liberation	Use a structured readiness assessment. The source procedure permits spontaneous breathing with a T-piece or CPAP-PSV. With the T-piece method, the patient is periodically separated from the ventilator and given humidified oxygen; the separation period is progressively increased and spontaneous pulmonary measurements are repeated. Assess airway protection, cough,

Domain	Operational guidance
	secretions, mental status, and post-extubation support needs.
Documentation	Record clinically relevant settings, alarms, oxygenation, ventilation, synchrony, secretions, sedation, and response at a frequency appropriate to acuity.

Source-procedure criteria for ventilator liberation and extubation preparation are summarized below:

Domain	Institutional source criterion
General prerequisites	Primary pathology and systemic findings controlled; cardiovascular stability; adequate tissue oxygenation; pulmonary pathology controlled; FiO2 <50%; patient conscious and alert.
Clinical conditions	No abdominal distension; no metabolic disturbance; no incoordination of respiratory movements; adequate cough and swallowing reflexes.
Vital capacity	>5 mL/kg.
Inspiratory force	<-10 cm H2O.
Acid-base status	pH >7.30.
Respiratory rate	<45 breaths/min.
Minute ventilation	<18 L/min.
Method	T-piece spontaneous breathing or CPAP-PSV. When using a T-piece, provide humidified oxygen, progressively lengthen each separation period, and repeat spontaneous lung-function measurements.
Extubation preparation	Inform the conscious patient; assess vital signs, blood gases, and general condition; prepare humidified oxygen, reintubation equipment, and the emergency cart; suction before extubation; monitor oxygen saturation, breath sounds, and chest movement; record date and time.

RESOURCE ADAPTATION

Units without advanced respiratory therapies should define early consultation and transfer triggers. Transfer planning should begin before the patient becomes too unstable to move safely.

8. Sepsis and Acute Organ Dysfunction

STANDARD 17 MUST	**Sepsis MUST be treated as life-threatening organ dysfunction caused by a dysregulated response to infection. Screening tools may support recognition but must not replace clinical assessment.**
STANDARD 18 MUST	Patients with possible sepsis or septic shock MUST receive rapid clinical evaluation, microbiological sampling without delaying treatment, source-control assessment, hemodynamic resuscitation, and an appropriate dose of antimicrobial therapy within 1 hour, in accordance with the institutional source-procedure pathway below.
STANDARD 19 MAY	SOFA or another validated organ-dysfunction score MAY support risk stratification and trend monitoring, but MUST NOT be used as a stand-alone diagnostic test or automatic basis for denying ICU care.

- Antimicrobial selection should account for likely source, local resistance patterns, prior microbiology, host factors, allergy, organ function, and toxicity.

- Antimicrobial indication, spectrum, dose, route, duration, culture results, and source control should be reviewed daily.

The source procedure recommends starting antibiotics when procalcitonin (PCT) is >0.25 g/L and identifies lactate >2 mmol/L as a sepsis biomarker. The PCT unit is reproduced exactly from YB.PR.001 and must be verified against the hospital laboratory reporting unit before final clinical approval.

The source-procedure 1-hour, 3-hour, and 6-hour sepsis pathway is:

Time or domain	Required source-procedure actions
Biomarkers	Lactate >2 mmol/L; PCT >0.25 g/L as stated in the source procedure.
Within 1 hour	Start an appropriate dose of antibiotic therapy. Initiate early recognition of septic shock, perfusion optimization, fluid therapy, and source control planning.
Within 3 hours	Measure serum lactate; obtain blood cultures within <45 minutes without delaying antibiotics; start broad-spectrum antibiotics covering the likely pathogen; if hypotension is present or lactate is >4 mmol/L (36 mg/dL), immediately administer at least 30 mL/kg crystalloid.
Within the first 6 hours	If the patient does not respond to initial fluid resuscitation, provide vasopressor support to maintain MAP ≥65 mmHg; if hypotension remains resistant to fluids or initial lactate is ≥4 mmol/L, reassess volume status and tissue perfusion; repeat lactate when initially elevated.
Additional management	Ventilatory treatment and other indicated therapies, including management of bleeding risk, hyperglycemia, agitation, and delirium.

- After initial resuscitation, fluids and vasoactive treatment should be reassessed using perfusion response and, where available, dynamic measures.
- Potential source control should be identified early and coordinated with surgical, interventional, or other specialist teams.
- Organ dysfunction trends, cumulative fluid balance, adverse drug effects, and post-ICU recovery needs should be included in the ongoing plan.

9. Pain, Sedation, Delirium, Sleep, and Mobility

STANDARD 20 MUST	**Pain, sedation, delirium, sleep, and mobility MUST be assessed using validated or locally approved tools appropriate to the patient condition, with individualized daily targets.**

STANDARD 21 SHOULD	Sedation SHOULD be no deeper than clinically necessary, with regular review for reduction or interruption when safe. Early, individualized mobilization and rehabilitation should begin as soon as clinically feasible.

- Treat pain before escalating sedative medication whenever possible.
- Use non-pharmacologic delirium prevention: orientation, communication aids, hearing and vision support, sleep promotion, family engagement, and mobility.
- Review sedative, anticholinergic, opioid, and other deliriogenic medication exposure.
- Set a daily mobility goal and document barriers, safety criteria, and progress.
- Use physical restraints only as a last resort after alternatives; choose the least restrictive method, document a time-limited indication, monitor safety, and reassess frequently.
- Consider early rehabilitation consultation for patients expected to have prolonged immobility, weakness, or functional decline.

10. Medication Safety and Transfusion

STANDARD 22 MUST	**Medication management MUST include complete and legible or electronic orders, allergy verification, renal**

	and hepatic dose adjustment, independent checks for high-risk medicines, standardized concentrations where feasible, infusion-pump safeguards, medication reconciliation, and adverse-event reporting.
STANDARD 23 MUST	**Controlled medicines, emergency carts, antidotes, and transport medicines MUST be securely stored, checked for stock and expiry at defined intervals and after use, documented at handover, and replenished promptly.**
STANDARD 24 SHOULD	Red blood cell transfusion SHOULD follow a restrictive and individualized strategy for most stable patients, while accounting for active bleeding, ischemia, hypoxemia, symptoms, and overall clinical context. Fixed hemoglobin discharge thresholds are not recommended.

- Blood components must be verified at the bedside according to local policy, with appropriate patient identification and compatibility checks.
- Patients should be observed closely at the start of transfusion and throughout the procedure; suspected reactions require immediate action and reporting.
- Look-alike and sound-alike medicines, concentrated electrolytes, insulin, anticoagulants, vasoactive infusions, sedatives, opioids, and neuromuscular blockers require locally defined safeguards.
- Medication plans should be reconciled at ICU admission, internal transfer, and discharge.

11. Nutrition and Metabolic Care

STANDARD 25 SHOULD	Every ICU patient SHOULD undergo nutritional screening at admission, including NRS 2002 in the hospital information system, and should receive a structured assessment and individualized plan when nutritional risk or need is identified. The source-procedure anthropometric, laboratory, and monitoring parameters below should be documented as clinically appropriate.

- Assessment should include pre-illness intake, recent weight change, body composition where feasible, gastrointestinal function, disease severity, organ dysfunction, fluid balance, and refeeding risk.

Nutritional assessment should combine history, anthropometry, clinical examination, laboratory data, gastrointestinal function, disease severity, organ dysfunction, fluid balance, and refeeding risk. The following parameters and thresholds are retained from the source procedure and should be interpreted together rather than used as isolated decision rules.

Parameter	Source-procedure detail
Weight and ideal body weight	Compare actual with ideal body weight. Nutritional concern is identified when involuntary weight loss is ≥10% during the previous year or actual body weight is <60% of ideal body weight.
Body mass index	BMI <18.5 kg/m².
Upper/mid-arm circumference	Women <18 cm; men <20 cm.
Triceps skinfold thickness	Men <10 mm; women <13 mm indicates nutritional insufficiency.
Albumin	Normal blood level 3.5-5 g/dL; stated half-life 18 days.
Transferrin	The source uses the term “transferritin.” A value <150 mg/dL is stated to suggest malnutrition; the source describes a short half-life and less influence from non-nutritional factors.
Prealbumin	Half-life 2-3 days; may fall below 15 mg/dL after 3-4 days of nutritional insufficiency. It may decrease in liver disease and increase in renal failure because of reduced excretion.
Total lymphocyte count	<1200/mm³ is stated as an indicator associated with malnutrition.
24-hour urinary creatinine and creatinine-height index	Used as indirect indicators of skeletal muscle mass and total body

Parameter	Source-procedure detail
	nitrogen.
Nitrogen balance	Negative balance occurs when 24-hour nitrogen loss exceeds intake. The source additionally states “<6 g/dL in malnutrition”; the unit and exact intended variable must be verified before clinical use.
Nutrition consultation and route	When nutritional support is required, consult the clinical nutrition unit. Enteral nutrition is preferred when gastrointestinal function is adequate. Parenteral nutrition is used when enteral intake is impossible, absorption is inadequate, or enteral calories are insufficient; it may be used alone or in addition to enteral feeding.
Ongoing monitoring	Monitor fluid and electrolytes, blood glucose, and signs of central venous catheter infection in parenterally fed patients. Follow complete blood count, urea, daily creatinine, prealbumin every 7-10 days, albumin, infection parameters, liver function, and lipid profile. Record infusion-pump rate/volume and fluid input-output according to the source procedure.

- Enteral nutrition is generally preferred when the gastrointestinal tract is usable, with route, timing, energy and protein delivery, tolerance, glycemic control, and aspiration risk individualized.
- Nutrition delivery and interruptions should be reviewed daily. Dietitian or nutrition-team input should be available for complex or prolonged cases.
- Electrolytes, glucose, bowel function, fluid balance, and micronutrient concerns should be managed as part of the nutrition plan.

12. Infection Prevention and Avoidance of Harm

STANDARD 26 MUST	**Each ICU MUST implement a coordinated harm-prevention program covering healthcare-associated infection, pressure injury, delirium, immobility, falls, venous thromboembolism, medication harm, accidental device removal, diagnostic failure, and communication failure.**

Safety domain	Minimum requirement
Hand hygiene and precautions	Apply the WHO Five Moments, appropriate personal protective equipment, standard precautions, and transmission-based precautions. Use alcohol-based hand rub unless hands are visibly soiled or another indication requires soap and water.
Device-associated infection	Use insertion and maintenance bundles; document daily device necessity; remove invasive devices promptly when no longer required.
Diagnostic stewardship	Order cultures, biomarkers, and imaging according to clinical suspicion and pretest probability. Avoid automatic daily infection panels or cultures based solely on fever.
Pressure injury	Assess risk on admission and regularly; inspect skin; offload pressure; optimize support surfaces, moisture, and nutrition; reposition according to individual risk and tolerance rather than a rigid universal interval.
Venous thromboembolism and stress-ulcer prevention	Assess indication, contraindications, and ongoing need daily. Avoid automatic continuation when risk no longer justifies treatment.
Falls and accidental device removal	Identify risk, correct modifiable causes, secure devices safely, use observation and environmental measures, and review events for system improvement.
Cleaning and waste	Classify clinical areas according to local infection-risk policy; document cleaning; segregate general, infectious, recyclable, pharmaceutical, and sharps waste at source.

Safety domain	Minimum requirement
Surveillance and feedback	Monitor locally defined infection and safety indicators, investigate significant events, and give feedback to clinical teams.

13. Patient and Family Communication

STANDARD 27 MUST	**Patients and families MUST receive timely, understandable, culturally responsive information about the patient condition, treatment options, uncertainty, prognosis, ICU routines, and how to raise concerns.**
STANDARD 28 SHOULD	Liberalized family presence SHOULD be the default, subject to patient preference, infection-control requirements, safety, privacy, space, and the needs of other patients. Blanket restriction to one legally recognized relative once daily should be avoided.

- Identify the patient-preferred contact and, where relevant, the legally authorized surrogate according to local law.
- Offer family participation in rounds or bedside care when appropriate and desired.
- Use interpreters or language support when communication may otherwise be unsafe or inequitable.
- Protect confidentiality during telephone or remote communication through an agreed verification process.
- Document significant discussions, decisions, uncertainties, and agreed follow-up.
- Provide clear information at admission, during major changes, before transfer, and at discharge.

14. Goals of Care, End-of-Life Care, Death, and Organ Donation

STANDARD 29 MUST	**Goals of care and treatment proportionality MUST be reviewed early and whenever prognosis, patient preferences, or clinical trajectory changes. Shared decision-making should include the patient whenever possible and an authorized surrogate when required.**
STANDARD 30 MUST	**When life-sustaining treatment is withheld or withdrawn, the ICU MUST use a protocol that prioritizes comfort, anticipatory symptom management, dignity, privacy, cultural and spiritual needs, family support, and staff communication.**
STANDARD 31 MUST	**Potential organ donation MUST be considered according to applicable law and organizational policy, with timely referral to the designated donation service and clear separation of end-of-life decision-making from donation discussions.**

- Palliative care and ethics consultation should be available for difficult symptoms, conflict, uncertainty, or complex decisions.
- End-of-life discussions should use clear language, acknowledge uncertainty, and avoid technical terminology when it reduces understanding.
- Sedation for symptom relief must be proportionate, clinically justified, documented, and distinct from intentional hastening of death.
- Families should be supported before and after death, including culturally appropriate bereavement care and practical information.
- Staff debriefing and psychological support should be available after distressing events when appropriate.

15. Intra-hospital Transport and Interfacility Transfer

STANDARD 32 MUST	**Transport MUST occur only when anticipated benefit exceeds risk and the required diagnostic or therapeutic service cannot be delivered safely at the bedside.**

STANDARD 33 MUST	**Monitoring, organ support, staff competence, medication availability, and contingency planning during transport MUST be at least equivalent to the patient current needs.**

Transfer phase	Minimum requirement
Decision and preparation	Clarify indication, destination readiness, accepting clinician, route, anticipated duration, infection precautions, and return plan; stabilize as far as feasible.
Team	Assign trained staff competent in airway, ventilation, hemodynamic support, emergency treatment, and the transport equipment being used.
Equipment	Use appropriate monitor, oxygen, ventilator, suction, infusion pumps, emergency medicines, airway equipment, defibrillation capability when indicated, and sufficient battery and gas reserves.
Communication and handover	Provide structured handover, current documentation, medication list, investigations, treatment limitations, and direct clinician-to-clinician communication.
After transfer	Reassess the patient, devices, infusions, skin, and equipment; document events and review significant complications.

INTERFACILITY TRANSFER

Interfacility transfer from Ankara Bilkent City Hospital must follow the applicable Ministry of Health and 112 Control Command Center (KKM) process. The responsible clinician must confirm the accepting institution and clinician, complete the approved interfacility transfer documentation, define escort and equipment requirements, communicate risks to the patient or representative, and ensure continuity of care during transfer.

16. ICU Discharge and Transitions of Care

STANDARD 34 MUST	**A patient is ready to leave ICU when ICU-specific monitoring or treatment is no longer required, the receiving setting can safely meet current and anticipated needs, and a documented escalation plan is available.**

STANDARD 35 MUST	For fully oriented and conscious patients, the source procedure states that ICU discharge or transfer may proceed when the physiologic criteria below have been maintained for at least 4 hours. The final decision MUST also confirm qualitative clinical readiness, continuity of care, and the capability of the receiving setting.

Source-procedure physiologic discharge criteria (to be maintained for at least 4 hours) are:

Criterion	Institutional source threshold or requirement
Inspired oxygen	FiO2 <0.60.
Arterial blood gases	PaO2 >10 kPa; PaCO2 <6 kPa.

Criterion	Institutional source threshold or requirement
Bicarbonate	HCO3 >19 mmol/L.
Hemoglobin	>9 g/dL.
Respiration and oxygenation	Respiratory rate 10-20/min; oxygen saturation >95%.
Blood pressure	Systolic blood pressure >100 mmHg.
Heart rate and temperature	Heart rate 60-100/min; body temperature 36.0-37.5°C.
Urine output	1/2 mL/kg as written in the source procedure; the time interval is not specified and must be confirmed before operational use.
Pain	Pain score 0-1.
Respiratory function	Independent of mechanical ventilation, except patients receiving chronic NIV; respiratory frequency and gas exchange within acceptable limits; reduced oxygen support. For tracheostomy or home-ventilator pathways, low pressure and oxygen requirements that can be met by a concentrator and correction of reversible acute conditions.
Hemodynamic stability	Stable without vasopressor or inotropic medication.
Consciousness and airway	Stable consciousness and ability to protect the airway, or a protective measure such as tracheostomy; seizures controlled.
Organ function	Cardiac, renal, hepatic, and other major organ functions stable or within acceptable limits.
Infection control	For patients admitted with sepsis, hemodynamic stability and a treatment response have been achieved.
Nutrition and fluid balance	Nutrition plan established and tolerated; intravenous fluid and electrolyte requirement reduced.
Treatment and support need	Intensive treatment and support needs have decreased and can be maintained with infrequent interventions; no continuing requirement for continuous ICU monitoring.

Readiness domain	Minimum requirement
Clinical stability	No unresolved need for ICU-only airway, ventilation, circulatory, neurologic, renal, or other organ support. Foreseeable deterioration can be managed in the receiving setting.
Care continuity	The receiving clinician and nurse accept the patient. Medication reconciliation, pending results, device plan, nutrition, rehabilitation, infection precautions, and treatment limitations are communicated.
Patient and family preparation	Explain the transition, expected monitoring, warning signs, recovery needs, and whom to contact. Provide written information where feasible.
Timing and follow-up	Avoid preventable out-of-hours discharge when possible. Identify high-risk patients for outreach, rapid response, or structured follow-up.
Documentation	Use a standardized transfer summary covering ICU course, current problems, organ-support history, procedures, complications, medicines, pending actions, and contingency plan.

- Patients transferring to palliative, rehabilitation, long-term ventilation, or home-care pathways require an explicit plan for equipment, medicines, education, follow-up, and emergency contact.
- Early unplanned readmission to ICU should be reviewed as a quality signal, not automatically attributed to individual error.
- The decision and destination should be communicated to the patient and family before transfer whenever possible.

17. Equipment, Environment, and Point-of-Care Testing

STANDARD 36 MUST	**The ICU MUST maintain reliable systems for equipment readiness, preventive maintenance, calibration, point-of-care testing quality control, medical gas safety, temperature and humidity monitoring where required, cleaning, stock management, and emergency power and oxygen contingencies.**

- Bedside monitors, ventilators, infusion devices, emergency carts, transport equipment, suction, oxygen, defibrillation equipment, and airway equipment should be checked at defined intervals and after use.
- Point-of-care devices must have named responsibility for inventory, operator training, internal quality control, external quality assurance where available, maintenance, and result integration into the patient record.
- Equipment failures must have a rapid reporting, replacement, and biomedical-engineering response pathway.
- Every ICU should maintain sufficient emergency supplies to manage foreseeable delays in replenishment, transport, power, and oxygen delivery.
- Environmental cleaning, isolation-room use, waste segregation, and sharps disposal must follow the local infection-prevention and occupational-safety system.

18. Workforce Competence and Staff Safety

STANDARD 37 MUST	**Staff MUST receive role-specific orientation, competency assessment, infection-prevention training, emergency drills, occupational exposure pathways, psychological support, and mechanisms to report safety concerns without retaliation.**

STANDARD 38 MUST	**Visitor and staff entry procedures MUST prioritize hand hygiene, appropriate protective measures, privacy, and patient safety while avoiding unnecessary barriers to family-centered care.**

- Competency requirements should match the technology and patient population supported by the unit.
- Training should include airway emergencies, resuscitation, difficult transport, fire and evacuation, information-system downtime, medication incidents, and equipment failure.
- The unit should monitor staffing gaps, fatigue risks, workplace injury, exposure events, sickness absence, and access to rest and psychological support.
- During surge or major incidents, staff working outside their usual role must receive task-specific briefing, supervision, and defined escalation support.

19. Quality Indicators and Audit

STANDARD 39 MUST	**Each ICU MUST maintain a defined quality dashboard, review performance at scheduled intervals, investigate significant variation, and document improvement actions and follow-up.**

Domain	Suggested measures
Access and flow	ICU occupancy; refused or delayed admissions; time from acceptance to arrival; delayed discharge; out-of-hours discharge; unplanned ICU readmission within 48-72 hours.
Outcomes	Risk-adjusted ICU and hospital mortality where feasible; ICU and hospital length of stay; discharge destination; functional or patient-reported recovery where feasible.
Organ support	Ventilator days; reintubation; unplanned extubation; duration of vasopressors; renal replacement therapy use; invasive-device

Domain	Suggested measures
	utilization.
Safety	Healthcare-associated infection according to local definitions; pressure injuries; falls; medication errors; transfusion reactions; transport adverse events; accidental device removal.
Human-centered care	Pain and delirium assessment; early mobility; family communication; goals-of-care documentation; restraint exposure; patient and family experience.
System reliability	Hand-hygiene compliance; daily-goals completion; medication reconciliation; structured handover; equipment failure; staff injury; policy-training completion.

MEASUREMENT PRINCIPLE

Ankara Bilkent City Hospital should begin with a small, reliable indicator set. Definitions, data owner, numerator, denominator, target, reporting interval, and review forum must be specified before benchmarking.

20. Implementation and Local Adaptation

This guideline is intended for implementation across the general and specialty adult intensive care units of Ankara Bilkent City Hospital. Local adaptation refers to unit-specific workflows, staffing, equipment, documentation, and specialty pathways developed under hospital governance; it does not change the institutional safety requirements or source-procedure thresholds.

Implementation domain	Institutional approach
Hospital-wide core requirements	All adult ICUs apply the approved admission, monitoring, medication, infection-prevention, communication, transfer, discharge, equipment, and quality requirements in this guideline.
Unit-specific adaptation	General and specialty ICUs may define unit-specific staffing, equipment, consultation, clinical pathways, forms, and escalation routes, provided they remain consistent with hospital governance and approved source documents.
Approved consultation and transfer pathways	Services not available in the current ICU or hospital must be addressed through predefined consultation, acceptance, Ministry of Health/112 KKM transfer, and continuity-of-care procedures.

20.1 Recommended Institutional Implementation Process

1. **Appoint a medical lead, nursing lead, quality representative, pharmacy representative, infection-prevention representative, and hospital-management sponsor.**
2. **Complete the local adaptation worksheet in Appendix D for each adult ICU and document gaps against each MUST statement.**
3. **Classify each gap as immediately correctable, requiring an institutional mitigation plan, or requiring an approved consultation or transfer pathway.**
4. **Link the guideline to Ankara Bilkent City Hospital consent, transfer, organ donation, medication, infection-prevention, occupational-safety, and documentation requirements.**
5. **Train staff using the daily-care, transfer, and discharge checklists in Appendices A-C.**
6. **Pilot revised workflows in the relevant ICU area, review incidents and staff feedback, and revise before formal hospital approval.**
7. **Select a focused audit set and review implementation at 3, 6, and 12 months.**

INSTITUTIONAL STATUS
Institutional guideline based on YB.PR.001, Revision 04, for Ankara Bilkent City Hospital adult intensive care units.

Appendix A. Daily Multidisciplinary ICU Checklist

Domain	Daily items
Airway and respiratory support	Airway and device position; oxygen target; ventilation strategy; secretion management; oral care; head position; spontaneous awakening and breathing assessment; extubation or tracheostomy plan.
Brain, pain, and sleep	Pain assessment; sedation target; delirium assessment; neurologic examination; communication support; sleep plan; restraint review.
Circulation and fluids	Perfusion; vasoactive plan; fluid responsiveness; cumulative balance; bleeding; vascular access; removal of unnecessary devices.
Drugs and infection	Medication reconciliation; antimicrobial indication, source, dose, duration, cultures, de-escalation; adverse effects; thrombosis and stress-ulcer prophylaxis.
Eating and elimination	Nutrition route, target, delivery, tolerance; glucose; electrolytes; bowel function; urine output; renal support.
Function and family	Mobility goal; pressure-injury prevention; physiotherapy; family update; goals of care; discharge barriers; social and psychological needs.

Suggested documentation: daily goals, named owner, target completion time, and unresolved barrier.

Appendix B. Critical Care Transfer Checklist

Check	Required confirmation
Decision	Indication and benefit confirmed; alternatives considered; destination and accepting clinician confirmed.
Patient stabilization	Airway, breathing, circulation, bleeding, temperature, glucose, analgesia, sedation, and infection precautions optimized as far as feasible.
Equipment	Monitor, oxygen, ventilator, suction, pumps, batteries, gas reserve, emergency medicines, airway equipment, defibrillation capability, and transport documentation checked.
Team	Named leader and escort; competencies match patient needs; roles and emergency plan agreed.
Communication	Patient and family informed when possible; structured clinician-to-clinician and nurse-to-nurse handover; treatment limitations and pending actions included.
After transfer	Patient and devices reassessed; events documented; equipment returned and restocked; significant incidents reviewed.

Appendix C. ICU Discharge and Handover Checklist

Check	Required confirmation
Clinical readiness	No unresolved ICU-only support need; foreseeable deterioration can be managed by receiving setting; escalation plan documented.
Acceptance	Receiving clinician and nurse identified; bed and required monitoring confirmed.
Medication	Medication reconciliation completed; antimicrobial plan, infusions, controlled medicines, and thrombosis prophylaxis communicated.
Devices and care	Airway or oxygen plan; lines, drains, catheters, wounds, nutrition, mobility, pressure-injury, and infection precautions documented.
Information	ICU course, diagnoses, procedures, complications, pending results, treatment limitations, follow-up, and contingency plan included.
Patient and family	Transition explained; warning signs and contacts provided; rehabilitation, psychological, and social needs addressed.
Timing and follow-up	Avoid preventable out-of-hours discharge; arrange outreach or high-risk follow-up where available.

Appendix D. Local Adaptation Worksheet

Local domain	Information to complete
Leadership and approval	Medical lead; nursing lead; hospital approval authority; review cycle.
Unit capability	Beds; monitoring; ventilation; vasoactive support; renal replacement access; isolation; specialist capability.
Staffing and competencies	Medical, nursing, pharmacy, rehabilitation, nutrition, infection, social work, palliative care, and on-call coverage.
Admission and referral	Referral routes; bed management; escalation contacts; hospital specialty consultation; acceptance and transfer process.
Documentation	Electronic or paper record; order entry; downtime system; handover tools; consent and information forms.
Safety systems	Medication controls; blood transfusion; infection prevention; device bundles; incident reporting; occupational exposure.
End-of-life and donation	Legal framework; ethics support; palliative care; death certification; donation referral.
Equipment and resilience	Biomedical support; maintenance; calibration; power and oxygen contingency; transport equipment; emergency stock.
Quality dashboard	Indicators; definitions; data owners; targets; reporting frequency; review forum; improvement actions.
Known gaps and mitigation	Gap; patient-safety risk; interim mitigation; responsible person; completion date; approved consultation or transfer support.

Appendix E. Ankara Bilkent City Hospital Local Document Map

The following Ankara Bilkent City Hospital documents are referenced in the source procedure and provide the local operational map for implementation. Current approved versions must be followed through the hospital document-management system.

Code	Local document
YB.PR.001	Adult Intensive Care Units Operating Procedure
HD.RB.394	ICU Admission Patient Information and Consent Document
YB.FR.001	Adult ICU Daily Patient Follow-up Form
YB.FR.024	Level 1 Adult ICU Patient Monitoring Form
HB.FR.003	Nursing/Midwifery Patient Pre-assessment Form
HB.PR.006	Care of the Restrained Patient Procedure
İY.LS.023	High-Risk Medicines List
İY.LS.015 / İY.LS.021	Look-Alike / Sound-Alike Medicines Lists
İY.FR.010	Manual Medication Administration Form
TH.FR.017	Blood Component Transfer and Transfusion Monitoring Form
TH.TL.007	Safe Blood Transfusion Instruction
KU.PR.002 / HB.FR.013	Patient Transfer and Referral Procedure / Transfer Form
YB.TL.003	Bedside Monitor Use Instruction
YB.TL.004	Mechanical Ventilator Use and Patient Monitoring Instruction
HB.TL.001 / YB.PR.002	Pain Management Instruction / ICU Sedation and Analgesia Procedure
HB.TL.002	Pressure Injury Prevention and Care Instruction
HB.TL.005	Falls Prevention, Monitoring and Reporting Instruction
EN.TL.016 / EN.TL.038	Isolation Room / ICU Infection Control Instructions
EN.TL.003 / AY.PL.031	Cleaning Instruction / Waste Management Plan
ON.PR.001	Brain Death Management Procedure
YB.TL.001 / YB.YD.001	ICU Visitor Entry Instruction / Visitor Rules
YB.YD.002 / HB.FR.351	Patient Visit and Family Information Records
MC.TL.041	Temperature and Humidity Monitoring System Instruction
DY.PR.001	Document Preparation and Control Procedure

References and Supporting Guidance

1. Ankara Bilkent City Hospital. Adult Intensive Care Units Operating Procedure. Document code YB.PR.001, Revision 04, 10 April 2026.
2. Nates JL, Nunnally M, Kleinpell R, et al. ICU Admission, Discharge, and Triage Guidelines: A Framework to Enhance Clinical Operations, Development of Institutional Policies, and Further Research. Critical Care Medicine. 2016;44(8):1553-1602.

3. Faculty of Intensive Care Medicine and Intensive Care Society. Guidelines for the Provision of Intensive Care Services, Version 3. 2026.
4. Society of Critical Care Medicine. Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock 2026.
5. Lewis K, Balas MC, Stollings JL, et al. A Focused Update to the Clinical Practice Guidelines for the Prevention and Management of Pain, Anxiety, Agitation/Sedation, Delirium, Immobility, and Sleep Disruption in Adult Patients in the ICU. Critical Care Medicine. 2025;53(3):e711-e727.
6. Hwang DY, Oczkowski SJW, Lewis K, et al. Society of Critical Care Medicine Guidelines on Family-Centered Care for Adult ICUs: 2024. Critical Care Medicine. 2025;53(2):e465-e482.
7. Society of Critical Care Medicine. Clinical Practice Guidelines on Adult End-of-Life Care in the ICU. 2025.
8. Singer P, Reintam Blaser A, Berger MM, et al. ESPEN Practical and Partially Revised Guideline: Clinical Nutrition in the Intensive Care Unit. Clinical Nutrition. 2023;42:1671-1689.
9. Carson JL, Stanworth SJ, Guyatt G, et al. Red Blood Cell Transfusion: 2023 AABB International Guidelines. JAMA. 2023;330(19):1892-1902.
10. World Health Organization. WHO Guidelines on Hand Hygiene in Health Care. 2009; Five Moments for Hand Hygiene implementation resources.
11. Intensive Care Society and Faculty of Intensive Care Medicine. Guidance on the Transfer of the Critically Ill Adult. 5th edition. 2026.
12. Society of Critical Care Medicine. ICU Liberation Bundle (A-F) and implementation resources.

Online source links

- SCCM ICU admission, discharge, and triage guideline
- GPICS Version 3
- Surviving Sepsis Campaign adult guideline
- SCCM PADIS focused update
- SCCM family-centered care guideline
- SCCM end-of-life care guideline
- ESPEN ICU nutrition guideline
- WHO hand hygiene guideline
- ICS transfer guideline
- AABB clinical practice resources

Links accessed for evidence alignment on 6 August 2026.