



SKILL MAP

Multidisciplinary group of 7 experts (3 Medical Specialists in Intensive Care Medicine, 4 Doctors in Family Medicine: 2 from Hospital Emergencies, 1 from Primary Care Emergencies, 1 from Out of Hospital Emergency System) and 1 Programmes Coordinator (Dr. D. Juan Roca Guiseris).

Map structure:

1. KNOWLEDGE

Seven areas of knowledge are established: healthcare, management, research quality, training and teaching, ethics and legal aspects. The body of healthcare knowledge is structured based on the criterion of a first approach to the critically ill patient and a second approach in which, following stabilisation, the aim is the patient's recovery and it is for this reason that we establish two levels of range of knowledge as well as, in general, of the remainder of the ability skills, level 1, level 2*. The different profiles of critically ill patients have also been taken into account (acute, post-surgical and chronic decompensated).

*Level 2 having the knowledge, skills and attitudes of level 1; with 3 levels of development: junior, expert and excellent. D" denoting "desirable" and "E" denoting "essential", at each level of development.

2. ABILITIES

These are divided into three main groups:

1. Most common abilities necessary for providing healthcare to critically ill patients.
2. More specific abilities in terms of more specific problems.
3. Group of "subtle" abilities of the relational and organisational type.

3. ATTITUDES

General attitude profile necessary to provide healthcare to critically ill patients and interaction with the critically ill patient's environment.

KNOWLEDGE	DESCRIPTION	HEALTHCARE LEVEL	LEVELS OF DEVELOPMENT		
HEALTHCARE			JUNIOR	EXPERT	EXCELLENT
Specific Physiopathology "depending on process".	The professional knows the mechanisms through which conditions can lead to life threatening situations.	Level 1	D	E	E
Knowledge of Urgent and Emergent Pathology.	Knowledge of diagnosis and treatment of critical MEDICAL, POST-SURGICAL and TRAUMATIC conditions. Specifically referred to: Neurological, respiratory, renal, cardiovascular, gastrointestinal, haematological, oncological, endocrinal and obstetric conditions.	Level 1	E	E	E
Diagnosis, control and treatment of acute and chronic decompensated organ failure.	Recognition, evaluation and treatment of acute isolated organ failure. Specifically referred to: shock (in all its forms, cardiogenic or non-cardiogenic), coronary failure, acute respiratory failure, acute renal failure, critical hepatic failure and severe coagulation alterations. Knowledge of the causes and consequences of decompensation in chronic organ failure, as well as the therapeutic measures that lead to recovery. Specifically referred to: cardiac failure, chronic respiratory failure, complicated chronic renal failure, decompensated chronic hepatopathy and the complications of anticoagulant treatments.	Level 2	E	E	E
Diagnosis, control and treatment of multi-organ failure.	Recognition, evaluation and treatment of the causes, types and severity of multiple organ dysfunction or failure.	Level 2	E	E	E
Diagnosis, control and treatment of acute alterations in the internal environment.	Knowledge of diagnosis and treatment of acute alterations in acid-base, electrolyte, thermoregulation and endocrinal parameters.	Level 1	E	E	E
Treatment of nutritional alterations in critically ill patients.	The professional possesses knowledge of the methods to correct nutritional deficiencies: indications and means of administration; forms of artificial nutrition, and enteral and parenteral nutrition techniques.	Level 2	E	E	E
Infectious diseases.	Knowledge of the action mechanisms, the effects of sepsis on the organ systems and its treatment. Specifically referred to: sepsis physiology and multi-organ failure, epidemiology and prevention of infection in the ICU (Intensive Care Unit), sepsis mediators, catheter sepsis, infections in immunodepressed patients, fever in the ICU, treatment with antimicrobial agents, bacterial resistance and ICU antibiotic policy.	Level 2	E	E	E
Clinical toxicology.	Recognition and treatment of deliberate and accidental intoxications.	Level 1	E	E	E

KNOWLEDGE	DESCRIPTION	HEALTHCARE LEVEL	LEVELS OF DEVELOPMENT		
HEALTHCARE			JUNIOR	EXPERT	EXCELLENT
Adult Trauma Advanced Life Support.	Specific techniques applicable in initial healthcare to severe trauma patients.	Level 1	E	E	E
Paediatric Advanced Life Support.	Specific techniques applicable to Advanced Life Support in paediatric patients.	Level 1	E	E	E
Adult Cardiac Advanced Life Support.	Specific techniques applicable to Advanced Life Support.	Level 1	E	E	E
Fibrinolytic treatment.	Specific techniques.	Level 1	D	E	E
Fibrinolysis in TEP, ACVA and RCP	Specific technique.	Level 2	E	E	E
Action in Catastrophes.	The professional has the basic knowledge for action in catastrophes.	Level 1	D	E	E
Specialised Care of the Severe Trauma Patient.	Specific techniques applicable in specialised healthcare of Severe Trauma patients, including care in different specific traumatisms: Thoracic, TBI (Traumatic Brain Injury), abdominal, injuries caused by physical and chemical agents, spinal cord injuries, injuries in extremities, crushing syndrome and maxillofacial trauma.	Level 2	E	E	E
Knowledge of transplant action protocols.	Immediate post-surgical control and treatment of organ transplant receivers. Specifically referred to: heart, lung, liver, kidney and combined transplants. Diagnosis and treatment of complications.	Level 2	D	E	E
Recognition of brain death and maintenance of potential organ donors.	Knowledge of the causes, clinical and complementary tests and legal aspects of brain death diagnosis. Application of methods to maintain potential organ donors.	Level 1	E	E	E
Analgesia and methods of pain therapy.	Specific techniques.	Level 1	E	E	E
Knowledge of pharmacological treatment "depending on process".	The professional knows the pharmacological treatments that correspond to the process: drugs, methods and means of administration.	Level 1	E	E	E
Side effects and interactions of drugs.	Specific techniques.	Level 1	E	E	E
Pharmacokinetics.	Specific technique.	Level 1	E	E	E
Transfer of critically ill patients.	Specific technique.	Level 1	D	E	E
Healthcare coordination.	Urgent and emergent healthcare demands management and prioritisation, using the resources available.	Level 2	D	E	E

KNOWLEDGE	DESCRIPTION	HEALTHCARE LEVEL	LEVELS OF DEVELOPMENT		
HEALTHCARE			JUNIOR	EXPERT	EXCELLENT
Diagnosis, control and treatment of acute coronary syndrome.	Diagnosis and evaluation of thoracic pain, specifically in acute coronary syndrome, pulmonary thromboembolism and aortic dissection. Control and treatment of complications, such as shock, respiratory failure arrhythmias, cerebrovascular accidents, organ failure.	Level 2	E	E	E
Post-surgical diagnosis, control and treatment in high-risk patients.	Immediate post-surgical control and treatment of high risk patients. Specifically: neurosurgery; cardiac, thoracic and abdominal surgery, and organ transplant receivers. These latter, specifically referred to: heart, lung, liver, kidney and combined transplants. Diagnosis, control and treatment of complications.	Level 2	E	E	E
MANAGEMENT/ORGANISATION (clinical, resources and quality)					
CLINICAL					
Admission, referral and discharge	The professional participates in defining and accepts the admission, referral and discharge criteria of the unit to which he or she belongs within the healthcare organisation.	Level 1	E	E	E
Organisational and functional structure of the organisation.	The professional knows the organisational and functional structure of the organisation to which he or she belongs.	Level 1	E	E	E
Basic knowledge of Resource Management (Planning, healthcare activity programming, efficiency indicators, cost control).	The professional possesses basic knowledge of resource management in accordance with the scope of his or her responsibilities.	Level 1	D	E	E
Evidence based management.	The professional possesses knowledge of the methodology and statistics applicable to clinical management.	Level 1	D	D	E
Clinical management tools.	Specific technique. Specifically: Prognosis indicators, treatment intensity scales.	Level 1	D	E	E
Management by objectives.	The professional possesses knowledge of the Management by Objectives model	Level 1	D	E	E
QUALITY					
Protocols, Procedures and Practical Manuals "depending on process".	The professional knows the specific procedures corresponding to the process in which he or she works.	Level 1	E	E	E
Quality management methodology.	The professional knows the methodologies of problem analysis, implementation of improvement measures and permanent evaluation.	Level 1	D	D	E

KNOWLEDGE	DESCRIPTION	HEALTHCARE LEVEL	LEVELS OF DEVELOPMENT		
MANAGEMENT/ORGANISATION (clinical, resources and quality)			JUNIOR	EXPERT	EXCELLENT
Nosocomial infection vigilance and control (Surgical areas, Special Units, Hospitalisation, etc.).	Specific technique.	Level 2	D	D	E
Healthcare activity planning and programming.	The professional knows how to establish healthcare activity planning within his or her area of responsibility.	Level 2	D	D	E
Knowledge of the different dimensions of the healthcare product.	The professional knows the different healthcare product measurement techniques.	Level 2	D	E	E
Healthcare evaluation.	The professional knows the specific methodology for Healthcare evaluation.	Level 2	D	D	E
National Transplant Organisation: Structure, range of services and donor distribution criteria.	The professional possesses specific knowledge of the Organisation's structure, range of services and donor distribution criteria.	Level 2	D	D	E
RESEARCH					
Documental searches.	The professional knows how to do a bibliographic search.	Level 1	E	E	E
Research Methodology.	The professional knows the methodologies and basic techniques required to participate adequately in a research project or direct it. Specifically referred to: protocol design; collection, treatment and analysis of data; scientific writing, publication rules and critical reading.	Level 2	D	D	E
TRAINING AND TEACHING					
Training Programme Designing.	The professional possesses the basic knowledge to design specific training programmes for the organisation to which he or she belongs.	Level 2	D	D	E
TRANSVERSAL SKILLS					
Languages.	The professional adequately understands medical literature in English. He or she can hold a basic conversation in English.	Level 1	D	E	E
General Training in Risk Prevention.	The professional has sufficient general knowledge on risk prevention in his or her post.	Level 1	E	E	E
Health promotion (health education, healthcare advice).	Specific technique.	Level 1	E	E	E
Interlevel communication flow.	The professional knows the interlevel (Specialised Care - Primary Care) communication flows.	Level 1	D	E	E

KNOWLEDGE	DESCRIPTION	HEALTHCARE LEVEL	LEVELS OF DEVELOPMENT		
ETHICS			JUNIOR	EXPERT	EXCELLENT
The bioethics of clinical decisions and research.	Specific technique.	Level 1	E	E	E
LEGAL ASPECTS					
Knowledge of healthcare legislation.	The professional knows the healthcare legislation applicable to his or her post.	Level 1	E	E	E
Users' rights and obligations.	The professional knows the charter of the rights and obligations of the citizens, either at Regional or State level. (Reference to the Regional or State legislation on Advanced Directives or Living Wills).	Level 1	E	E	E

ABILITIES	DESCRIPTION	HEALTHCARE LEVEL	LEVELS OF DEVELOPMENT		
HEALTHCARE			JUNIOR	EXPERT	EXCELLENT
Differential diagnosis depending on process.	The professional's ability to identify process/es in daily practice, based on knowledge of the different illnesses.	Level 1	E	E	E
Clinical interview.	Appropriate use of the technique adequately displayed in daily practice.	Level 1	E	E	E
Specific techniques "depending on process".	Appropriate use of the technique adequately displayed in daily practice. Specifically referred to:				
	Airway isolation.	Level 1	E	E	E
	Dealing with the difficult airway.	Level 1	E	E	E
	Fibrobronchoscopy. Percutaneous Tracheotomy.	Level 2	E	E	E
	Peripheral and central venous access.	Level 1	D	E	E
	Arterial access. Pulmonary artery catheterization.	Level 2	E	E	E
	Electric treatment of arrhythmias.	Level 1	E	E	E
	Cardioversion and manual and semi-automatic defibrillation.	Level 1	E	E	E
	Peritoneal and pericardial puncture lavage.	Level 2	E	E	E
	Lumbar puncture. Thoracocentesis. Paracentesis.	Level 1	E	E	E
	Sample taking techniques and processing.	Level 1	E	E	E
	Extrarenal clearance techniques and extracorporeal liver assistance.	Level 2	E	E	E
	Access for administration of artificial nutrition.				
	Nasogastric intubation.	Level 1	E	E	E
	Jejunal intubation.	Level 2	E	E	E
	Patient immobilisation and mobilisation techniques.	Level 1	E	E	E
	Echocardiograph.	Level 2	D	E	E
Analgesia and sedation.	Level 1	E	E	E	
Surgical and percutaneous kidney procedures.	Appropriate use of the technique adequately displayed in daily practice. Specifically referred to: Venous Haemofiltration, Haemodialysis in the acute patient.	Level 2	E	E	E
Transitory pacemaker implantation (external and intracavity).	Transcutaneous pacemakers.	Level 1	E	E	E
	Transvenous pacemakers.	Level 2	E	E	E
Handling of basic mechanical ventilation.	The professional handles the respirators adequately. Specifically referred to: initiation of mechanical ventilation (invasive and non-invasive) and during patient transfer.	Level 1	E	E	E
Handling of advanced mechanical ventilation.	The professional handles the respirators adequately. Specifically referred to: mechanical ventilation methods, patient-respirator interaction, prolonged mechanical ventilation, in specific pathologies, and liberation from the respirator.	Level 2	E	E	E

ABILITIES	DESCRIPTION	HEALTHCARE LEVEL	LEVELS OF DEVELOPMENT		
HEALTHCARE			JUNIOR	EXPERT	EXCELLENT
ALS techniques: All	Appropriate use of the technique adequately displayed in daily practice.	Level 1	E	E	E
Confident monitoring and use of apparatus.	Specific technique. Specifically referred to:				
	Electrocardiographic monitoring.	Level 1	E	E	E
	Respiratory monitoring (Pulsoximetry and capnometry).	Level 1	E	E	E
	Invasive haemodynamics.	Level 2	E	E	E
	Neuromonitoring (IPC, SjO2).	Level 2	E	E	E
Complementary test interpretation.	Appropriate use of the technique adequately displayed in daily practice. Specifically referred to:				
	Identification of normal ECG and of alterations.	Level 1	E	E	E
	Gasometry interpretation.	Level 1	E	E	E
	Basic radiological studies.	Level 1	E	E	E
	FAST abdominal scanning.	Level 1	E	E	E
	Echocardiograph.	Level 2	D	E	E
	Transcranial Doppler.	Level 2	D	E	E
	Advanced radiological studies (CAT and NMR).	Level 2	E	E	E
Evaluation of nutritional state.	The professional knows the techniques for evaluating the patient's nutritional state.	Level 1	D	E	E
Post-surgical patient management.	Appropriate use of the technique adequately displayed in daily practice.	Level 2	E	E	E
Transfer of urgent cases and critically ill patients.	Appropriate use of the technique adequately displayed in daily practice.	Level 1	D	E	E
Ability to carry out reception, admission and classification of patients in emergencies unit.	Appropriate use of the technique adequately displayed in daily practice.	Level 1	E	E	E
Ability for catastrophe coordination.	Appropriate use of the technique adequately displayed in daily practice.	Level 2	E	E	E
Use of special techniques.	Appropriate use of the technique adequately displayed in daily practice. Specifically referred to:				
	Ventricular assistance.	Level 2	D	E	E
	Implantation of permanent pacemaker.	Level 2	E	E	E
	Implantation of aortic counterpulsation balloon.	Level 2	D	E	E
	Continuous electroencephalographic monitoring.	Level 2	D	E	E
	Cerebral Doppler.	Level 2	D	E	E
	Venous jugular saturation measurement.	Level 2	D	E	E
	Neuromuscular blockade monitoring.	Level 2	D	E	E
	Haemodialysis.	Level 2	E	E	E
	Vertebral blockades.	Level 2	D	E	E
	Control of neuromuscular relaxation.	Level 2	D	E	E

ABILITIES	DESCRIPTION	HEALTHCARE LEVEL	LEVELS OF DEVELOPMENT		
HEALTHCARE			JUNIOR	EXPERT	EXCELLENT
Adequate use of cleaning, asepsis and sterilisation techniques, according to requirements.	The professional demonstrates the ability to carry out his or her daily activities guaranteeing conditions of asepsis, cleanliness and sterilisation in all situations related to his or her daily activity: personal hygiene, conduct, use of instruments and apparatuses.	Level 1	E	E	E
MANAGEMENT/ORGANISATION (clinical, resources and quality)					
Adequate use of the resources available.	The professional clearly identifies the amount and quality necessary for each activity, using these efficiently.	Level 1	E	E	E
Delegation.	Ability to manage tasks and delegate them to others under his or her responsibility.	Level 1	D	E	E
RESEARCH					
Basic statistics.	The professional uses basic statistic tools and applies these within the work environment.	Level 1	E	E	E
TRAINING AND TEACHING					
Communication abilities	Ability to communicate and orally transmit ideas, thoughts, initiatives, postures..., with adequate use of non-verbal expression.	Level 1	D	E	E
Teaching abilities.	The professional possesses pedagogical abilities to plan and give training.	Level 1	D	E	E
Professional appraisal abilities: Objectives and Tasks.	The professional uses adequately the specific techniques for appraising professionals, objectives and tasks, with the use of quantifying and qualifying tools.	Level 2	D	E	E
Exhibiting and audiovisual presentation techniques.	The professional makes adequate use of audiovisual presentation tools.	Level 1	D	E	E
TRANSVERSAL SKILLS					
Computer abilities, user level.	Ability to use computer programmes in Windows at user level.	Level 1	E	E	E
Teamwork.	The professional demonstrates ability to collaborate and work adequately with other team members to achieve common goals, generating an environment of mutual support.	Level 1	E	E	E
Ability to propose alternatives for Corporate Centre improvement and innovation.	The professional presents initiatives for improvement and has the ability to convert them into projects and proposals at competent management level.	Level 1	D	E	E
Use of Telemedicine.	Appropriate use of the technique adequately displayed in daily practice.	Level 1	D	E	E
Ability for innovation and creativity.	The professional has the ability to apply creative methods and techniques in any situation, thus contributing to the generation of added value. Ability to produce own ideas.	Level 1	D	E	E

ABILITIES	DESCRIPTION	HEALTHCARE LEVEL	LEVELS OF DEVELOPMENT		
MANAGEMENT/ORGANISATION (clinical, resources and quality)			JUNIOR	EXPERT	EXCELLENT
RELATIONAL ABILITIES					
Ability to take decisions.	The professional makes decisions under his or her responsibility, assuming unilaterally the consequences of these and without systematically seeking approval from his or her superior.	Level 1	E	E	E
Ability to lead.	The professional is capable of generating enthusiasm amongst others and manages to get his or her collaborators to achieve things that, without his or her presence, would not otherwise have occurred.	Level 1	D	E	E
Dealing with situations of crisis and prevention of conflicts.	The professional has the necessary ability to develop strategies designed to settle conflicts that may arise between the different sectors of the organisation or with professionals or clients, endeavouring to reach agreements that resolve the matter to the satisfaction of all the parties.	Level 1	D	E	E
Supportive abilities.	The professional is capable of establishing mechanisms that facilitate interpersonal relations.	Level 1	E	E	E
Familiar manner: Use of psychosocial tools and techniques.	Appropriate use of the technique adequately displayed in daily practice.	Level 1	E	E	E
Ability to generate confidence and trust in patients and their families.	Appropriate use of the technique adequately displayed in daily practice.	Level 1	E	E	E
Ability for interpersonal relations (assertiveness, empathy, interpersonal sensitivity, relation-building).	The professional possesses social abilities that he or she demonstrates within his or her professional environment and in any personal interaction situation.	Level 1	E	E	E
Dealing with stress.	The professional uses relaxation techniques and applies them in his or her job.	Level 1	D	E	E
Analysis and synthesis abilities.	The professional has the ability to extract the essential elements from a large quantity of information, apply simplification, summary and synopsis methods and draw the correct conclusions from the information or situation.	Level 1	D	E	E
Ability to assume risks and live in an environment of uncertainty.	The professional appears comfortable in uncertain situations and when faced with partially defined projects, approaching these without resistance and considering them as an opportunity.	Level 1	E	E	E
Ability to promote and adapt to change.	The professional demonstrates flexibility when faced with new challenges.	Level 1	E	E	E
Ability to generate enthusiasm, gather followers and stimulate commitment.	The professional establishes interpersonal relation mechanisms that positively motivate collaborators. These show interest in working on the projects presented by this professional, confidence in his or her work and enthusiasm for the results.	Level 1	D	E	E

ATTITUDES	DESCRIPTION	HEALTHCARE LEVEL	LEVELS OF DEVELOPMENT		
			JUNIOR	EXPERT	EXCELLENT
Respect and appreciation of the work of others, sensitivity to the needs of others, availability and accessibility.	The professional is aware that without others, his or her work would not be optimal. He or she knows how to acknowledge contributions and establish mechanisms of encouragement.	Level 1	D	E	E
Trouble-shooting.	The professional is capable of achieving solutions, even in situations that have not been pre-defined or protocolised.	Level 1	E	E	E
Ability to assume commitments and responsibilities.	The professional is capable of assuming responsibility for a project with the confidence that its progress will be optimal.	Level 1	D	E	E
Attitude towards learning and sustained improvement.	The professional continually seeks to learn, even from errors, as a means of improving his or her daily practice.	Level 1	E	E	E
Precision and proper treatment of information.	The professional demonstrates objective and prudent treatment of the information available to him or her and does not use this information for self benefit or to the detriment of persons or organisations.	Level 1	E	E	E
Proactive.	The professional has incentive and does things without needing to wait for requests or suggestions.	Level 1	D	E	E
Internal and external client orientation.	The professional puts the needs and expectations of the client before any other considerations or interests.	Level 1	E	E	E
Humanisation of scientific-technical abilities.	In his or her conduct and interpersonal relations, the professional shows a clear desire to make scientific-technical data more open and accessible to internal/external clients.	Level 1	E	E	E
Understanding of and adjustment to patients' circumstances and environment.	The professional demonstrates special sensitivity as regards patients' expectations and responses and is capable of putting him or herself in their situation in order to understand their conduct and attitudes.	Level 1	E	E	E
Healthcare continuity.	The professional provides healthcare to patients taking into account the role of other levels of healthcare. He or she establishes relations of collaboration with the latter and thus provides patients with excellent continuity of service within the process.	Level 1	E	E	E
Sharing knowledge.	The professional does not keep knowledge to him or herself, but shares it with others.	Level 1	E	E	E
Flexible, adaptable to change, accessible.	The professional assumes new concepts without resistance, clearly identifying when changes are required and implementing these proactively.	Level 1	E	E	E
Generating added value to the post	The professional contributes added value to what he or she does; the task for the task's sake is not enough and there is a constant search for improvement.	Level 1	D	E	E
Innovative creativity, flexibility and enterprise.	The professional, either by intuition or technique, is capable of presenting unusual approaches, he or she adapts well to change and is sufficiently open-minded to assimilate new concepts without resistance or finding these upsetting.	Level 1	E	E	E

ATTITUDES	DESCRIPTION	HEALTHCARE LEVEL	LEVELS OF DEVELOPMENT		
			JUNIOR	EXPERT	EXCELLENT
Result Orientated.	The professional is clearly orientated towards achieving objectives and is not content with merely doing things well.	Level 1	D	E	E
Integrated and biopsychosocial approach to the citizen.	The professional sees an ill person, not a diseased organ.	Level 1	E	E	E
Humanist and with social sensibility.	The professional interprets his or her life and work from the perspective of dealing with "human beings", establishing criteria and approaches based on solidarity.	Level 1	E	E	E
Polyvalence.	The professional does not typecast him or herself for a particular post or activity, but seeks new horizons and is capable of giving his or her best in different environments.	Level 1	E	E	E
Orientated to satisfy the expectations of patients and their families (receptivity to the worries and needs of the patients and their families).	The professional demonstrates particular sensitivity to patients' expectations, making these the objectives that he or she should satisfy.	Level 1	E	E	E
Non-introduction of beliefs: neutral and prejudice free attitude.	The professional acts without determinism, respects the ideas and beliefs of the client and does not impose his or her own beliefs.	Level 1	E	E	E
Encouragement for patients to express their emotions (doubts, worries...)	The professional interacts with patients so that they can express their doubts and worries; in this way, by gaining better knowledge of their needs, he or she can offer them better healthcare.	Level 2	E	E	E
Encouragement of patient independence.	The professional endeavours to have patients make informed decisions, encouraging their independence.	Level 2	E	E	E